

The Wisconsin Glass Company

By Peter Maas

Most Midwestern bottle collectors are familiar with Wisconsin Glass marking on 1880's bottles. This article describes the history and products of the company. It is the second in a series of articles about the glass manufacturing industry in Milwaukee that spanned 38 years and five companies.

The Chase Valley Glass Companies 1 and 2 were Wisconsin's first commercially successful glass making ventures. Founded in 1880 in Milwaukee by Dr. Enoch Chase, they operated for only nine months before being reorganized into a new entity called the Wisconsin Glass Company on August 16, 1881. The new company differed from the Chase Valley Glass Companies in two important ways. First, the 74 year old Dr. Chase retired and sold his controlling interest. Secondly, management decided to diversify the product line rather than specialize in beer bottles. The company's management team was the same as Chase Valley's and they continued to operate in the same facilities and employees.

Contemporary accounts portrayed the reorganization as an insignificant change. The Milwaukee Sentinel announced simply that "the Chase Valley Glass Companies will have a new name." Even after 1881 the Milwaukee Sentinel continued to refer to Wisconsin Glass as the "Chase Valley glass factories", or "Enoch Chase's glassworks." Dr. Chase even acted as the company spokesperson occasionally. Although it's not clear if Dr. Chase had a formal management position, he still retained an ownership interest in the company, perhaps a substantial one.

When Dr. Chase founded Chase Valley Glass he planned to specialize almost exclusively in bottles for the booming beer industry. Managers of Wisconsin Glass believed that diversification was better. They planned to produce a full line of hollow ware and eventually window glass as well. An 1885 advertisement shows a wide variety bottles for beer, soda, druggist products, and other purposes in various colors and sizes. Still, their largest market continued to be brewers.

In 1881 two more glass making ventures were proposed for the Chase Valley. One proposal was to build an art glass factory. It opened in 1881 on Bay View Avenue, several blocks from the Wisconsin Glass works. It was named the Standard Art Glass Company. Its products included fancy table wares and colored art glass. It was a separate entity and was not affiliated with the Wisconsin Glass Company. The other proposed venture was a factory to manufacture Lane & Wadsworth's Patent glass roofing tiles, promising "starlight reveries to sleeping Milwaukeeans." However, this plant was never built.

The first season of production at Wisconsin Glass that began in the fall of 1881 was very successful. Both furnaces ran at full production without serious problems, and demand for bottles was strong. On January 10, it was noted that Wisconsin Glass was producing 10,000 bottles per day for the Val Blatz Brewery alone. On December 31, 1881, Enoch Chase announced plans to add a third bottle factory. Actually, factory 3 was expected to be an addition to Factory 1. A furnace with two "mammoth pots" was built. When it was completed on April 17, 1882, it was said to be the largest glass factory in the city.

Almost from the beginning there were signs of strain between management and workers. On December 2, 1881, only three months after Wisconsin Glass began operating, several workers forced the plant to shut down temporarily by putting fresh sand in the melting pots. After the incident, the Milwaukee Sentinel described Dr. Chase's reaction - "Chase was mad yesterday. Mad hardly expresses it." Another example of strained labor relations was a comment by the plant superintendent. He said that the summer shutdown was necessary because "the men refuse to work", not because of the dangerously high temperatures in the plant.

The start of Wisconsin Glass's second season began with even more serious labor trouble. In September, 1882 the thirty gathering boys went on strike. Management's response was swift

The Glass Making Process

The following is from an 1883 Milwaukee Sentinel article that described the bottle making process at Wisconsin Glass.

Company workers made the melting pots. Fire clay was imported from Germany in ships that used it as ballast. It was spread out on a meticulously cleaned floor and boys with bare feet mixed water into the clay by tramping on it. This mixing process continued for three days until the clay reached the consistency of dough. Pots were then molded by hand. The bottom was first laid out on a layer of gravel to allow for shrinkage, then the sides were gradually built up. When the pots were completely formed, they were allowed to dry for four months. They were then hoisted into the furnaces, which were started very slowly to avoid cracking the pots. Once heated, cullet was added to glaze the pots.

Fresh ingredients were added at the end of each day and were allowed to melt overnight. By morning the glass was at a white hot temperature of 3,000 degrees. Each of the furnaces contained ten pots. Two blowers and one gathering boy worked each pot, beginning at 7:00 am. There were a number of blowpipes arranged in a rack. The boy took one of them and dipped the end into the molten mass. The blower would take the pipe and roll the lump on a stone until all the air was out of it and it was properly shaped for the mold. He then blew into the pipe slightly and swung the pipe a few times to shape the glass for the mold. It was then inserted into a mold fastened to the platform he worked on, he closed the mold with his foot, blew, and opened the mold again with his foot. The second man took the red-hot bottle with some pincers and formed the mouth. A "dirt begrimed boy, armed with a two pronged fork, looking like a miniature demon, rushes in and in an instant the bottle is in the annealing oven." The temperature in the annealing oven was kept at about the temperature of the red-hot glass until evening, when the fire was allowed to die out. The entire process of blowing a bottle took only a fraction of a minute. Two men and a boy could make 95 dozen quart bottles in a day (142 per hour).

and ruthless. All of the boys were immediately fired and their jobs were refilled by the next day. Management said that they were paid as well as gathering boys in any city. This action

undoubtedly didn't sit well with the blowers, who worked closely with the boys.

In March of 1883, Paul Zinkeisen, the manager of the Wisconsin Glass warehouse said that the Pittsburgh glass blowers were getting a 20% wage cut. He said that Wisconsin Glass intended to cut blowers wages by 10%, and he "wouldn't be surprised if the men strike, but it wouldn't last longer than four or five months." He cited competition from German bottles, which he said are "made better than the American." He said that the only advantage the American beer bottles have is that they are amber instead of green (aqua). He also cited increased competition for business, specifically, a new glassworks that was being started in Minneapolis. Fortunately, the blowers did not strike after the wage cut.

In the 1880's labor unions were gaining in strength and popularity. By the mid-1880's there were daily newspaper accounts about strikes in various industries throughout Milwaukee. The glass blowers union was particularly strong and well organized. They had social gatherings such as the annual Glass Blower's Ball and baseball outings. The window glass workers had their own union, as did the gathering boys.

Wisconsin Glass's third season of production was its most successful and trouble free ('83 - '84). There were no major labor problems and business continued to grow. The Company



purchased additional land from Dr. Chase for

\$35,000 and increased capital stock. In spring of 1884 it was announced that a window glass factory would be built. A separate factory was necessary because special platforms and annealing ovens were needed to produce window glass efficiently. The new factory was built during the summer and opened in September of 1884. Between 30 and 50 employees worked in the window glass factory. This was the first time window glass was commercially made in Wisconsin. On July 6, 1885 it closed for the summer, as did the bottle factories.

The start of Wisconsin Glass Company's fourth season of production began with severe labor problems. In September, 1885 there were strikes by both the gathering boys and the window glass blowers. The gathering boys struck because their wages were cut from \$3.50 to \$3.00 per week. They met on the banks of the Kinnicinnic River. It was reported that they were "hilarious, but stopped short of actual violence." Several days later three blowers were fired for sympathizing with the boys, raising fears of a general glass blower's strike, but it was somehow averted. The bottle factories stayed in operation for most of the season. However, the window glass blowers strike was not resolved quickly. The new window glass factory remained closed until January 28, 1886 when a wage agreement was finally reached. However, by then the company had sustained a considerable financial setback.

On May 9, 1886 it was announced that workers were granted a raise and an eight-hour work day, but the arrangement was too little, too late. When Wisconsin Glass suspended production for the summer two months later, it would never produce another bottle. The Wisconsin Glass Company was in serious financial trouble. In August its assets were attached and the plant did not reopen.

During 1887 there were several attempts to reopen the plant. Several of the brewers who had been granted attachments to company assets sent a representative Ravenna, Ohio to look into the possibility of converting the Wisconsin Glass furnaces to burn oil instead of coal. Oil furnaces provided more uniform heat and were less expensive to run. However, these initiatives were not successful. On

Christmas day of 1887 a foreclosure judgment was granted to O.J. Hale, one of Wisconsin Glass's suppliers for \$27,000. Three weeks later the Company formally closed.

Poor management-worker relations were an important cause of the failure of Wisconsin Glass. However, the underlying problem was the fact that Eastern American and German competitors could sell bottles for less. Pittsburgh and Wheeling glass factories burned low cost natural gas. Fuel and labor account for a large part of the cost of making bottles. It was reported that the cost of coal for one month's production for Wisconsin Glass was \$1,000, while Eastern factories paid \$100. Although this may have been an exaggeration, it is clear that Western glass manufacturers' costs were higher. Wisconsin Glass was also hurt by attempts to diversify; particularly the window glass investment idled by strike.

The Wisconsin Glass factories would operate again, first as Cream City Glass, then Northern Glass, and finally William Franzen & Sons. However, to collectors, the Wisconsin Glass era represented the high point of glass making in Milwaukee.

The Bottles

Many examples of marked Wisconsin Glass bottles are found today. The most common forms are beer and soda, but other styles like as pickle jars and household style bottles are known as well. It's likely that some of the bottles marked Chase Valley were actually made by



Wisconsin Glass, since it was a common practice to continue using existing molds without reworking them. A notable difference between Chase Valley and Wisconsin Glass is the number of soda bottles known. While there are only a few Chase Valley sodas known, there are many from Wisconsin Glass - a result of Wisconsin Glass Company's wish to diversify.

Like bottles from the Chase Valley glassworks, many Wisconsin Glass bottles are full of character. Many are whittled, bubbly and have gloppy tops.

Many of the bottles made by Wisconsin Glass were unmarked. For example, there are no known signed fruit jars, even though it is known many were produced by the Company. Some types of bottles could not be marked, such as turn mold bottles or free blown carboys. Private mold bottles were frequently unmarked as well, possibly at the customer's request.

Like Chase Valley Glass Companies, Wisconsin Glass was a regional supplier. Most of the embossed Wisconsin Glass bottles are from Wisconsin, Upper Michigan and Minnesota companies, with a few from surrounding states. None are known from outside the upper Midwest.



The most common glass company embossing is "WIS. GLASS CO." or "WIS. G. CO. MILW." Most of the slug plate molds also had a mold number or letter in the center of the bottom. I've seen numbers as high as 35 and the letter T. However, they did not continue the Chase Valley Glass practice of identifying the furnace number.

The most common colors by far are amber for beers and aqua for sodas. Marked Wisconsin Glass bottles in any other colors are very rare, but occasionally a beer or soda turns up in shades of olive green or yellow green. I have never seen any marked clear or cobalt bottles, despite the fact that they advertised these colors. It is possible that the types of bottles

Making Window Glass

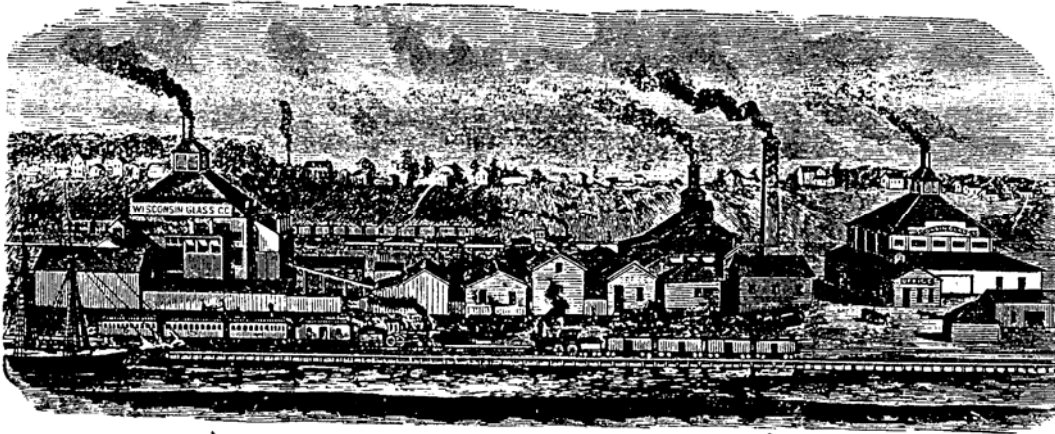
An April 1886 Milwaukee newspaper article described how window glass was made. The blower gathered about twenty pounds of metal on the blowpipe. He inserted it in a horizontal position into the hollow of a large block of wood while an assistant let a small stream of water drip into the block from a sponge. The water prevented the block from burning, gave a brilliancy to the surface of the glass and cooled the glass slightly. The blower rolled the metal on the block until it is sufficiently cooled and was formed into a long cylinder. The blower raised the blowpipe to an angle of 75 degrees and blew, and at the same time turned the glass in the block. When it reached the desired diameter of 12 to 16 inches, he reheated the glass and would swing it over his head to lengthen the cylinder. The assistant cut off the ends. The assistant would then lay the cylinder on a bench and either would draw a red-hot iron along the inside surface several times, or scored it with a diamond cutter guided by a straight edge. It was then placed in the flattening kiln with the scored edge up. When the glass softened, it fell open under its own weight. The flattener rubbed it with a piece of charred wood until it was smooth, then placed it in the annealing arch where it remained for three days.

Incidentally, this account was written only a few months before the window glass factory closed for the summer 1885. It did not reopen. The window glass factory actually operated for only one and a half seasons due to a strike.

blown in these colors were simply not marked.

All of the Wisconsin Glass bottles I've seen have applied lips. It was about this time that manufacturers began making tooled lip bottles – shaping the mouth directly from the mold without

attaching a separate piece of glass. This could be a reason that the German bottles were said to be “better made than the American”. It could also be one of the reasons that some of their competitors enjoyed a price advantage.



The Wisconsin Glass Company in 1885. In the center is Dr. Chase's original C. V. No. 1 and Factory 3. At the far left is the second bottle furnace, formerly C. V. No. 2. At the right is the recently completed window glass factory. Wisconsin Glass was strategically located on the Kinnickinnic River with access to rail transportation. The city of Bay View can be seen in the background.



The most common type of unembossed beer bottles amber quarts shown at left. Next is an aqua pint. There are also many soda bottles like this quart hutch from Kansas City Bottling and the unembossed aqua quart. Other styles includes pickles, fruit jars, Milk of Manesia and Master Ink bottles. Go to www.mrbottles.com to see many more photos.

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Mineral Qt.



Mineral Qt.



Apollinaris.

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Mineral 1/2 Pt.



Mineral 1/2 Pt.

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(See other side.)

This 1885 Advertisement shows Wisconsin Glass Company's diverse product line which includes window glass and many types of hollow ware in various colors