

# **Illinois-Pacific – a West Coast Phenomenon**

## **Part I – Illinois-Pacific Glass Co. (1902-1926)**

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The Illinois-Pacific phenomenon consisted of three companies: The Illinois-Pacific Glass Co. (1902-1926); Illinois-Pacific Glass Corp. (1926-1930); and the Illinois-Pacific Coast Co. (1930-1932). All were affiliated with the Illinois Glass Co. of Alton, Illinois. Because the history is so complex, and the company used such a rich variety of manufacturer's marks and date codes, we have divided the history and marks chronology into three sections, reflecting the three main divisions of the company's history.

### **History**

The Illinois Glass Co. grew out of the Abramson-Heunisch glass company (see the section on the Great Holt Myth for a history of the firm). With only two serious competitors, the company quickly dominated glass production on the West Coast.

#### **Illinois-Pacific Glass Co., San Francisco and Los Angeles (1902-1926)**

The Illinois Glass Co., with headquarters at Alton, Illinois, opened a branch office and warehouse (but not glass plant) in San Francisco in January 1901. The four-story edifice also bore the name U.S. Bottlers' Supply Co., a short-lived subsidiary of Illinois Glass. The company also maintained warehouses in Los Angeles and Portland, Oregon (*Pacific Wine and Spirit Review* 1901a:39; 1901b:13).

The Illinois-Pacific Glass Co. incorporated on July 24, 1902 (Moody 1926:2111) and announced its formation as a consolidation of the Abramson-Heunisch Co., the Illinois Glass Co. (Pacific Coast division), and the U.S. Bottlers' Supply Co. on August 18, 1902. Abramson and Heunisch were joined by John C. Shipp, former manager of the Illinois Glass-U.S. Bottlers' Supply warehouses, as managers of the new enterprise (*San Francisco Call* 8/19/1902). The

new company's "flint, amber and green glass factories [i.e., the former Abramson-Heunisch plant] has [sic] been renovated and thoroughly equipped with the most modern of machinery for glass making" (*Pacific Wine and Spirit Review* 1902:36). Capital stock for the new corporation was valued at \$1,000,000 (*Los Angeles Times* 9/5/1902). Heunisch<sup>1</sup> was president of the corporation with Abramson as vice-president (Toulouse 1971:269-270).

The factory and main office were in San Francisco (Toulouse 1971:268-269). In 1903, the company opened a plant at Los Angeles and expanded, advertising wicker-wrapped whiskey bottles and "Imported Bottle Capsules"

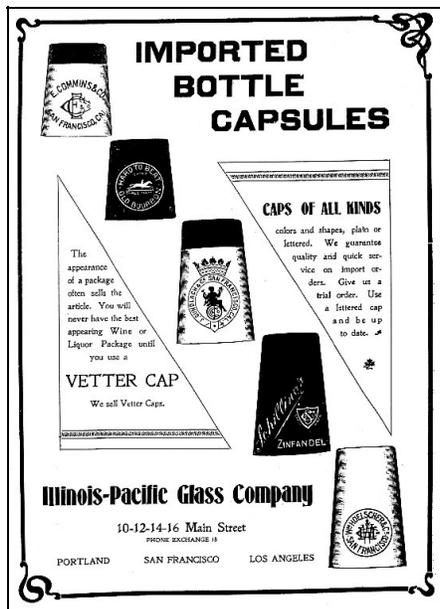


Figure 2 – Bottle capsules ad (*Pacific Wine & Spirits Review* 5/31/1903)



Figure 1 – Whiskey bottle ad (*Pacific Wine & Spirits Review* 7/31/1903)

that year (Figure 1). The latter were aluminum caps the size of shot glasses that covered the cork-stoppered finishes of the bottles and were held in place by glued-down aluminum foil (Figure 2). The company placed sales offices in Portland, Oregon, and Seattle, Washington the following year. The firm instituted a final sales office at Oakland, California, in 1926 (Ayres et al., 1980:20-21). These have been mistakenly identified as factories by earlier researchers (including this group in our first publication about Illinois-Pacific).

By 1906, Illinois-Pacific had three factories in San Francisco: a bottle and glass plant; one for corrugated paper; and a box factory, although none of these were

<sup>1</sup> Heunisch apparently operated a subsidiary business, probably a jobber selling glassware made by Illinois-Pacific. The A.G. Heunisch Co. was listed as late as 1924 making tumblers, jelly glasses, tableware, druggists' jars and containers for fruit, candy, and preserves – even though Heunisch had committed suicide in 1908 (California Developers Assoc. 1924:239).

destroyed during the 1906 fire that gutted much of the San Francisco business district. The plants were “among the first houses in the city to recover from the disaster” (*Pacific Wine and Spirit Review* 1906:23). In 1908, the San Francisco glass plant had three tanks, one each for flint, amber, and green glass. The amber tank had 14 rings, and the green one used eight; the capacity of the flint tank was not disclosed (*Commoner and Glassworker* 1908:5). The following year, the San Francisco factory operated five machines at the flint tank and “one semiautomatic on the green which is doing fairly well.” “Six shops” were working the amber tank which probably indicates hand methods for those goods (*Commoner and Glassworker* 1909a:1).

In February 1910, the factory installed a new Morrison automatic machine to make quart milk bottles, “gathering, pressing and blowing the bottle automatically” (*Commoner and Glassworker* 1910:1). W.D. Morrison had opened his San Francisco office in August 1909. He claimed that “the machine is a new departure from the old methods (of gathering especially), and carries 12 molds and the same number of blanks. . . . The machine is strictly automatic, requiring no skilled help” (*Commoner and Glassworker* 1909b:2).

On February 16, 1904, Walter D. Morrison applied for a patent for a “Machine for automatically segregating, measuring, and delivering molten glass.” He received Patent No. 810,167 on January 16, 1906. This delivery or feeding of the glass to the molds constituted the last operation necessary for making a machine fully automatic. “Pacific” (1910:5) also noted that the Morrison machine was fully automatic, “gathering, pressing and blowing the bottle automatically.” He added that the “grade of flint glass made here is the finest ever made in California” with “four machines working.”

By 1913, the company had a total of four continuous tanks and 37 rings, making a general line of bottles by both hand and machine methods (*Journal of Industrial and Engineering Chemistry* 1913:952). Hamilton (1913:39) clarified that the San Francisco plant used four “Mackin narrow-neck machines, which are doing very well.” Combined with the wide-mouth Morrison machines, the plant could now make large variety of containers semi-automatically.

The plant had four tanks the next year, with No. 1 and No. 2 making flint bottles; No. 3 working green glass; and No. 4 used for amber. The factory also employed “a large force of mold makers, who are turning out a large number of molds for machine and hand shops” (*Glassworker* 1914a:2). The factory demonstrated its versatility in June 1914 by switching the smaller, nine-ring flint tank to amber glass due to a heavy demand for beer bottles. Operators of the four Mackin narrow-neck machines that were removed from the tank returned to blowing beer bottles (*Glassworker* 1914b:16).

Francis J. Mackin filed for a patent for an “Apparatus for molding glass articles” on November 6, 1905, and received Patent No. 817,576 on April 10 of the following year. The machine produced milk bottles. It would be interesting to know whether Morrison’s delivery system worked on Mackin’s machine to produce milk bottles fully automatically. Assuming that the molds were made to fit the drawings, the machine would create the same characteristics found on later press-and-blow milk bottle machines – except that these would have post bottoms instead of cup bottoms (Figures 3 & 4).

On July 19, 1907, Mackin filed for another patent for a “Machine for Making Blanks for Narrow-Neck Bottles.” He received Patent No. 893,180 for his invention on July 14, 1908. However, on August 29, 1907, he applied for another patent, this time for an “Automatic Glass Molding Apparatus.” He received that patent (No. 904,975) on November 24, 1908. This was a press-and-blow machine, clearly intended for beverage bottles; Mackin’s drawing illustrated a crown finish on the blank (Figure 5). Presumably, this, too, could be adapted to the Morrison apparatus.

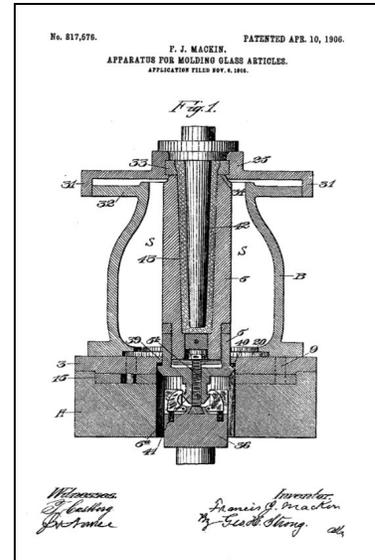


Figure 3 – Mackin 1906 Patent 1

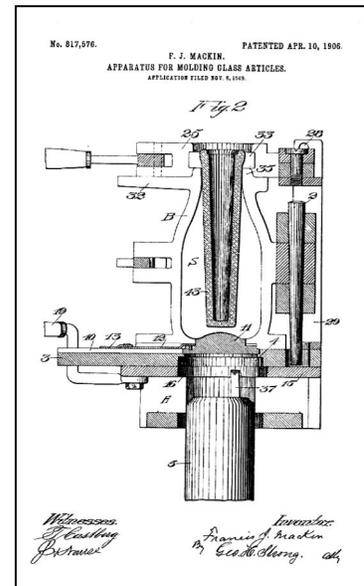


Figure 4 – Mackin 1906 Patent 2

Mackin filed for his final machine patent on August 10, 1912, and received Patent No. 1,148,701 for “Making Narrow-Neck Bottles” on August 3, 1915. This was a press-blow-and-blow machine that utilized a full-length, very thin blank or parison mold. After the gob of glass was dropped into the parison mold, the plunger formed the finish and created a cavity to allow the initial puff of air to blow the parison to fill the mold. The parison was then shifted to the blow mold, and another puff of air completed the process.

Both the blank or parison mold and the blow mold were cut into the same piece of metal to keep the molds at even heat. Although the parison was blown upside down, the mold nonetheless had a removable baseplate that was transferred to the blow mold as the entire mold was inverted for the final blowing operation.

One of the drawings in this application clearly illustrated an export beer bottle (Figure 6). Another showed a crown finish. Either of the Mackin machines could have been used to make beer bottles, although the description above of “Mackin narrow-neck machines” suggests that the later machine was in use, even though it had not yet traveled through the entire patent process.

On May 23, 1920, the San Francisco plant was destroyed by fire, but the company began preparations for rebuilding the next day (*Modesto News* 5/24/1920). In 1924, the company made “jelly tumblers, glass blown jars and containers, pressed and blown fountain table and kitchen ware, corrugated fiber products, boxboard, bottles, druggists’ glassware, glass jars – fruit and packers’ bottlers’ supplies, corks, milk bottles,” although the firm discontinued punch and stemware that year (*California Development Assoc.* 1924:250; *Glassworker* 1924:1). However, a major change was in the wind – the company reincorporated in 1926.

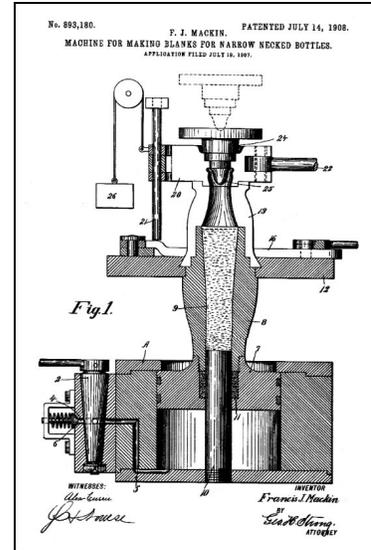


Figure 5 – Mackin 1908 Patent

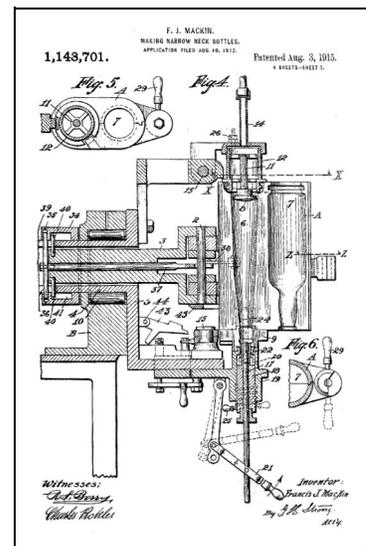


Figure 6 – Mackin 1915 Patent

## Containers and Marks

At this point, we have been unable to determine which plants made different types of bottles, although the 1916 Thomas Register (Thomas Publishing Co. 1916:664) only listed the San Francisco plant as making milk bottles.

From 1903 to 1909, Illinois-Pacific made fruit jars by machine for the Kerr Glass Mfg. Co. Kerr began at Portland, Oregon, as a sales unit, but had its first fruit jars (the Economy) made by Illinois-Pacific. However, the Hazel-Atlas Glass Co. also made some of the Economy jars from 1906 to 1909, so jars with the Economy label cannot be said to be universally produced by Illinois-Pacific. In 1909, Kerr bought a factory at Altoona, Kansas, and began making its own jars (Creswick 1987a:165).

Toulouse (1971:268-269) illustrated a total of nine marks used by Illinois-Pacific, although he did not attribute any of them to a specific period (i.e., the company, the corporation, or the Coast Corp.). He showed three sets of initials (IPG, IPGCO, and IPCCO) in three formats: initials alone, initials in a diamond, and initials in a triangle. Because of the order in which they were presented, many readers have assumed that IPG represented the company; IPGCO was used by the corporation; and IPCCO indicated the Coast Co.

Our research makes it clear that IPGCO was the earliest mark (the company) followed by IPG (the company – briefly – then the corporation). Although the initials IPCCO would have to indicate the Coast Co., we have never found a bonafide mark with those initials, although many have mistaken an unclear IPGCO embossing for the IPCCO. Of the nine marks illustrated by Toulouse, we have found no evidence that six of them – IPG (initials alone); IPG in a diamond; IPGCO in a triangle; or IPCCO in any of the three formats – were ever used on bottles.

Toulouse may have been influenced by Jones (1965:[21]) who illustrated both the IPGCO initials and IPGCO in a diamond. Although she correctly illustrated the mark in an elongated diamond, her language may have been misleading: “Fenced in or not – I have one beer type without the triangle around it.” Toulouse was one of May Jones’ network, and he may have misunderstood her reference (i.e., calling an elongated diamond a triangle). Although Jones was an accomplished researcher for her time, her reporting was often colloquial and unclear.

T.L. Keusseff, plant manager of the Owens-Illinois' Oakland plant, further confused the issue (Jones 1965:[16]) by claiming that an IPGCO in a triangle mark "was the next mark of Illinois-Pacific, don't know dates, again I think the third letter is 'G'." Although we would expect the plant manager to have knowledge of his company's history and marks, we have been unable to find a single example of this logo. Her next issue (Jones 1966:20) further confounded the situation by showing a drawing of IPCCO in a diamond, another bogus mark.

Giarde (1980:54-55) essentially copied the Toulouse information – including the marks that do not exist (although he did not show the IPGCo in a triangle). He discussed the difficulty in discerning the "G" versus the "C" in the logos but noted that "the triangle mark is the one found on milk bottles." He also noted that "often the last digit of the year of manufacture is found to the left of the triangle, particularly in the late 1920's." Despite Giarde's observation, earlier Illinois-Pacific milk bottles were marked I.P.G.Co. on the heel, along with a three- or four-digit numerical code (see below).

The undated "Illustrated Catalogue and Price List Illinois-Pacific Glass Co. (Manufacturers, Importers, Jobbers) of Bottles and Bottlers' Supplies" offered for sale on eBay noted that the firm made Druggists' Ware, Extract and Manufacturing Chemists Wares, Miscellaneous Wares, Liquor Ware, Soda and Beer Bottles, Pickle and Preserve Ware, Milk Bottles and Creamery Supplies, Corrugated Paper and Skeleton Cases, Cork and Capsules, Wine and Liquor Dealers Sundries, Bar Glassware, and various types of machinery associated with bottle use.

## **Machine Manufacture**

In 1905, there were milk bottle machines in use at Alexandria, Virginia, Mannington, West Virginia, Olean, New York, San Francisco, and Fairmont, West Virginia. The San Francisco factory also made fruit jars on five machines and "cherries" on the same machine that made milk bottles (*National Glass Budget* 1912:1). The San Francisco machine could only have been used by either the Pacific Coast Glass Works or Illinois-Pacific Glass Co. Both companies later made milk bottles and made jars at that time, although specific timing is currently unknown for either plant. It seems likely that Illinois-Pacific used at least some of those machines. Roller (2011:269-271) *only* listed machine-made Kerr Economy jars. Since Illinois-Pacific made the

earliest jars for Kerr (1903-1909), the plant must have had wide-mouth machines almost from its opening.

By at least 1909, Illinois-Pacific was making bottles by machine (*Commoner and Glassworker* 1909a:1). A careful look at photos and bottles indicates that bottles with both the diamond-outline basemarks, diamond-shaped basemarks (without the outline), and initials-only heelmarks were often machine made. The only beer bottle in the Tucson Urban Renewal collection with the IPGCo mark in diamond shape (but without the outline) was made by machine and had a crown finish. Although we know that the firm produced some of these bottles on Macklin and Morrison machines (see the history section above), this is an area that needs further research.

All Illinois-Pacific milk bottles we have examined were machine made. The bulk of the 126 Illinois-Pacific marks on milk bottles at the California State Park collection (Sacramento) had the logos embossed on the heels of the bottles. Only three had basemarks. Two of those were the triangle basemarks (see below), and one bottle had the elongated diamond mark on the base and I.P.G.CO. 1 on the heel. Heelmarks included I.P.G.CO. (usually accompanied by 1-3 digit numbers), IPGCO in an elongated diamond, and the Triangle-IPG mark. These were most commonly made by the typical press-and-blow machine used to manufacture milk bottles, but occasional bottles had scars more typical of later blow-and-blow machines – or possibly the Morrison milk bottle machines.

Our conclusion is that the Illinois-Pacific Glass Co. almost certainly used wide-mouth, semiautomatic bottle machine to produce jars and wide-mouth ware from either the beginning of the firm in 1902 or very soon thereafter. The firm apparently began semiautomatic milk bottle production with a single machine in 1909, followed by four Morrison automatic machines in 1910 that made both milk and narrow-mouth bottles.

Although Illinois-Pacific was certainly affiliated with the Illinois Glass Co., we have not discovered the exact nature of the relationship. They were obviously separate companies with distinct contracts for machines that did *not* extend between the two. We have not discovered a single example of an Illinois-Pacific bottle or jar with Owens machine characteristics, although the Illinois Glass Co. obtained the Owens licenses in 1910, 1911, and 1914.

## **I.P.G.Co. or IPGCO with no surrounding lines** (ca. 1910-1920s)

This mark (initials alone) appeared in slightly different formats on both heels and bases of bottles. The variation with no periods was found in contexts from the latter part of the first decade of the 20<sup>th</sup> century to at least the early 1920s. Confirmed date ranges for the variation with periods extend from at least 1911 to 1924 (e.g., Elliott & Gould 1988:154, 189; Fowler 1998:51). Although both marks may have been used simultaneously from the beginning of the company (1902 to the reorganization in 1926) we have no actual evidence for the use of the logos prior to ca. 1910. It is probable that the firm used no mark on most of its early bottles, although we have fairly substantial evidence that it made some, possibly all, of its bottles with a letter “H” on the base from 1902 to 1910 (see the Great Holt Myth section for much more information).



Figure 7 – IPGCO heelmarks (eBay)



Figure 8 – IPGCo basemark

The I.P.G.Co. mark (with punctuation) was almost always embossed on the heels of bottles and could appear on either the front or reverse side (Figure 7). The mark was almost always accompanied by two- to four-digit numerals, also embossed on the heel. Colorless Boyd Mason jars with continuous-thread finishes were embossed I.P.G.Co. on the heel during the 1910-1920s period. At least one variation had the I.P.G.Co. in a diamond logo on the base (Roller 1983:71).

IPGCO (with no punctuation) was almost always (in every example we have seen) found on the bases. These basemarks could be accompanied by two- to four-digit numbers and occasionally by a separate, single-digit number – or no numbers at all. In a few cases, the mark was on the base, but the two- to four-digit code was embossed on the heel. Often (probably always), the initials formed a diamond pattern (letters growing larger from I to G then smaller to o) even though they were not enclosed by lines (Figure 8). Creswick (1987a:22) noted the mark (with a lower-case “o”) on the GENUINE Boyd MASON jar.

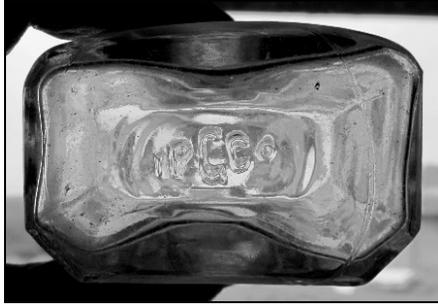


Figure 9 – IPGCo basemark

distinction in these variations.

We found one interesting bottle that was embossed with I.P.G.Co. on the heel and IPGCO-in-a-diamond on the base (ca. 1924). It is likely that a marked baseplate was inadvertently placed on a mold that already contained a heel mark. Such unintended errors were common in the early 20<sup>th</sup> century.

These basemarks also appeared in two slightly different formats, likely because of individual mold makers’ whims. The first was tilted so that the letters were upwardly slanted as well as in the diamond shape (Figure 9). The second had triangular “points” at each end of the diamond-shaped logo (Figure 10). There is probably no temporal



Figure 10 – IPGCo arrows (eBay)

### **IPGCO in a diamond (with or without periods) (ca. 1910-1920s)**

May Jones (1965:[16]) quoted T.L. Keusseff (Owens-Illinois Glass Co.) as stating, “I think this [IPGCo in a diamond] was the oldest mark of Illinois-Pacific Glass Co. used before about 1920. I think the third letter was “G” not “C”, but perhaps not always clearly cut in the mold or clearly blown up.” She later (1966:20) misdated the mark as “1898-’99.” Toulouse (1971:268) included the mark in the nine he attributed to Illinois-Pacific but gave no specific date for this individual mark nor any other information about it.



Figure 11 – Diamond-IPGCo heelmark

Unlike the initials-only mark, the diamond marks were almost always found embossed on bottle bases, although they did appear occasionally on heels (Figure 11). The mark was always shaped (at least in our sample) where the first three letters increased in size (with the G as the largest) then decreased in size to the “o” (or a diamond shape). This appears to be the only

form of the mark (Figure 12). It is often only recorded by collectors or archaeologists in brief with no reference to letter size at all. While this may indicate a variation with all five letters being the same size, it is more likely that the size of the letters was simply unreported.

The mark was also used on jars. Colorless Boyd Mason jars with continuous-thread finishes were embossed with the Diamond-I.P.G.Co. basemark during the 1910-1920s period. As noted above, one example also had an “I.P.G.Co.” heelmark. A version of the IMPROVED Everlasting JAR also was embossed with IPGCo in a diamond on the base as was the SEALTITE WIDE MOUTH MASON (Creswick 1987a:121; Roller 1983:71, 165, 325; Toulouse 1969:50, 113-114). See the jar section below for more on these jars.



Figure 12 – Diamond-IPGCo basemarks

These marks were frequently accompanied by three- or four-digit numbers that either preceded the mark or followed it. The numbers were likely catalog codes that identified the style of the bottle, although they may have served a currently-unknown function. These codes were often located on the heels of bottles, although the mark, itself, was on the base.

Miller (1999:7) illustrated a mouth-blown bottle used from ca. 1912-1913 that was embossed with a Diamond IPGCO mark. Elliott & Gould (1988:154, 189) listed the diamond mark both with and without punctuation on mouth-blown bottles in the 1910-1917 range. These time periods are in keeping with the Illinois-Pacific adoption of increasing machine use between 1910 and ca. 1920. As with the non-outlined initials discussed above, this logo was probably used from ca. 1910 to the mid-1920s.

### **IPGCO-in-an-oval mark** (ca. 1910-1920s)

We discovered this mark on the base of a 16-sided, machine-made pickle bottle from the El Paso Coliseum excavation with a 3 embossed below the logo (Figure 13). The pattern of the letters was the same diamond shape as those within the diamond mark described above

(Lockhart & Olszewski 1993:37; 1995:29).<sup>2</sup> Emily Scott reported another mark of this type on a machine-made sauce bottle with a patent finish. This decreases the chance that the logo was made in error, but it could still have been the work of a single engraver. These marks could have been used anytime between ca. 1910 and the mid-1920s.



Figure 13 – Oval IPGCo

### **ILLINOIS PACIFIC GLASS Co. S. F. CAL.** (ca. 1915-ca. 1924)

Colcleaser (1965:30) showed a drawing of the IMPROVED EVERLASTING JAR with ILLINOIS PACIFIC GLASS S. F. CAL. embossed in circular pattern around the edge of the base. Creswick (1987a:52, 195) and Roller (1983:164) both illustrated the same jar with an identical logo on the base except that theirs included “Co.” (Figure 14). See the section on the Improved Everlasting Jar in the Fruit Jar section below. The jars – therefore, the logo – were probably made during the 1915-1924 period.



Figure 14 – Company name (eBay)

### **ILLINOIS PACIFIC GLASS CO. / MANUFACTURERS / SAN FRANCISCO U.S.A.** (1920s)

This mark appeared on an unusual food bottle offered for sale on eBay. The seller, Peter Crouch, identified the container as a pickle bottle. The mark was embossed on the reverse heel: “ILLINOIS PACIFIC GLASS CO. (arch) / MANUFACTURERS / SAN FRANCISCO U.S.A. (both horizontal).” Since Crouch was located in New Zealand, the bottle was probably made for export by Illinois-Pacific. That likely explains the inclusion of the full name rather than the usual manufacturer’s mark.

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<sup>2</sup> The mark was incorrectly recorded as IPCCo in both publications and attributed (also in error) to the Illinois-Pacific Coast Co.

Crouch further offered information on 26-ounce, machine-made beer bottles that were produced by Illinois-Pacific for J.R Dodson Brewers of Nelson, New Zealand. He noted that the bottles were made in the 1920s and were the only ones that Dodson imported from Illinois-Pacific. The New Zealand bottles were marked with the full Illinois-Pacific name (Figure 15). Crouch noted that amber bottles made by Illinois-Pacific had a reddish tinge that distinguished them from New Zealand-made containers.

Based on identification by this color variation, it is possible that Illinois-Pacific made bottles for Kirkpatrick's of Nelson.



Figure 15 – Export mark (Peter Crouch)

This information suggests that many of the fruit jars shown in Creswick (1987a:106-108) also may have been manufactured for export. Similarly-marked jars were made by later Illinois-Pacific companies. It is probably a good assumption that any bottle embossed with the full name of one of the Illinois-Pacific companies (or the Illinois Glass Co. or the Owens-Illinois Glass Co.) was made for the export trade, especially if it was accompanied by the city/state designation of the factory.

### **I.P.G.CO. / S.F. CAL. in a Diamond** (ca. 1915-ca. 1924)

Roller (1983:164) described a second version of the IMPROVED EVERLASTING JAR that was marked on the base with “IPGCO SF CAL in diamond logo embossed on base.” Creswick (1987a:52) described the jar as “I.P.G.Co. S.F. Cal. (within a triangle)” (her parentheses). The actual embossing (taken from photos) was “I.P.G.Co. / S.F. CAL.” in an elongated diamond. A few of the improved versions have been offered on eBay with the diamond (*not* triangle) logo on their bases (Figure 16). The logo was probably used sometime during the 1915-1924 period.



Figure 16 – Diamond IPGCo / SF CAL (eBay)

## BEAVER

According to Peterson (1968:41), BEAVER was “affixed to bottles and flasks” by the Illinois-Pacific Glass Co. in 1910. He also noted that “fruit jars with a beaver design and name were made in Canada.” Although sources disagree on specifics, these were made by a Canadian glass house (or more than one) and should not be confused with any Illinois-Pacific products – whatever they were.

### The “Banner” Jars

Evidently, Illinois-Pacific made two parallel jar series. One was the Everlasting Jar series – discussed briefly above. These were generally characterized by the use of a patented clamp-on lid (although one variation had a screw-on lid). The Everlasting Jar series was made beginning ca. 1904 until as late as 1925 or 1926. The second series consisted of Mason jars. These evolved from the “Standard” to the “Genuine” to the “Boyd,” although a jar embossed “Mason” with a banner tail may have been the earliest of the series. With the possible exception of a very early jar, all of these fruit jars were machine made.

The Standard Mason was the first in this series (with the possible exception of the banner-tailed Mason), possibly initially made as early as 1915. All had Mason screw caps with shoulder seals. By ca. 1917,<sup>3</sup> these were phased out in favor of the Genuine Mason jar, an almost identical jar, with “Genuine” replacing “Standard.”

The “Genuine” phase saw the transition from the shoulder seal to a bead seal, still with the zinc screw cap. Genuine Masons remained in production until ca. 1920, when they, in turn, were replaced by Boyd Mason jars. All Boyd Masons had bead seals, and the jars were made until ca. 1926, when they were apparently discontinued. The four sets of “banner” jars – plus the banner-tailed Mason and Sealtite Mason – are described with individual details below. A jar embossed “Mason” with an underlining banner may also have been made briefly by Illinois-Pacific.

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<sup>3</sup> Dates for the transitions from “Standard” to “Genuine” and from “Genuine” to “Boyd” are “best guesses.”

**Everlasting (cursive) JAR (in banner) (1904-ca. 1915)**



Figure 17 – 1905 Everlasting ad (Creswick 1987b:195)

The Illinois-Pacific Glass Co. advertised the Everlasting Jar at least as early as 1905 in pint, quart, and half-gallon sizes (Figure 17). The ad emphasized the clamp lid, stating that there would be “no more screwing, tugging, and twisting to get the top off” (Creswick

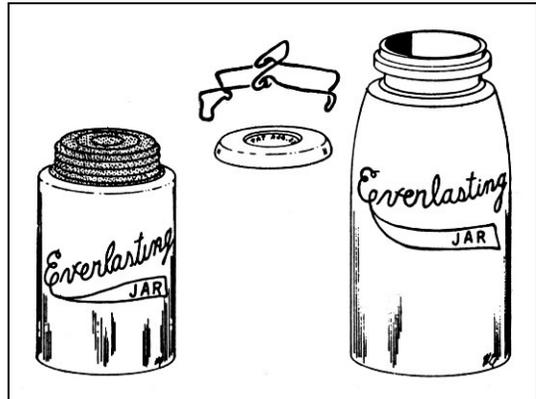


Figure 18 – Everlasting jars (Creswick 1987b:52)

1987b:195). Toulouse (1969:113) noted the jar and identified the Illinois-Pacific Glass Co. as the manufacturer based on the connection between patentee Edward Abramson and his position as vice president of the glass house. Roller (1983:118-119) confirmed the identification and dated the jars ca. 1904-1909. In addition, he noted a variation with a continuous-thread finish. Creswick (1987b:52) illustrated both variations of the jars, embossed “Everlasting (cursive)” with a banner extending down and to the right from the initial “E” enclosing the word “JAR” (Figures 18 & 19). She dated the jars ca. 1904-1909.



Figure 19 – Everlasting jars (eBay)

Creswick (1987b:52) added an unusual basemark. She noted:

Jars have been reported with a base marking of Pat June 9 1903, which was a patent issued to Ewald Golstein. Assigned to Julius Landsbarger. This date was used on the Economy and Landsburger jars. The [Illinois-Pacific Glass Co.] made the Economy jars (1903-08) as well as the Everlasting jars, but the reason for the date on the Everlasting jars is unknown.



Figure 20 – Everlasting lids (eBay & North American Glass)

Roller (2011:184) reported the embossing as “7 / PAT / JUNE 9 / 1903.” Since Illinois-Pacific made jars for Kerr (Economy and Landsburger jars) during this period, someone likely selected the wrong baseplate with just a cursory glance, and a single run of jars were made before the error was discovered.

These jars used glass covers with wire clamps and either “PAT. NOV. 29. 04.” on

green lids or “PAT. AUG. 22. 05.” on colorless and aqua lids (Figure 20). Edward Abramson applied for a patent for

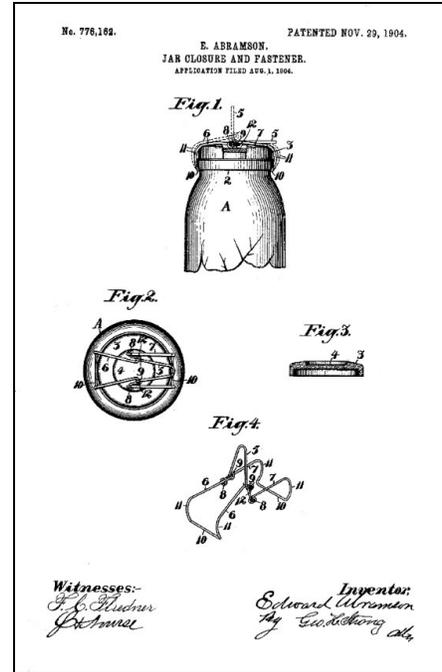


Figure 21 – Abramson 1904 patent

a “Jar Closure and Fastener” on August 1, 1904, and received Patent No. 776,162 on November 29 or that year (Figure 21).

The patent is for the closure found on the Everlasting Jars. Along with Edward O. Bennett, Abramson applied for an improved version of the closure on March 28, 1905, and received Patent No. 797,711 for their invention on August 22 of that year (Figure 22). An undated brochure from Illinois-Pacific illustrated the jar on the cover (Creswick 1987a:52; Roller 1983:118).

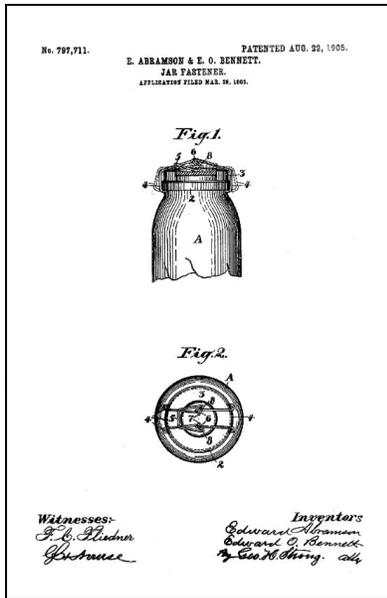


Figure 22 – Abramson & Bennett 1905 patent

### Improved Everlasting Jar (ca. 1910-1926)

Toulouse (1969:113-114) noted two variations of the improved version of the jar – one round in cross-section, the other with 14 panels. The one with 14 panels was embossed



Figure 23 – Improved Everlasting Jars (North American Glass)

“IMPROVED (slight arch) / EVERLASTING / JAR (both horizontal)” in an oval plate on the front (Figure 23). Most (probably all) of these were embossed “ILLINOIS PACIFIC GLASS Co. (arch) / S.F. CAL. (inverted arch)” on the base with “PAT” in the center – along with an off-center press-and-blow machine scar (see Figure 15). The 14-panel jars were made from ca. 1910 to ca. 1915.

Although probably used later, the round jar was embossed exactly like the original variation but with “IMPROVED” above the older logo; however, this was probably not just extra embossing added to an old mold.

The older logo was placed lower on the Improved model (see Figure 22). Roller (1983:164-165) also showed both variations, dating the 14-panel jar to the teens and the round one to the 1920s based on a yellowish tint caused by selenium on the latter jars. Creswick (1987b:52) also illustrated both variations of the Improved Everlasting Jar (Figure 24).

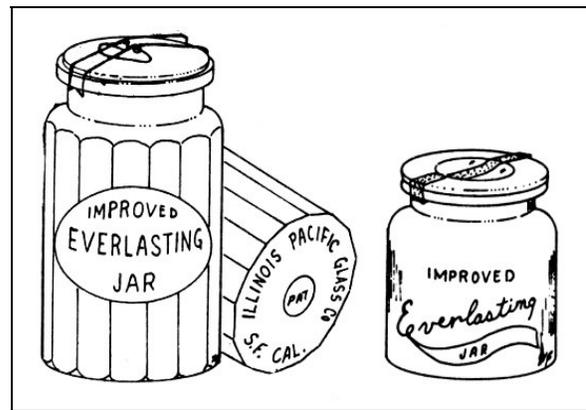


Figure 24 – Improved Everlasting Jars (Creswick 1987b:52)

These round jars had a number of

basemarks or none



Figure 25 – Unembossed base (eBay)

(Figure 25). Roller (2011:184) noted that some bases had the same full company name as noted for the 14-sided jars (see Figure 18). Others had the typical Diamond-IPGCo logo (see Figure 12), a unique “I.P.G.CO / S.F. CAL.” in a diamond (see Figure 16), or the Triangle-IPG mark (see discussion below). This second style was made from ca. 1915 to the reorganization in 1926. See Table 1 for a chronology of variations.

**Table 1 – Everlasting Jar Chronology**

| Body Embossing                       | Variation   | Seal or Closure* | Mfg. Mark  | Date Range** |
|--------------------------------------|---|------------------|--|--------------|
| Everlasting (JAR in banner)          | “JAR” at right end of banner (closed banner); blunt R   | Clamp            | None   | 1904-1915    |
| Everlasting (JAR in banner)          | “JAR” at right end of banner (open banner); blunt R     | Clamp            | 7 / PAT / JUNE 9 / 1903                                | 1904-1915    |
| Everlasting (JAR in banner)          | “JAR” at right end of banner (open banner); blunt R     | Clamp            | None   | 1904-1915    |
| Everlasting (JAR in banner)          | “JAR” at right end of banner (closed banner); pointed R | Shoulder         | None   | ca. 1915     |
| IMPROVED EVERLASTING JAR             | No banner; plate mold; 10 or 14 vertical panels         | Clamp            | ILLINOIS PACIFIC GLASS Co. / S.F. CAL. (PAT in center) | 1910-1915    |
| IMPROVED Everlasting (JAR in banner) | “JAR” at center of banner                               | Clamp            | No embossing   | 1915-1924    |
| IMPROVED Everlasting (JAR in banner) | “JAR” at center of banner                               | Clamp            | “IPGCo” in an elongated diamond                        | 1915-1924    |
| IMPROVED Everlasting (JAR in banner) | “JAR” at center of banner                               | Clamp            | ILLINOIS PACIFIC GLASS Co. / S.F. CAL. (PAT in center) | 1915-1924    |
| IMPROVED Everlasting (JAR in banner) | “JAR” at center of banner                               | Clamp            | I.P.G.CO. / S.F. CAL. in diamond                       | 1915-1924    |
| IMPROVED Everlasting (JAR in banner) | “JAR” at center of banner                               | Clamp            | Triangle-IPG   | 1925-1926    |

\* Continuous-thread shoulder seal or clamp

\*\* Most dates are approximate. See text for more details.

**Standard (cursive) MASON (in banner) (ca. 1915-ca. 1917)**

On this jar, the word “Standard” was in upwardly slanted cursive with a “tail” extending below the word into a banner bearing the word, “MASON” (Figure 26). Toulouse (1969:292) originally dated the mark/jars “circa 1890-1900” for handblown and “circa 1910-1930” for machine-made jars but changed his mind in his later book (1971:485) and dated the mark “circa 1894 to 1923, hand” and “circa 1923 to 1932, machine.” We disagree with both date ranges.



Figure 26 – Standard Mason jar (eBay)

Roller (1983:339) said very little about this jar and failed to assign either a maker or a date range. However, he noted that the jar was only made with a shoulder seal lid. Creswick (1987a:200) also illustrated this variety of Mason jar and dated it

“circa 1902-1925” (Figure 27). She attributed the jars to the Illinois-Pacific Glass Co. and only noted them as having “smooth lips” (i.e., machine made). The Roller update (2011:488) called this “an odd joining of two generic terms” (Standard and Mason) and maintained that the jars were made “circa 1910s by an unknown glass house,” basing that dating in part on a drawing of the jar in a canning booklet from the University of California, “Revised and Reprinted July, 1917.” The editors also listed a variation with a top seal glass lid and metal band that was not reported by other sources.



Figure 27 – Standard Mason jar (Creswick 1987a:200)

*If* Toulouse were correct, the mouth-blown jar was probably the earliest made by Illinois-Pacific and would predate the machine-made jars. However, the firm almost certainly discontinued hand production almost immediately – probably by 1903 or 1904. No other source confirmed the manufacture of mouth-blown jars, so Toulouse was probably in error. See Table 2 for approximate dates.

**Table 2 – Banner Mason Jar Chronology**

| Body Embossing             | Variation                                       | Seal     | Mfg. Mark            | Date Range |
|----------------------------|---|----------|----------------------|------------|
| Mason (empty banner)       |   | Shoulder | None                 | 1914?      |
| Standard (MASON in banner) |   | Shoulder | None                 | 1915-1917  |
| Genuine (MASON in banner)  | Standard ghosted under Genuine; banner from “e” | Shoulder | None                 | 1917-1919  |
| Genuine (MASON in banner)  | Banner from “e”                                 | Shoulder | None                 | 1917-1920  |
| Genuine (MASON in banner)  | Banner from “G”                                 | Shoulder | None                 | 1917-1920  |
| Genuine (MASON in banner)  | Banner from “e”                                 | Bead     | None                 | 1917-1920  |
| Boyd (MASON in banner)     | Genuine ghosted under Boyd                      | Bead     | None                 | 1920-1922  |
| Boyd (MASON in banner)     |   | Bead     | None                 | 1920-1924  |
| Boyd (MASON in banner)     |   | Bead     | Diamond-IPGCo (base) | 1920-1924  |
| Boyd (MASON in banner)     |   | Bead     | IPGCo (heel)         | 1920-1924  |
| Boyd (MASON in banner)     |   | Bead     | IPGCO 143 5 (heel)   | 1920-1924  |
| Boyd (MASON in banner)     |   | Bead     | Triangle-IPG (base)  | 1925-1926  |

**Genuine (cursive) MASON (in banner) (ca. 1917-1920)**

Like its predecessor, this jar had “Genuine” in an upward slant with “MASON” in an underlining banner (Figure 28). Toulouse (1969:129-130) listed three variations, one marked IPGCo on the heel. His third variation, with “GENUINE” in block letters, was probably not part of this series and was manufactured by the Greenfield Fruit Jar & Bottle Co. (see that section for more details). Roller (1983:137) failed to assign a date range to the jars, but he noted a shift from the shoulder seal to a bead seal (i.e., both were found on this design).



Figure 28 – Genuine Mason jar (eBay)

Creswick (1987a:56-57) showed four variations of this jar, all marked with some version of Genuine MASON, including the one with block letters for GENUINE. She dated the jars ca. 1900-1910 (Figure



Figure 29 – Genuine Mason jar (Creswick 1987:56-57)

29). Roller (1983:137; 2011:211) and Creswick (1987b:56) both illustrated and described a “Genuine” jar with a different banner extending from the “G.” The word “Genuine,” however, was in the same cursive as the word in the jar with the banner extending from the “e.” Judging by the pricing in Laybourne (2001:147), this second variation of the “Genuine” is much scarcer than the one with the banner extending from the “e.” The jar with the “G” banner may have been made by a single mold maker, so that mold would have been used until it wore out – during the same period as the other.

Laybourne (2001:146) and Roller (2011:211) added a variation with “Standard” ghosted under “Genuine” a connecting link between the two jars and clearly sets the Standard as the earlier one. The Mason bead seal (noted above) first appeared in the 1908 Hazel-Atlas Glass Co. catalog, although the use of the bead seal by Illinois-Pacific on Genuine Masons probably did not begin until ca. 1917. See Table 2 for approximate dates for this group of jars.

**Boyd (cursive) MASON (in banner) (ca. 1920-1926)**

The Boyd Mason followed the same pattern, with “Boyd” in upwardly slanted cursive and “MASON” in an underlining banner (Figure 30). Toulouse (1969:50) described the jars, but Roller (1983:71) noted that all Boyd jars were made with bead seals and listed a total of four variations for the Boyd:

1. I.P.G.Co. in a diamond on base
2. I.P.G.Co. on heel (no diamond)
3. No company marking
4. Ghosted Genuine through Boyd



Figure 30 – Boyd Mason (eBay)

Creswick (1987a:21) noted that the jar had a “ground lip” (i.e., handmade), the only one in the series to have been mouth blown. In her second volume, Creswick (1987b:31) indicated that the jars had either a “smooth lip” or “ground lip.” Leybourne (2001:75), however, corrected that to read “smooth lip” only (i.e., machine made).

Creswick (1987a:21; 1987b:31) said the base of the Boyd MASON was embossed with the IPG-in-a-triangle mark or unmarked, and illustrated both the regular and ghosted variations (Figure 31). She noted that the ghosted variation could have either the bead or shoulder seal, although the non-ghosted jars were only made with the bead seal. This could be possible since the jars would have been made on the old Genuine molds. Leybourne (2001:75) agreed with Roller’s variations and included the triangle

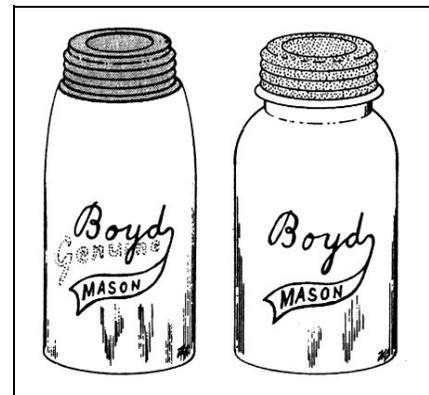


Figure 31 – Boyd Mason (Creswick 1987b:31)



Figure 32 – I.P.G.CO. 143 5 (eBay)

mark claimed by

Creswick and another

made with four mold seams. The Roller update (2011:110) also confirmed the basemark, added a heelmark of “IPGCO 143 5,” and dated the jars from the teens to the 1920s, made by Illinois-Pacific (Figure 32). The triangle mark places the

Boyd Mason to at least ca. 1925, when the company adopted the new logo (see below). See Table 2 for a possible chronology of these jars.

**Mason** (poss. ca. 1914)

Roller (1983:210; 2011:316) listed these jars – embossed on the front with “Mason” in cursive underlined by a banner – in sun-colored amethyst, machine made, and dated them ca. 1902-1906, possibly by the Safe Glass Co., Upland, Indiana. The editors noted that the jars lack a side seam in the finish area, a characteristic of jars made to the Giles & Gray patent of February 10, 1903, assigned to Safe Glass. See the Giles-Clough section for more about the Safe Glass Co.



Figure 33 – Banner Mason jar (Creswick 1987a:115)

Creswick (1987a:115) also illustrated this jar as machine made, colorless, and shoulder sealed (Figure 33). Although the banner had no words (like the jars described above), and was configured slightly differently, the jar was made in the same general style as the “banner” series. Creswick noted that the jar had a “smooth lip” (i.e., machine made) but made no attempt to date it or identify the manufacturer. Because this fits the same general description as the rest of the “banner” series, it *may* have been made by Illinois-Pacific ca. 1914, just prior to the rest of the banner Mason jars.

**SEALTITE WIDE MOUTH MASON**

Roller (1983:325; 2011:471) discussed the “SEALTITE WIDE MOUTH MASON” jar with the Diamond-IPGCo logo on its base. These were machine made with a bead seal finish that he dated ca. 1910s-1920s and called them “rare, little known jars” with a “very wide bead, probably meant to provide extra sealing surface.” Creswick (1987b:121) illustrated the jar but added no new information (Figure 34). The jar was probably made

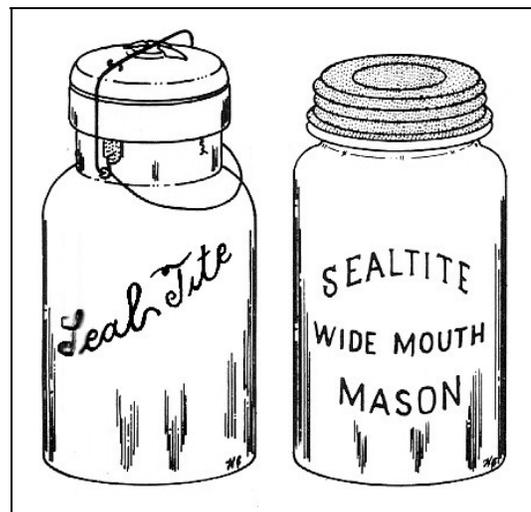


Figure 34 – Sealtite jars (Creswick 1987b:123)

sometime during the ca. 1915-1924 period, but, since it is rated as rare, it was likely only made for a very short period.

A jar with a Lightning-style closure was embossed “Seal Tite” in upwardly slanted cursive, but the manufacturer was unknown by the jar sources, and it was probably unrelated. However, *all* of the other fruit jars made by Illinois-Pacific used cursive fonts, some upwardly slanted. Although the “a,” “t,” and “e” of the words “Seal Tite” match the ones on the Illinois-Pacific jars, those letters are *very* generic. However, this forms the basis for a new hypothesis that the Illinois-Pacific Glass Co. was the maker of the jars.

Toulouse (1969:281) listed the Sealtite jar and trade mark but did not include any manufacturer’s mark in his discussion. He dated the jars ca. 1920-1930, almost certainly by manufacturing technique. He did not know the maker. Roller (1983:325) featured four jars marked SEALTITE. One of them contained no manufacturer’s mark, but two others were embossed PAGCo on the base, made by the Pennsylvania Glass Co. of Anderson, Indiana (ca. 1900-1915), or Dunbar, West Virginia (ca. 1915-1920s). See the Pennsylvania Glass Co. section for more on that firm.

Creswick (1987b:123) illustrated three variations of the SEALTITE jars and agreed with the Pennsylvania Glass Co. attribution – but dated the jars ca. 1906-1912, based on her understanding of the dates the company was in business. She also illustrated a very similar jar, embossed “Seal Tite” in upwardly slanted cursive. She ascribed that jar also to the Pennsylvania Glass Co. ca. 1906 and later. As noted above, she also described the Wide Mouth variation made by Illinois-Pacific.

Unless the upwardly slanted cursive jars were made by Illinois-Pacific, the glass house only briefly entered the Seal Tite field. Despite the similarity of block embossing on the jars, there is probably no connection between Illinois-Pacific and the Pennsylvania Glass Co.

### **IPGCO in a triangle**

May Jones (1965:[16]) claimed that this mark existed, although we have yet to see one. As stated above, she noted Keusseff as saying, “I think this was the next mark of Illinois-Pacific,

don't know dates, again I think the third letter is 'G.'" Toulouse (1971:268) also reported this logo (probably based on the Keusseff information) but gave no dates or additional information about it. When discussing Illinois-Pacific marks in a later volume (1966:20), however, Jones did not mention this mark. Keusseff may have confused this with the "I.P.G.CO. / S.F. CAL. in diamond" logo discussed above.

## **IPGC**

Griffenhagen and Bogard (1999:124) listed the IPGC mark as belonging to the Illinois-Pacific Glass Co. They erroneously dated the mark 1902-1930, probably based on Toulouse's confused rendition. They added that the mark was found on bottles used by Schmidt's Pharmacy and the Home Bitters Co., St. Louis. They almost certainly took their information from Ring (1980:248). Ring listed the Home Stomach Bitters and noted either I.C.CO (probably meaning IGCo) or IPGC on the base of the bottle. We have found this mark in no other sources and have not seen it on containers. Ring may have seen a single example where the "o" in "Co" was very indistinct, or the exclusion of the "o" may have been a typographical error.

## **IPG in a Triangle**

Although this mark will be discussed in Part II (the "Corporation" section), it was actually adopted by at least 1925, still in the "Company" period and was almost certainly associated with the shift to fully automatic machine-made bottles. Rim codes on milk bottles (see below) confirm a January 1925 date. An ad in the *Pacific Dairy Review* (1926:5) prior to the restructuring of 1926 clearly illustrated the mark (Figure 35).



Figure 35 – Triangle-IPG logo

## **Rim Date Codes**

A January 7, 1925, ad in *Pacific Dairy Review* listed "five points of superiority" in Illinois-Pacific milk bottles, one of which was "A Date Stamp." This signified the initial use of "rim codes" on milk bottles. These consisted of two tiny single-digit numbers embossed on opposite sides of the rim (top part of the finish) of machine-made milk bottles. Milk bottles

were originally machine made by the press-and-blow method, where the first step formed the parison or blank. The mold used was made of a single piece of iron, the cavity tapered up from bottom to top into which was dropped a gob of glass. A plunger pressed the gob into shape, guided into place by the mold's top cap. The press also created a depression at the top to allow compressed air to blow the bottle into its final shape – at the same time creating the finish. The top cap of the mold was engraved with the tiny numerals that formed the date code. The parison – with the completed finish – was ejected from the parison mold by a rod and transferred to the blow mold to create the final bottle shape (Schulz et al. 2009; 2010).

We have discussed date codes in various formats throughout the Encyclopedia, but these Pacific Coast rim codes were unique in two ways.

Typically, date codes consisted of single- or double-digit numbers (occasionally letters) denoting the year of manufacture. These originated on returnable bottles to help determine how many round trips the bottler could expect. Rim codes included a month code as well, often stamped over the original code. Even when the top plate wore out, these were much smaller than other parts of the molds and easily replaced. This segues into the second feature, the location of the codes. With the exception of finish codes used on West Coast soda bottles made by the same firms, date codes were typically embossed on the heels or bases of bottles. The rim code was only possible on milk bottles because the sealing disk was placed inside the finish – thus undisturbed by the embossing (Figure 36).



Figure 36 – Rim code

The Southern Glass Co., Vernon (Los Angeles), California, initiated the rim code process in October of 1924, but Illinois-Pacific had adopted the code by January of the following year, continuing to use rim codes through the “Corporation” and “Coast” periods into the Owens-Illinois Glass Co. era (see the section on the Southern Glass Co. for more information on that firm). From January 1925 until the end of the “Corporation” period in 1930, the firm used the Triangle-IPG logo on these and other bottles. Interestingly, the plants continued to use the molds until they wore out. Triangle-IPG heelmarks continued to appear on rim-coded bottles until 1933, a year after the acquisition of the firm by the Owens-Illinois Glass Co. (Schulz et al.

2009; 2010). Also, see parts II and III of this series for more on the logos of the Illinois-Pacific Glass Corp. and Illinois-Pacific Coast Co.

## **Discussion and Conclusions**

Although the Illinois-Pacific Glass Co. (1902-1926) used three primary manufacturer's marks (IPGCo, IPGCo in a diamond shape, and IPGCo surrounded by a diamond), the dating of each logo can only be generalized. Certainly, they may all be dated within the 1910-1925 period, but we are unable to offer any finer dating chronology. The remaining marks (e.g., the full name of the company) are less common, but, in some cases, they are easier to date. It is clear that more research needs to be accomplished with the marks of this company – once additional data are available.

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## **Sources**

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

1980 "Beer Bottles from the Tucson Urban Renewal Project, Tucson, AZ." Unpublished manuscript, Arizona State Museum Archives, RG5, Sg3, Series 2, Subseries 1, Folder 220.

California Development Association

1924 "Manufacturers' Directory of California." California Development Association, Los Angeles, California.

Colcleaser, Donald E.

1965 *Bottles of Bygone Days*. Privately Published, Napa, California.

*Commoner and Glassworker*

1908 "From the Golden West." *Commoner and Glassworker* 26(35):5.

1909a "Rehabilitation of San Francisco." *Commoner & Glassworker* 27(14):1.

1909b "From the Golden Gate City." *Commoner & Glassworker* 27(45):2.

1910 "San Francisco Glass News." *Commoner and Glassworker* 28(20):1.

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.

Elliott, Rex. R. and Stephen C. Gould

1988 *Hawaiian Bottles of Long Ago*. Hawaiian Service, Inc., Honolulu.

Fowler, Ron

1998 *Ice-Cold Soda Pop 5¢: An Illustrated History of Oregon Soda Pop Bottling*. Privately published, Seattle, Washington. [Revised version of the 1986 edition]

Giarde, Jeffery L.

1980 *Glass Milk Bottles: Their Makers and Marks*. Time Travelers Press, Bryn Mawr, California.

*Glassworker*

1914a "In the Golden State." *Glassworker* 32(25):2.

1914b "From Far-Off California." *Glassworker* 32(37):16.

1924 "Trade Notes." *Glass Worker* 43(16):1.

Griffinshagen, George and Mary Bogard

1999 *History of Drug Containers and Their Labels*. American Institute of the History of Pharmacy, Madison, Wisconsin.

Hamilton, C.W.

1913 "San Francisco, Cal." *American Flint* 5(1):39.

Jones, May

1965 *The Bottle Trail, Volume 5*. Nara Vista, New Mexico.

1966 *The Bottle Trail, Volume 6*. Nara Vista, New Mexico.

*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):951-954.

Leybourne, Douglas M.

2001 *The Collector's Guide to Old Fruit Jars: Red Book 9*. Privately published, North Muskegon, Michigan.

*Los Angeles Times*

1902 "Glass Companies of the West Merged." *Los Angeles Times* September 5, 1902.

Lockhart, Bill and Wanda Olszewski

1993 *The El Paso Coliseum Collection: A Study of 20th Century Bottles*. The County of El Paso, Texas and the University of Texas at El Paso.

1995 "The El Paso Coliseum Collection: A Study of 20th Century Bottles." *The Artifact* 33(3):1-91. (revised version of 1993 study)

Miller, Michael R.

1999 *A Collector's Guide to Arizona Bottles & Stoneware: A History of Merchant Containers in Arizona*. Privately Printed, Peoria, Arizona.

*Modesto News*

1920 "Glass Factory is Destroyed; Loss Nearly Million." *Modesto News* May 24, 1920.

Moody, John

1926 *Moody's Manual of Investments and Security Rating Service*. Moody's Investors Service, New York.

*National Glass Budget*

1912 "Changes Wrought in 7 Years." *National Glass Budget* November 30.

"Pacific"

1910 "San Francisco Glass News." *National Glass Budget* 23(20):5.

*Pacific Dairy Review*

1926 Advertisement: "Keeping Books on Milk Bottles." *Pacific Dairy Review* 30(1):5.

*Pacific Wine and Spirit Review*

1901a Untitled paragraph in *Pacific Wine and Spirit Review* 43(4):39.

1901b "Illinois Glass Company's Great Plant." *Pacific Wine and Spirit Review* 43(8):13.

1902 "Big Glass Companies Consolidated." *Pacific Wine and Spirit Review* 44(9):36.

1906 Untitled paragraph in *Pacific Wine and Spirit Review* 48(6):23.

Peterson, Arthur G.

1968 *400 Trademarks on Glass*. Washington College Press, Takoma, Maryland.

Ring, Carlyn

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

Roller, Dick

1983 *Standard Fruit Jar Reference*. Privately published.

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

*San Francisco Call*

1902 "Glass Makers Join Interests." *San Francisco Call* August 19, 1902.

Schulz, Peter D., Bill Lockhart, Carol Serr, and Bill Lindsey

2009 "Rim Codes: A Pacific Coast Dating System for Milk Bottles." *Historical Archaeology* 43(2):30-39.

Thomas Register

1916 *Thomas' Register of American Manufacturers and First Hands in All Lines: A Classified Reference Book for Buyers 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.

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