

## PART I - BLAKE-HART: THE SQUARE MILK BOTTLES

by Bill Lockhart, Pete Schulz, Carol Serr, Beau Schriever, and Bill Lindsey

Neither Irva J. Blake nor Harry N. Hart was a bottle manufacturer. Although the two remained in separate businesses, they joined forces to invent a square milk bottle that they patented on July 12, 1927 (Giarde 1980:16). Their containers were not the first square milk bottles; nevertheless, they were ahead of their time. Square milk bottles did not become successful in the long term until the late 1940s.

Hart was a restaurant owner, while Blake operated a Sacramento dairy (Sacramento Bee 7/15/1927), and the pair formed a short-lived distribution company as a sales outlet for their bottles. Even though both designers used

the bottles in their respective businesses, the invention never achieved the popularity that Blake and Hart had envisioned. By the late 1920s, the square bottles had again vanished from the dairy shelves.

### Histories

Irva J. Blake: Blake's Dairy, Sacramento, California (1920s)

Doug & Linda (2011) only noted that Blake's Dairy was listed in the city directories in "the 1920's" under the "Creameries" heading at two locations. This suggests that Blake ran a creamery rather than an actual dairy. A creamery was a collection point, where several dairies shipped milk to be converted into cream, butter, and other dairy products. The creamery then distributed the products as well as milk to local customers. Blake, like many creameries, used bottles embossed with his own company's name. The slogan on Blake's square bottles was "Milk that is Milk."

Harry N. Hart: Hart's Lunch, Sacramento, California (1920s)

Like Blake's Dairy, Hart's Lunch was in business during the 1920s at Sacramento, although he eventually expanded to Fresno, Stockton, San Francisco, and Salt Lake City, Utah. His trademark was a heart outline, surrounding the word "Hart's." His motto was "The Sign of a Good Place to Eat," and he had the slogan along with his trademark embossed on some of the milk bottles used in his restaurants. Another slogan was "The Finest Dairy Lunch in the West," but he apparently did not use that one on bottles. Like Blake, Hart used the square bottles that the pair had designed (Doug & Linda 2011).

Blake-Hart Products Co., Sacramento, California (1925-?)

By June 1925, the partners were advertising their square milk bottles in dairy publications and calling their firm the Blake-Hart Products Co. of Sacramento, California. The early ad claimed these bottles would increase the capacity of refrigerators and wagons and reduce bottle breakage. Of equal importance, standard equipment would fill, cap, and wash the bottles. A drawing in the ad illustrated the Blake-Hart trademark and the "PAT. APPD. FOR." embossing. They expressed their expectations that their milk bottle would catch on in the East (Doug & Linda 2011). Although the bottles were made for Blake and Hart until at least 1929, we have not been able to discover how long the company survived or why it dissolved.

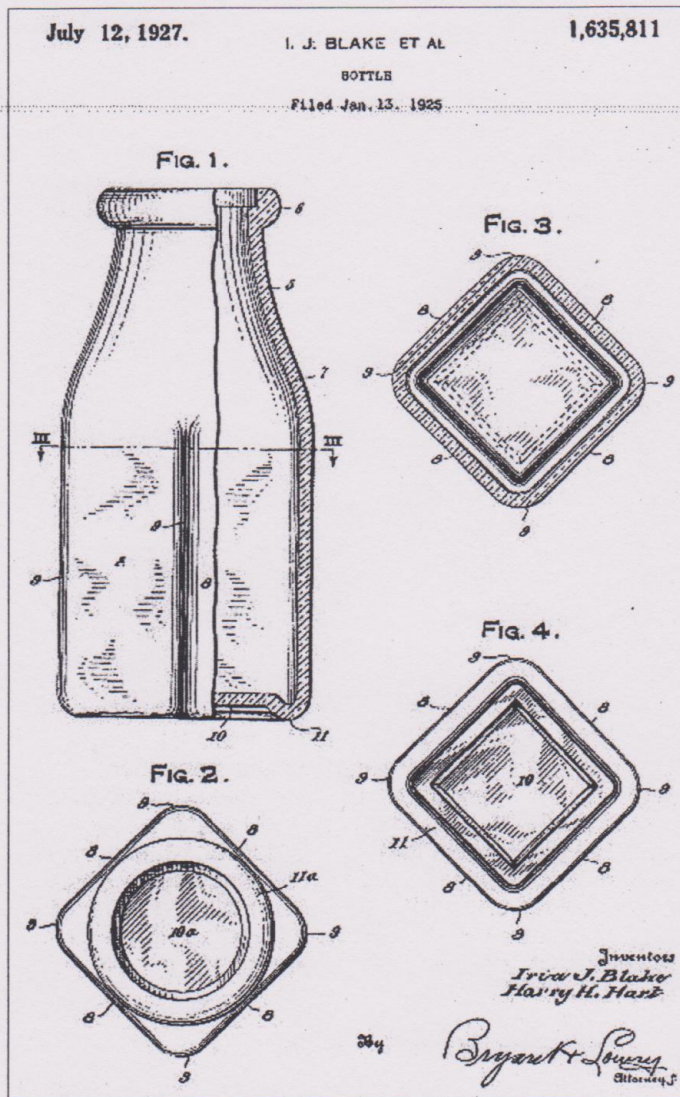


Fig. 1 - Patent drawing of Blake-Hart milk bottle, 1927.



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**Containers and Marks**

On January 13, 1925, Irva J. Blake and Harry N. Hart (both of Sacramento, California) filed for a patent for a "Bottle" (Figure 1). The pair did not receive Patent No. 1,635,811 until July 12, 1927 – almost two years and seven months later, possibly because another square milk bottle had been patented in 1898 (see below). The patent noted that their invention was a "bottle, specially adapted for dispensing milk, or the like, and is so formed that it will fit all types and makes of automatic bottling machines [i.e., machinery to fill milk bottles]." Because the bottles were square in cross-section, "a plurality of bottles can be stowed in a minimum amount of space, with adjacent bottles offering a large surface to provide contact therebetween (sic) and thus restrain them from movement." They also noted that the shape "tends to prevent shifting or upsetting of the bottles, especially when the latter are being filled in filling machines, and after being filled."

Doug & Linda (2011) noted that Charles T. Nightingale invented the first square milk bottle. Nightingale applied for a patent on August 3, 1896, and received Design Patent No. 29,673 on November 15, 1898, for a "Design for a Milk-Jar" (Figure 2). The bottle was square in cross-section and was similar in design to the bottle later created by Blake and Hart. Like the latter inventors, Nightingale's patent remained in limbo for over two years and three months. Again, we have no explanation for the lengthy delay. The designer noted that "the leading feature of the design resides in a milk-jar provided with right-angular corners and a conical-tapered neck portion."

The finish of the Nightingale bottle included an "inner annular rabbet" – better known today as a cap-seat – a ledge for the cardboard closure. The drawing showed a series of graduations embossed down the center of one side. According to Doug & Linda (2011), the bottles were made in half pint, pint, and quart sizes and used tin-top closures. The bottles were mouth blown and had "CLIMAX" embossed on their bases. They noted that the bottles they had seen did not have the cap-seat in the throat.

**Distribution**

One of the inventors told the Sacramento Bee (7/15/1927) that "every bottle will bear the name The Sacramento Bottle. . . . The container formerly was known as the Blake-Hart bottle, but the two men believe that to call it The Sacramento Bottle would give the city wide recognition." Based on empirical evidence, Doug & Linda (2011) doubted that the name was ever used this way, although Blake, himself, used bottles with SACRAMENTO "embossed in three locations" (Figure 3). Our observations concur; we have not seen a single container embossed "The Sacramento Bottle."

Blake and Hart expected "to establish the bottle in every city in the country. . . . Thirty-six dairies west of the Rocky Mountains [are] now using the containers and

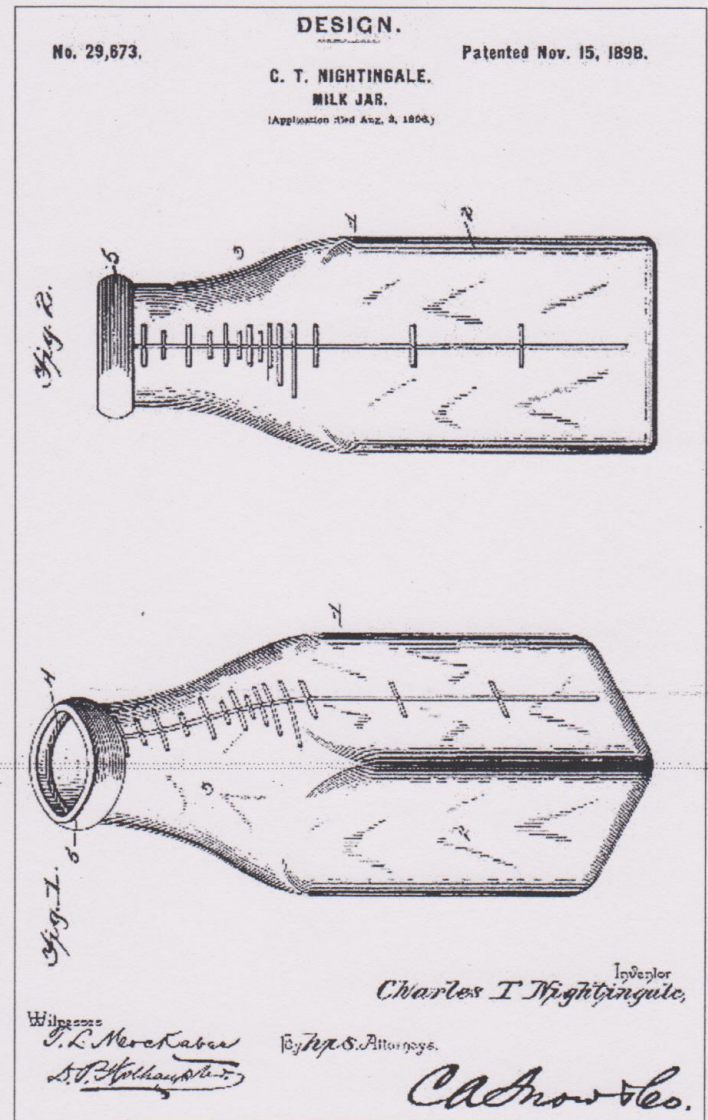


Fig. 2 - Nightingale's 1898 patent for a square milk bottle.

are paying Blake and Hart royalties" (Sacramento Bee, 7/15/1927). Doug & Linda (2011) listed 21 California dairies and creameries that used the containers, and Knipp (1988:1) pointed out that Blake-Hart bottles were found in Oregon, Nevada, and Hawaii, as well as California. It is clear that this period of square bottle use was restricted to the West Coast and nearby states. Although Blake and Hart claimed that dairies in Chicago were interested in using their milk bottles, there is no evidence that the bottles were used east of Nevada (Doug & Linda 2011).

**BLAKE in a heart**

Blake-Hart is a distinctive logo embossed on the heels of square milk bottles. The mark consists of the



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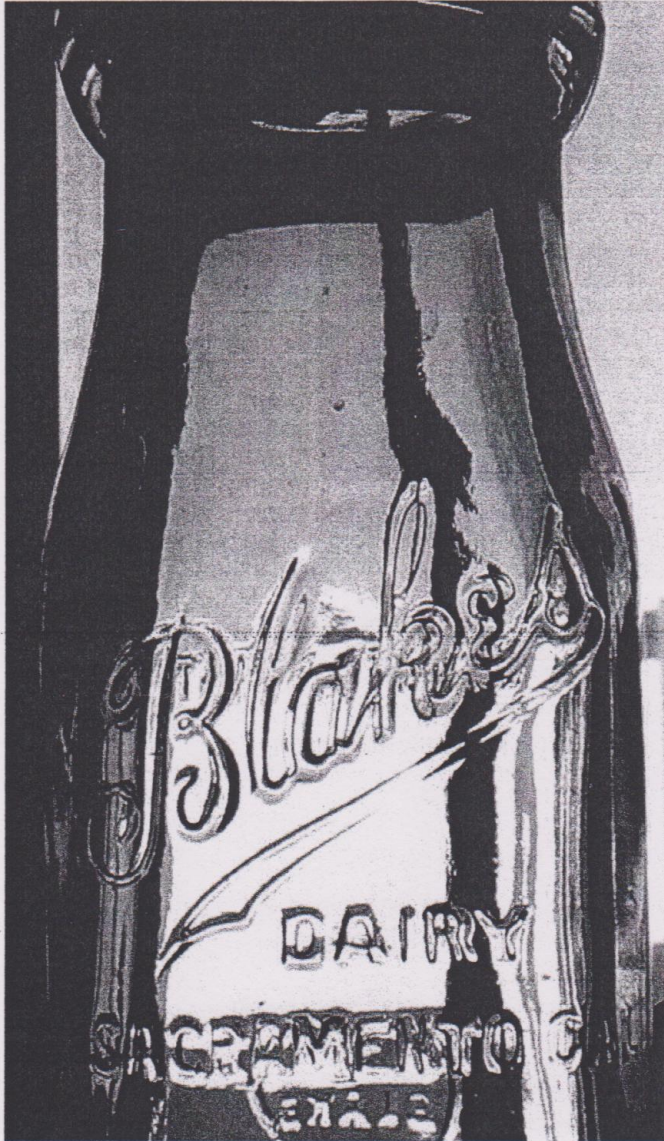


Fig. 3 – Blake-Hart milk bottle from Blake's Dairy  
(California State Parks collection)

horizontal word “BLAKE” superimposed over the outline of a milk bottle, surrounded by a heart (Figure 4). The word “TRADE” is embossed to the left of the lower section of the heart, with “MARK” to the right. At first glance, the “body” of the milk bottle appears to be a “U” under the word “BLAKE”.

Although Toulouse (1971) did not include the logo, Giarde (1980:16-17) provided the explanation that the “mark is not that of the manufacturer but rather is a trademark of the inventors of the old square.” Doug & Linda (2011) further support this contention, noting that all milk bottles they have found with the mark were square.



Fig. 4 – Blake-Hart logo on milk bottle heel  
(California State Parks collection)

Most of these bottles are embossed with either “PAT APPD FOR” or “U.S. Patent 1635811 / July 12, 1927” on the heel opposite the one with the Blake-Hart logo. Since Blake and Hart applied for their patent in January of 1925, some of their bottles were obviously manufactured prior to receiving the patent – hence the abbreviation noting the application had been filed.

According to one of the inventors (probably Blake), he and others had been using the bottle “for three years” in 1927 (Sacramento Bee, 7/15/1927). Although that places the initial date of manufacture five months prior to the patent application, the inventor was probably correct. It is likely that Blake had some of the bottles made for his own dairy prior to applying for the patent. This may have been a test, or he may just have been convinced about the efficacy of his own design.

We could thus expect bottles with “PAT APPD FOR” to have been made as early as January 1925 and to have been made as late as July 1927. Doug & Linda (2011) reported the earliest bottle we have recorded, with a date code for December 1925, along with “PAT APPD FOR.” Although we would have expected the application embossing to have disappeared with the issuance of the patent, Doug & Linda also recorded date codes as late as 1929 with “PAT APPD FOR.”

According to Giarde (1980:16), most of these square bottles bear the patent date – July 12, 1927. Doug & Linda (2011) confirmed the use of the patent date by at least 1928. However, we have also discovered Blake-Hart bottles with no “PAT APPD FOR,” no patent date, and date codes as late as August 1930. It is possible that the “PAT APPD FOR” bottles enjoyed the greatest popularity and production slacked off after the patent was actually issued. Possibilities presented by the bottles with no Blake-Hart logos or patent data are discussed in the “Manufacturers” section.

- End Part I -



## PART II - BLAKE-HART: THE SQUARE MILK BOTTLES

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### Date Codes

Although a few date codes appeared on soda and beer bottles as early as the 1880s, the Thatcher Mfg. Co. embossed the first date code on a milk bottle in late 1909. Thatcher regularly used date codes on its bottles from that point on, but other glass houses were slow to follow (Lockhart et al. 2007). Date codes throughout the glass industry (as well as on milk bottles) were generally embossed on bottle heels or bases, but a unique system occurred in California in the 1920s – just about the time that Blake-Hart bottles made their debut.

The Southern Glass Co., Vernon, California, began embossing date codes on the rim or lip of the milk bottle. In addition to the year code, Southern Glass also included a month code. These took the form of tiny numerals embossed at the very top of the bottle, read by looking straight down as if into the mouth of the container (Figure 7). The firm embossed a single- or double-digit month code on the left side of the rim and a single numeral on the right to represent

the year. Month code changes were easily revised by merely stamping the new month code atop the old one.

Our original research recorded 1924 as the earliest year for rim codes, new information suggests that the initial bottles were made by at least August 1923. Rim codes slacked off in popularity by 1928, but a few were still used as late as 1933. Eventually, the Pacific Coast Glass Co., Illinois-Pacific Glass Corp., Owens-Illinois Pacific Glass Co., and the Latchford Glass Co. all used the rim-code system on some milk bottles. By 1929, Illinois-Pacific had moved its codes to the heel, and, by 1930, few continued to use rim codes or month codes.

The timing for the use of rim codes and Blake-Hart bottles is very interesting. Each phenomenon began in earnest in 1924, peaked out ca. 1928, and dwindled to almost extinction by 1930. This demonstrates a strong correlation between the use of rim codes and manufacture of Blake-Hart bottles. Correlation, of course, does not prove causation, and there were numerous round bottles with rim codes. However, the evidence is intriguing. With the exception of the Latchford Glass Co. (a firm that apparently only used rim codes in 1933), all of these glass houses were also known as manufacturers of the Blake-Hart bottles, opening the possibility that Blake-Hart was the initiator of the rim date codes.

### Manufacturers

As noted above, Blake and Hart were users of their own milk bottles (Blake at his dairy/creamery, Hart at his restaurants), and they became jobbers, selling their milk bottles to other dairies and creameries – usually with the embossed names and locations of the individual concerns on the bottles. It is certain that the pair did not actually manufacture any bottles. So, our question becomes: Who did make the bottles?

The Sacramento Bee (7/15/1927) noted in 1927 that “the bottle, at present, is being manufactured in San Francisco by the Pacific Coast Glass Company.” Doug Gisi discovered a single Blake-Hart square bottle with the PAT APPD FOR base and the “PC rectangle” heelmark, used by Pacific Coast Glass. Although the bottle did not have rim date codes, the manufacturer’s mark confirms the newspaper identification of the maker.

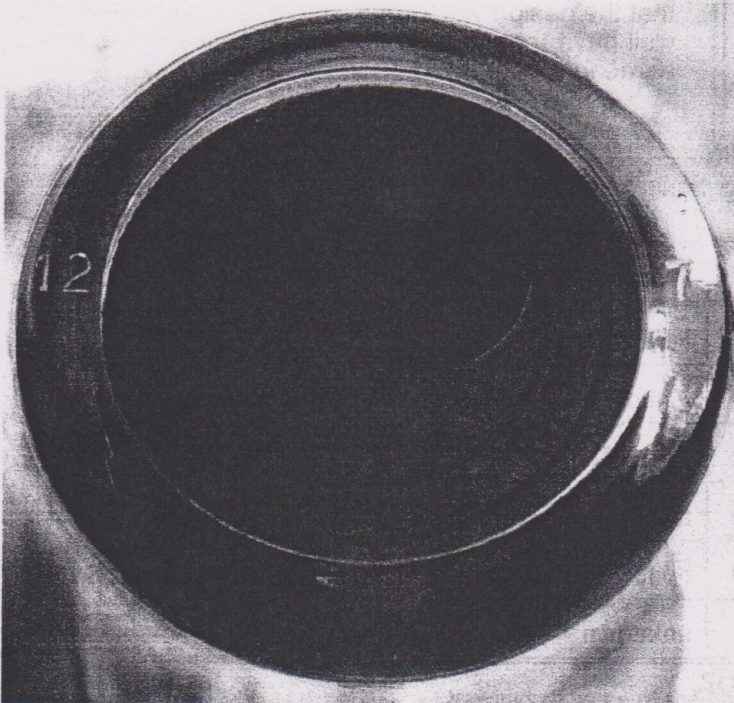


Figure 7 – Rim Code 12 // 7 [December 1927]  
(California State Parks collection)

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In addition, we have recorded the Blake-Hart mark on bottles that have two-digit year codes on the rims (for 1926), a condition only found in our sample on bottles made by the Pacific Coast Glass Co. This also suggests that Pacific Coast Glass made bottles for Blake-Hart during the period claimed by the Sacramento Bee. By November 1926, Blake-Hart bottles were dated with a single-digit code, and double-digit year codes never returned. Doug & Linda (2011) noted that most bottles made by Pacific Coast also have the "PAT APPD FOR" designation.

According to Giarde (1980:16), bottles bearing this mark are known to have been made by the Illinois-Pacific Glass Corp., Illinois-Pacific Coast Co., and the Owens-Illinois Pacific Coast Co. (all the same company, with name changes reflecting reorganizations). Indeed, we have recorded a single bottle with a rim code of 8 // 9 with the Blake-Hart logo on one heel and the Illinois-Pacific triangle logo on another, confirming the Illinois-Pacific connection. Doug & Linda (2011) recorded a date code as late as May 1930 with same logo and noted that most of the bottles made by Illinois-Pacific had the patent date.

Doug & Linda (2011) also noted that they "have seen one Blake-Hart milk bottle from Hilo, Hawaii that has the makers mark of the Owens-Illinois Pacific Coast Company with a 1936 date code." The bottle, however, did not include the Blake-Hart logo. Blake and Hart had almost certainly closed their bottle business by that time, so the need for the logo had passed.

Knipp (1988:1) claimed the bottles were used between 1925 and 1933. He quoted Giarde as stating that later bottles "were known to have been made by Hazel Atlas Glass Co." If correct, this may account for bottles having no rim date codes (see below). The latest date code that we have seen associated with square, Blake-Hart style milk bottles is 1930, although Doug & Linda (2011) recorded the Owens-Illinois example with a 1936 date code. See Table 1 for a list of Blake-Hart bottle manufacturers.

**Square bottles with no Blake-Hart logos**

In addition, we have observed a single square milk bottle (Blake-Hart format) with no rim codes and no Blake-Hart symbol on the heel. However, the bottle is embossed with the Southern Star (S in a star) mark of the Southern Glass Co. Southern used the star mark from 1926 to 1931, although the mark with no accompanying date codes was only used from 1926 to 1928. Thus, the Southern Glass Co. also made square milk bottles during the same period.

It is possible that square bottles without the Blake-Hart symbol or patent date could be a "knock off" bottle made by Southern Glass prior to the issuance of the patent. Until Blake and Hart actually received their patent, they had no way to protect their "invention," and no one would be compelled to pay them for it. Given that the design was pretty simple, glass factories may well have thought that the Patent Office would never agree to a patent.

Table 1 – Manufacturers of Blake-Hart and other Square Milk Bottles

Manufacturer	Dates	Patent Info	Logo	Rim Codes
Pacific Coast Glass Co.	1925-1927	PAT APPD FOR	yes	double-digit
Illinois-Pacific Glass Corp.	1927-1930	Patent Date*	yes	single-digit
Illinois-Pacific Coast Co.	1930-1932	Patent Date?	unknown	probably
Owens-Illinois Pacific Coast Co.	1932-1936	none	none	probably
Southern Glass Co.	1926-1928	none	none	none
Hazel-Atlas Glass Co.**	1930+?	unknown	unknown	unlikely

\* Some of these were made with PAT APPD FOR.

\*\* This is only reported from a single source. Although Hazel-Atlas produced milk bottles, we have found no evidence that it made any in the Blake-Hart style.

## PART II - BLAKE-HART: THE SQUARE MILK BOTTLES

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Similarly, other square milk bottles from the period, regardless of the manufacturer, could have been made in avoidance of the Blake-Hart claim prior to the issuance of the patent. Others (e.g., the 1936 Owens-Illinois bottle recorded by Doug & Linda) could have been made after Blake and Hart ceased operations as a company with little fear of legal retaliation. Alternatively, Owens-Illinois may have purchased the rights to the patent by that time.

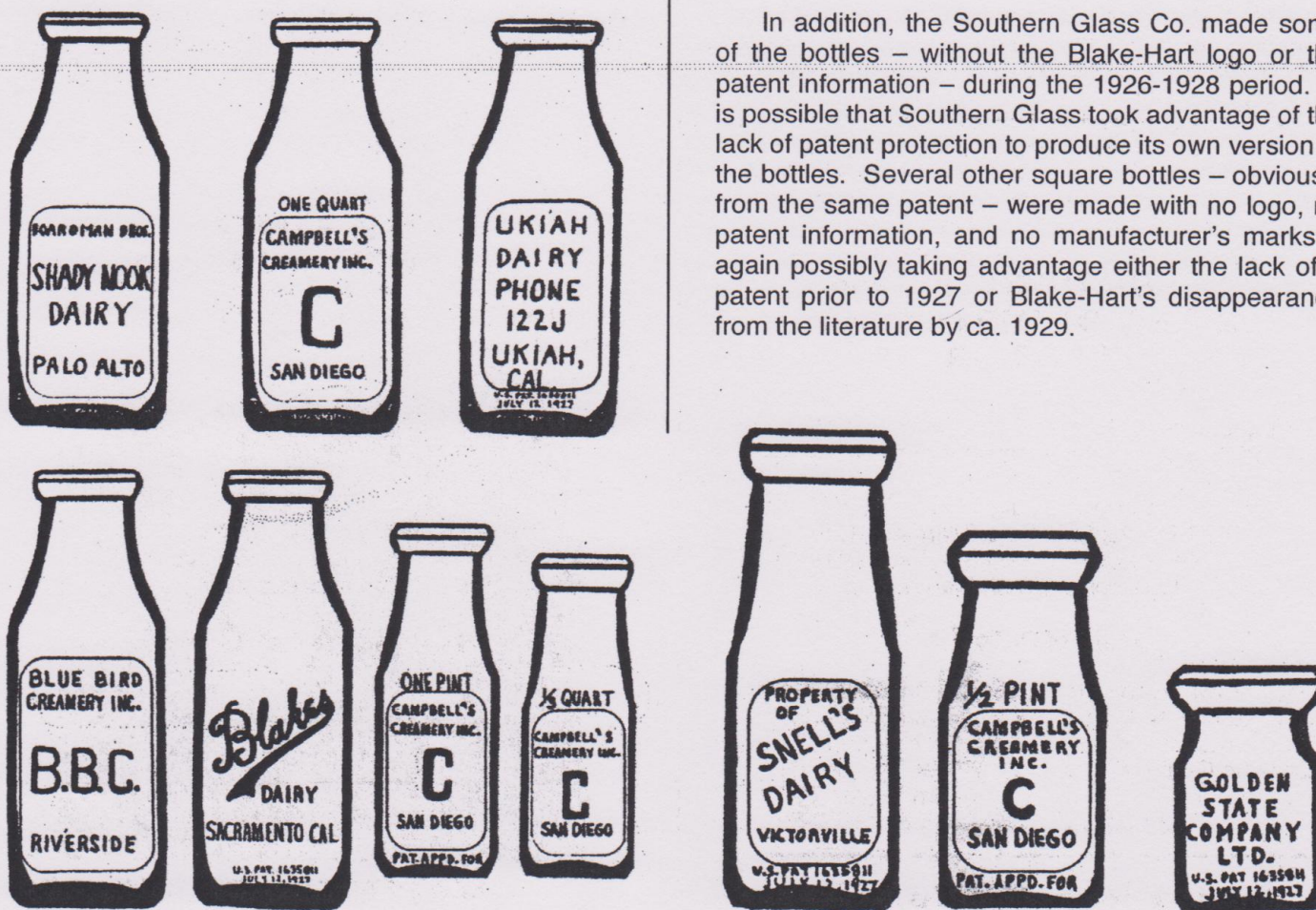
## Discussion and Conclusions

There is no question that the square milk bottles invented by Irva Blake and Harry Hart was

manufactured for two years or more prior to receiving a patent. The distinctive square bottles were made for ca. eight years, from 1925 to 1933 (with a single outlier made in 1936). Although they were not manufacturers, Blake and Hart sold their bottles primarily to California dairies and creameries as well as using them at Blake's creamery and Hart's restaurants.

At least two glass houses legitimately made the bottles for Blake and Hart. Initially, the Pacific Coast Glass Co. produced the containers, from late 1925 to 1927. The Illinois-Pacific Glass Corp. replaced Pacific Coast at some point in 1927, and the glass house continued to make the bottles under the new name of the Illinois-Pacific Coast Co. in 1930 and the Owens-Illinois Pacific Coast Co. in 1932.

In addition, the Southern Glass Co. made some of the bottles – without the Blake-Hart logo or the patent information – during the 1926-1928 period. It is possible that Southern Glass took advantage of the lack of patent protection to produce its own version of the bottles. Several other square bottles – obviously from the same patent – were made with no logo, no patent information, and no manufacturer's marks – again possibly taking advantage either the lack of a patent prior to 1927 or Blake-Hart's disappearance from the literature by ca. 1929.



Drawings of some of the known Blake-Hart bottles.

From the Milk House Moosletter by Jeff and Leigh Giarde. The bottles illustrated are embossed bottles.