

California Glass Insulator Co.

Bill Lockhart, Beau Schreiver, Carol Serr, and Bill Lindsey

California Glass Insulator Co., Long Beach, California (1912-1914)

China, Glass & Lamps announced on May 15, 1911, that the California Glass Insulator Co. had just incorporated, with a capital of \$300,000. Jules Kauffman, A.C. Munn, E.H. Fosdick, J. Morris, J.G. Orth, J.M. Waterman, and Stanley S. Stonaker were the original directors (Stahr 2006a).

The California Glass Insulator Co. opened in late April 1912 at the Harbor District of Long Beach, California. The firm used a high-grade silica sand discovered at Horseshoe Bend in Orange County a few months earlier and mined by the American Glass Sand Co. Along with the insulator plant, the firm had already purchased a bottle machine and was constructing a second factory at the same location (Figure 1). The firm employed “nearly fifty men most of whom knew nothing about glass making.” However, the workers were “daily gaining skill and will soon be producing the full capacity of the plant about 15,000 insulators a day” (*Southwestern Contractor and Manufacturer* 1912:9).



Figure 1 – California Glass Insulator Co. (Los Angeles Library)

Robert P. Frist founded the firm, which stood on ten acres of land in northern Long Beach. The plant was served by the Southern Pacific and Pacific Electric Railroads and had its own foundry and machine shops to produce molds and other needed hardware. The *Southwestern Contractor and Manufacturer* (1912:9) described the molding process:

Each shop requires a crew of five men: one who draws the molten glass from the tank, one to cut off the exact quantity of glass required to make an insulator, another to remove the screw core, one to take the insulators from the molds and

the fifth to carry the insulators to the tempering furnace or “liear” [*sic* – actually lehr]. The chief skill required is in the handling of the molten glass by the gatherer, who takes it from the tank and in knowing the amount of glass required to press one insulator. An ounce more or less produces an imperfect insulator which must be thrown away, yet it is by the instinct of experience alone that the presser knows just how much he must cut off into each mould with his shears, for the molten glass is thus severed like taffy. From the presses, the red hot insulators are hurried to the tempering “liears” [*sic* – actually lehrs]

The original plan was to make three factories at the same location, one to make insulators, another for bottles, jars, and lamp chimneys – and the third was to be for flat glass (especially wire glass). The initial plant manufactured insulators, and the firm incorporated with \$300,000 in capital stock. Arthur G. Munn was president, with John G. Orth as vice president, Robert P. Frist as general manager, Stanley S. Stonaker as secretary, and John Morris as treasurer (Griffin 2014; *Southwestern Contractor and Manufacturer* 1912:9).

The firm installed the first bottle machine on May 20, 1912 – a device capable of producing 500 dozen bottles during an eight-hour shift. The machine was apparently installed in a separate building from the insulator-production unit. All bottles were to be sold locally in California (Griffin 2014).

According to the American Glass Trade Directory, by 1913, the plant had one continuous tank with six rings (Stahr 2010). On August 30 of the same year, the *Los Angeles Times* announced that

with a crew of eighty skilled workmen toiling night and day, the California Glass Insulator Co. of Long Beach is running at full capacity to turn out orders of telegraph insulators for the Southern Pacific railroad, the Western Union Telegraph Co., Sierra Power Co. and other large western institutions. An order of 3,000,000 insulators is to be filled for the Pacific States Electric Co. this year, and the same amount annually for five years, the total representing \$1,500,000. (Quoted in Stahr 2005a).

On September 15, “Calaveras”¹ reported that the factory was operating two insulator “shops” (i.e. crews), “one O’Neil [*sic*] machine making soda bottles, and two Teeple-Johnson machines. There is a fine mold shop at this plant” (Stahr 2006b). Despite the plans to build a second factory for bottles, this sounds like all production was within the same building.

Even though the plant was selling insulators to the Pacific Telephone and Telegraph Co. and shipping them as far away as China and Japan, the factory closed during March 1914. The factory reopened under a completely reorganized corporation just a month later, on April 16 of that year – backed by a group of wealthy Canadians (Griffin 2014). On January 31, the *Los Angeles Times* noted that “The recently-incorporated California glass works has assumed the business and factory of the California Glass Insulator Co., at Long Beach. W.A. Farmer is president of the new concern and L. Orcutt is secretary” (Stahr 2005c).

Patents Controlled by Robert P. Frist

Robert P. Frist had invented an improvement in glass blowing machines in 1904 and wanted to find a place in California to establish a glass plant. Frist applied for a patent for a “Glass Blowing Machine” on December 8, 1904. He received Patent No. 862,728 two-and-a-half years later, on August 6, 1907 (Figure 2). His invention centered on a special nozzle for blowing the air into the bottle blank. This would have left no distinguishing marks on an actual container.

In 1889, Frist developed a style of insulator (that was apparently never used) and received Patent No. 405,546 on June 18. On May 23, 1900, Edmund Hoffman of Bridgeton, New Jersey applied for a patent for a “Closure for Bottles, &c.” (Figure 3). This was a metal cap that used a lug system to attach to a grooved finish. The drawing showed a small-mouth bottle. Hoffman assigned the patent to himself, Charles E. Whitely, and Robert P. Frist (who also resided at Bridgeton).

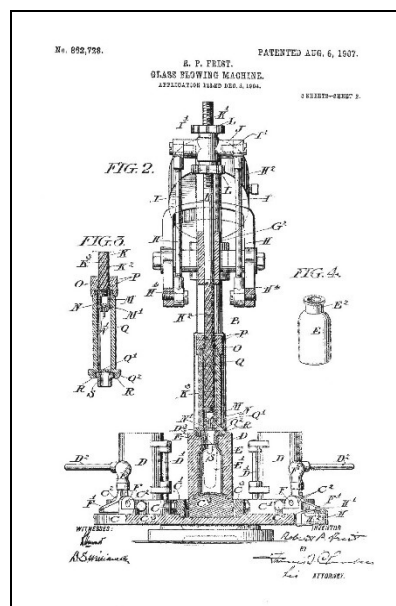


Figure 2 – Frist’s 1907 patent

¹ It was not unusual for glass workers to assume an alias when reporting to the glass journals – in the case the *Glassworker*.

Hoffman applied for another patent on December 23, 1899. This was a modification of the 1900 cap – still using the lug system. He received Patent No. 666,673 on January 29, 1901, and assigned it to the same group as the first one. On July 31, 1900, Hoffman applied for another modification to the same cap and received Patent No. 714,303 on November 25, 1902 – again assigning it to the same group but adding William G. and Henry Whitely.

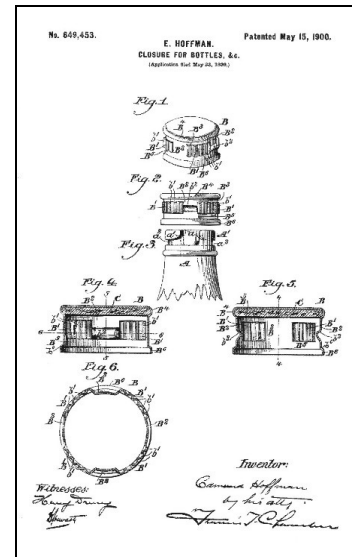


Figure 3 – Hoffman’s 1900 patent

Hoffman also designed and patented several machines for making the caps as well as devices for forming the finishes on narrow-mouth bottles (Patent No. 611,631 on October 4, 1898, and 714,304 on November 25, 1902). It is impossible to tell how many of the Hoffman patents were ultimately controlled by Frist or if these were the “patents of which Mr. Frist controls” noted by the *Southwestern Contractor and Manufacturer* (1912:9) that were the basis of his search to create a glass firm in California.

The Merger with the Bloom Jar Co. (1913)

The *National Glass Budget* reported on August 30, 1913, that the California Glass Insulator Co. of Los Angeles and the Bloom Jar Co. of San Francisco had merged on August 13. The new firm planned to manufacture fruit jars and milk bottles to be sold from the Los Angeles office. At that time, the Bloom Jar Co. had a capitalization of \$1,500,000, and the insulator plant was valued at \$262,000 (Stahr 2005b).

David Bloom held patents for jar and bottle closures, including one for milk bottles – adopted by the army and navy – that the plant intended to feature. Bloom also had large contracts with the Heinz Co. for jars with patented lids. Bloom’s California plant may have made the lids at the time of the merger but bought the bottles and jars from the east. The new firm had plans to make the entire containers in the future (Stahr 2005b).

According to the *National Glass Budget*, the Long Beach (Los Angeles) plant produced “nearly all the glass insulators used by the Western Union and Postal Telegraph companies, as

well as the railroads, west of the Rocky mountains.” Arthur Munn, president at Long Beach said that the plant would immediately employ an additional 500 workers. David Bloom, president of the San Francisco plant as well as president of the combined organization, planned to move to Los Angeles in order to open a new distribution office to handle domestic business as well as the porcelain containers made for the firm in Japan (Stahr 2005b).

Bloom Jar Co. (1914-1916)

After inventing a new style of jar closure, David Bloom received a patent for the device (see below) and apparently started a firm called the Bloom Jar Co., with a plant at San Francisco. It appears that the firm did not actually manufacture anything, and it may have been merely a paper corporation prior to the merger with the California Glass Insulator Co. in 1913.

Apparently, Bloom’s 1914 patent garnered some increased backing. On December 4, 1914, the *Glassworker* crowed that a new jar concern had been formed. With financial backing from A.H. McPike of San Francisco and William Hale, the new Bloom Jar Co. was planning to build plants in Indiana and Virginia. Tom Schollenberger, the western sales representative, claimed that “the trade has been waiting for a jar of this kind for a long time.” His counterpart in New York was Stewart H. Frank (Stahr 2007).

The last mention of the firm came from the December 23, 1916, issue of the *National Glass Budget*. In an article about “recently installed” Miller machines, the Bloom Glass Jar Co., of Berkeley, California, had installed “a model ‘W’ machine for the manufacture of a patented fruit jar lid” (Stahr 2006c).

We have been unable to find any further references to the Bloom Glass Co. There was no mention of Bloom or his jars at the California Glass Works, so Bloom’s connection with the firm may have evaporated during the 1914 reorganization. It is clear that Bloom made at least some lids and sold some jars – e.g., the machine installation in 1916 – but the firm seems to have faded away from the historic record. The typical fruit jar sources are silent about Bloom; therefore, the jars were likely used as packers’ ware.

David Bloom Patents

David Bloom applied for a patent for a “Receptacle Closure” on December 27, 1910. He did not receive Patent No. 1,027,685 until May 28, 1912 – almost a year and a half later (Figure 4). Bloom claimed that his closure would allow the food to be cooked after the jar had been sealed. Pressure inside the jar would push excess heated air out of the closure – which would yield slightly – creating a partial vacuum when the jar cooled, hermetically sealing the container. He stressed that the lid could be held in place with different degrees of pressure. This must have been the patent that the *National Glass Budget* referred to in mid-1913 as “automatic hermetically sealed glass bottles of various kinds, prominent among which is a sanitary milk bottle, which has been adopted for use by the army and navy at the suggestion of Surgeon General Blue” (Stahr 2005b).

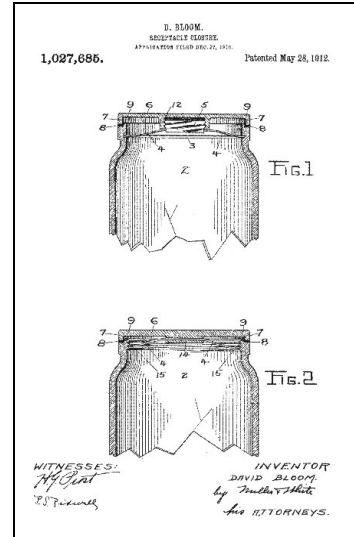


Figure 4 – Bloom’s 1912 patent

While waiting for the jar closure to receive its acceptance, David Bloom applied for a patent for a “Sheet Metal Can” on May 23, 1911, and received Patent No. 1,030,455 on June 25, 1912, just over a year later. This was essentially the same as the patent described above, although it was applied specifically to cans. Bloom may have attempted to cover his invention while awaiting the initial patent – which was granted just a month earlier.

On April 14, 1914, Bloom applied for another patent, again for a “Receptacle Closure.” He received Patent No. 1,159,825 on November 9, 1915 (Figure 5). While the basic intention of this closure was the same as both of his previous ones, the method of sealing centered on a “resilient or tension element” – a bar preferably of bamboo – that fit into a dove-tailed slot on the underside of the lid and screwed into internal debossed threads in the jar’s throat. This resilient element would bow as the lid was screwed onto the jar. A gasket in an “undercut annular groove” in the lid formed a seal between the lid and the rim or lip of the jar. This patent apparently led to the beginning of a second Bloom Jar Co.

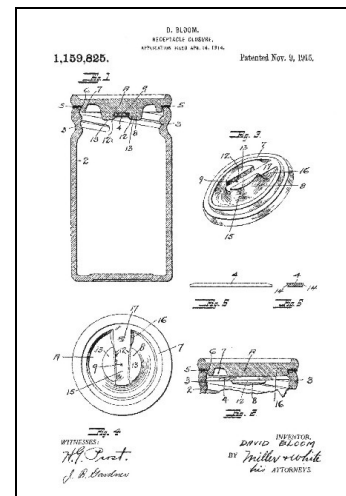


Figure 5 – Bloom’s 1915 patent

Bloom continued to experiment with closure types, mostly based on his original idea. This culminated in patents received on November 27, 1917 (No. 1,247,924), March 12, 1918 (Design Patent No. 51,851), September 14, 1920 (No. 1,353,017), June 19, 1923 (No. 1,459,277), July 3, 1928 (No. 1,675,920), and December 15, 1931 (No. 1,836,220). The 1928 patent is intriguing because it moved the tension element to the top of the closure (Figure 6).

Containers and Marks

C.G.I.Co. (1912-1914)

According to Toulouse (1971:128-129), the California Glass Insulator Co. used the “C.G.I.Co.” mark from 1912 to 1918 (Figure 7).² Burger (2014) described in great detail insulators embossed with this logo. Although the company made containers as well as insulators, we have not seen the mark on any bottles, and none of the sources mentioned anything about bottles with the logo.

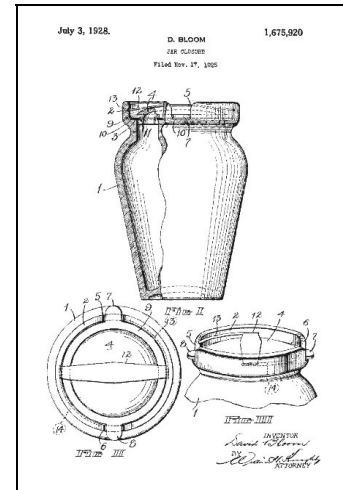


Figure 6 – Bloom’s 1928 patent



Figure 7 – C.G.I.Co. insulator (Glassian)

California Glass Works, Long Beach, California (1914-1916)

As noted above, the corporation completely reorganized on January 14, 1914, as the California Glass Works – apparently without Bloom. Frist had taken the new company to court but apparently lost. Burger (2014) added that the new firm was “under the management of C.L. Eshelman.” The new group replace the old furnaces with newer ones and added one for amber glass in a 1915 glass factory list, making “flint, green and amber bottles, packers and preservers” (Stahr 2010).

R.M Moore became the manager in 1915. The firm gained new contracts for beer bottles, insulators, and a contract with the Beech Nut Packing Co. for 52 railroad carloads of

² Under the logo, Toulouse (1971) stated “1912 to 1919,” but in the text he noted “no report” for the plant in 1918. Such inconsistencies caused by typos are common in Toulouse.

“glass cans” to be shipped one carload per week for a year. Business was good (Griffin 2014). By 1916, John Gimper was president, with J.B. Mather as secretary and manager.

All of the prosperity disappeared on January 18 or 19, 1916, when a disastrous flood struck the harbor district (Figures 8 & 9). Flood waters completely inundated the entire company grounds, creating and estimated \$15,000 in damage. A fifty-foot area on the side of the property along the street was washed out to a depth on ten feet or more – a hole that would cost an estimated \$14,000 to refill. Flood waters washed the office more than 100 feet from its original location. Some buildings, such as the machine shop were filled with as much as a foot and a half of mud (Griffin 2014). Not surprisingly, both the 1917 and 1918 listings noted “no report” from the company. The factory was never rebuilt.

Containers and Marks

CALIFORNIA

Despite the short life of the California Glass Works, the plant made a large number of insulators, each marked with the word “CALIFORNIA” on the skirt (Figure 10). Burger (2014) compiled a detailed description of the insulators embossed with the logo. However, there is no indication that the firm marked any of its beer bottles, product jars, or other containers.

Discussion and Conclusions

While there is no question that both the California Glass Insulator Co. and the California Glass Works made bottles and jars, the main product for both firms was glass insulators. These



Figure 8 – California Glass Insulator Co. flood (Los Angeles Library)



Figure 9 – California Glass Insulator Co. flood (Los Angeles Library)



Figure 10 – CALIFORNIA insulator (Insulator Store)

were embossed respectively “C.G.I.Co” and “CALIFORNIA” on the insulator skirts. We have found no indication that either firm ever marked its bottles – although the possibility still exists. Even though Rober Frist controlled several machine or device patents, we have found no evidence that any of them would have left an identifiable characteristic on an glass containers.

Acknowledgments

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