## PRESSED STONEWARE BOTTLES

By Peter Maas



AT any bottle collectors are aware of Edwin H. and C. J. Merrill and their 1847 U.S. Patent number 5,206 for a process for making pressed, molded stoneware bottles by machine. Less

machine (Figs. 1 & 2). The redesigned equipment improved quality and efficiency. It also enables today's collectors to determine if a molded bottle was made before or after 1868 from markings on the bottoms, much like glass bottles can be dated

based on the presence of a pontil mark. In the case of pressed clay bottles, however, the older ones have smooth bases while those with rough bottoms date from after 1868.

Before the 1847 patent, few stoneware bottles were molded; those that were molded were made using plaster molds and liquefied clay. The liquefied clay was poured into a plaster mold. The clay was left in the mold for a predetermined amount of time, and then the liquid was poured out. The plaster mold absorbed water from the clay, so when the mold was opened, the walls were a uniform thickness. It was then

[Figs. 1 & 2] At far left is the 1847 Merrill Patent No. 5,206. It shows the design including the spindle and mold. Note the core mold with the slits used to inject the clay into the mold. The 1868 Merrill Patent No. 78,676 drawing shows the improved outer case and new mechanism for operating the mold along with the new



[Fig. 3] This bottle was made before 1868. The Taylor Brothers bottled small beer in Milwaukee around 1850. Their bottles were probably made at the **Milwaukee Stoneware** Company using Merrill equipment. Note that the bottom is smooth which is typical of bottles made using the earlier Merrill equipment.



[**Fig. 4**] The bottom of the Taylor Brothers bottle is smooth which is typical of bottles made using the earlier Merrill equipment. stamped, dried, and fired. The process was slow and inefficient, so most potters chose to hand-turn bottles on a wheel instead.

The 1847 Merrill patent significantly improved the efficiency of automated clay bottle production. Their equipment used a two, three or four-part cast iron mold to form a bottomless bottle. A piston injected clay through a rotating core with spiraled slots that was positioned inside the mold. After the body of the bottle was formed, a disk of clay was pressed onto the bottom with a rotating circular plate with slots designed to trim away excess clay. At the same time, a rotating spindle was inserted into the neck. The spindle had a toggle at the end that opened 90 degrees after entering the bottle. The rotating toggle puts pressure from the inside to oppose the pressure from the spinning disk on the outside to firmly attach the disk of clay to the bottom. The toggle left distinctive marks on the inside of the bottle.

In 1868, Edwin and H. E. Merrill were issued patent 78,676 for improvements to the 1847 patent (**Fig. 2**). Besides making improvements to the mold and various other parts of the machine they changed the circular plate used to attach the clay disk to the bottom of the bottle. A significant difference is that the new disk had curved slots that extended close to the outer edge. The previous disk was made with straight slots. The purpose of curved slots was to put more pressure on the bottom to create a tighter joint and to minimize the removal of excess clay (**Fig. 5**).



[Fig. 5] Inside view of a pressed bottle. The inside of bottles made with Merrill equipment have marks left by the rotating spindle and toggle that was used to help attach the bottoms of bottles. Notice the joint between the sidewall and base, the circular depression left by the end of the spindle, and the line around the sidewall left by the toggle.

The Merrills usually made their molds with 6, 7, 8, 10, or 12 panels, which gave them a distinctive look that could not be duplicated on a wheel, although the Merrills sometimes made molded bottles in cylindrical form. The Merrills' pottery specialized in manufacturing pressed bottles and other types of stoneware, but they also sold their equipment to other potters outside of the Akron, Ohio area. One example is the Milwaukee Stoneware Company. In 1849, they advertised pressed stoneware bottles that were probably made using Merrill equipment. A bottle attributed to them is shown in **Figures 3 & 4**. The Washington Smith Pottery of New York City also made pressed bottles by 1849.

Bottles made on Merrill equipment are easy to identify. They

[Fig. 6] This pressed "A.J.H." bottle was made after 1868. John Hanson bottled root beer in Marinette, Wisconsin. The distinctive rough markings on the bottom help date the bottle to after 1868, which is validated by the 1874 date stamped on the bottle. Note the mold seam that is visible on the lip.

[Fig. 7] The distinctive rough markings on the John Hanson bottle bottom help date the bottle to after 1868, which is validated by the 1874 date stamped on the bottle.





have distinctive markings on the bottoms and side seams and are usually sided. Wheel-turned bottles don't have seams or bottom markings and are cylindrical.

A telltale sign of bottles made on the new equipment is the pattern on the bottom. While both versions of the Merrill machines left a windmill pattern and a small circular mark in the center, the new design left a rougher, more jagged appearance. Bottles made with the old equipment tend to have smooth bottoms. Just remember this rule of thumb: the older ones have a smooth base.

Keep in mind that some potters probably continued using old equipment after 1868, but if the bottle has the telltale jagged windmill pattern on the bottom, it was probably made after 1868.

## H. E. MERRILL, MANUFACTURER AND DEALER IN Pressed Stone - Ware, Beer Bottles, Shaker Pipes, Fruit Jars, &c., &c. Office and Works on South Main St.

[Fig. 9] H.E. Merrill advertisement. The 1868 Akron City Directory includes this ad promoting pressed stoneware bottles. The company produced them for many different bottlers, many of them 12-sided quarts.









[Fig. 10] A key difference between the 1847 Merrill equipment and 1868 improved design is the disk used to attach the bottom of the bottle. On the left is the disk illustration from the 1847 patent drawing. On the right is the disk illustration from the 1868 patent.

