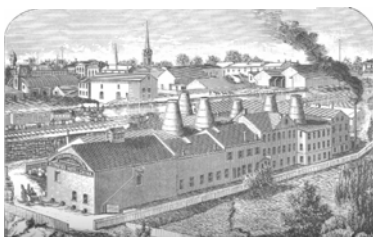


TRENTON POTTERIES

Newsletter of the
Potteries of Trenton Society



Golding & Company Flint and Spar Mills, Trenton, New Jersey

By William Liebeknecht

The original Golding & Company, established in 1863 by Moses Golding, was located alongside the Delaware and Raritan Canal at the foot of Lewis Street in Trenton, New Jersey. In 1868 the company relocated to a former mill property on the Delaware River (Figures 1 & 2). In 1885 the company was incorporated and renamed the Golding & Sons Company.

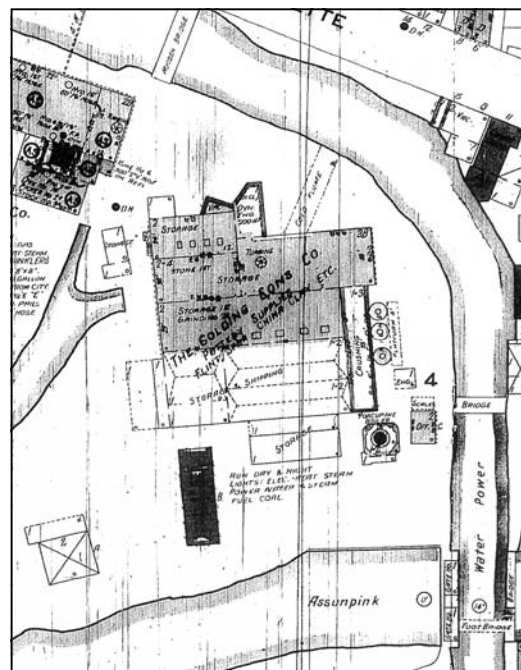
The facility claims to have housed the first flint and spar grinding mills in the United States. The company was involved in the importation and pulverization of flint, quartz, feldspar, bitstone and clay for pottery, tile, glass, porcelain and paint manufacturing. In the late 1890s Golding & Sons Company operated several feldspar quarries northeast of Unionville, Pennsylvania (Hopkins 1900). The company also acquired feldspar from Maine to Georgia and as far west as Kentucky (Trenton Magazine 1928). Quarried quartz and feldspar are known to have been shipped to the Golding works from Georgetown, Maine (Email from Leon Cranmer September 22, 2000).

In 2000, Hunter Research conducted archaeological monitoring at the site of Golding & Company during construction of a new hotel. Seventy-nine fragments of flint nodules, weighing a total of 41 pounds, were retrieved from the site during the monitoring. All of the nodules exhibit cortex on multiple surfaces, which means they were not quarried but instead were gathered from along shorelines, most

likely in Europe. This type of flint is known as boulder flint, flints that have been rounded by the rolling tides and washed to shore by the sea (Copeland 1972:15). The nodules occur in three different colors: dark brown to black, tan, and honey (also referred to as blonde). The dark brown to black nodules are known to originate from Southern England. The tan nodules are thought to originate from Belgium while the honey or blonde nodules are from the shores of Northern France. The amount of flint used in a whiteware body is about 32%. The flint whitened the body and reduced the risk of warping.

“China clay” used in the production of whiteware and ironstone

Figure 1. Sanborn Fire Insurance Map showing the Golding & Sons Co. flint and spar works. 1908.



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china was shipped from deposits located in Hockessin, Delaware to the facility in Trenton for washing before marketing. The yearly output went from nine hundred tons of materials in 1868 to fifty thousand tons in the 1920s.

Before being used in a pottery body, the flint nodules were heated in brick-lined calcining kilns to 900 degrees Celsius. This disrupted the natural crystalline structure and made them easier to crush and grind (Copeland 1972). A company history from 1928 states that the water wheels were used to drive “eighteen pans and the necessary chasers” (Trenton Magazine 1928). Assuming two chaser stones per pan this would equal 36 mill stones. The large mill stones used to crush flint were part of the single edge runner system. The bedstone was of conglomerate

while the runner was granite. The mills connected to the stones were usually iron and steel, with two revolving runners: the pan bottom sometimes revolved while the rollers revolved on fixed shafts. Nine chasers or edge runner stones (Figure 3) were excavated from the site during the hotel construction. Water power was used to run the mills for crushing and grinding the calcined materials. It was also introduced between the grinding stones to minimize silica dust, thus reducing the risk of deadly silicosis (Copeland 1972).

Moses Golding received the first of four patents in 1877 for an improvement in triturating machines; these increased the efficiency of the grinding machine and prevented discoloration of the ground materials (Figure 4). The patent states “it has been designed more especially for reducing quartz to a very fine powder

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Figure 2. Golding & Sons company is located in the lower left of this aerial photograph taken c. 1929.



Figure 3. Three of the large chaser or edge runner stones excavated from the Golding & Sons site in 2000.

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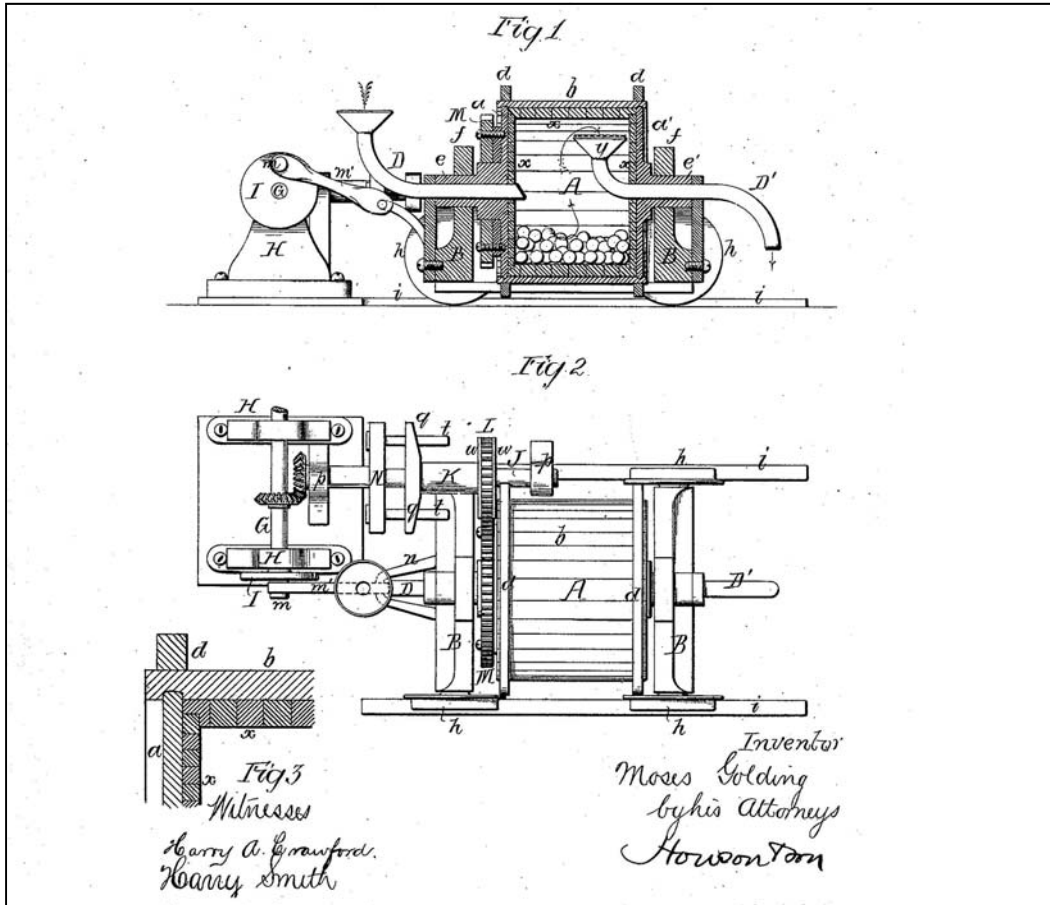


Figure 4. Illustration from Moses Golding's 1877 patent for "Improvement in Triturating-Machines."

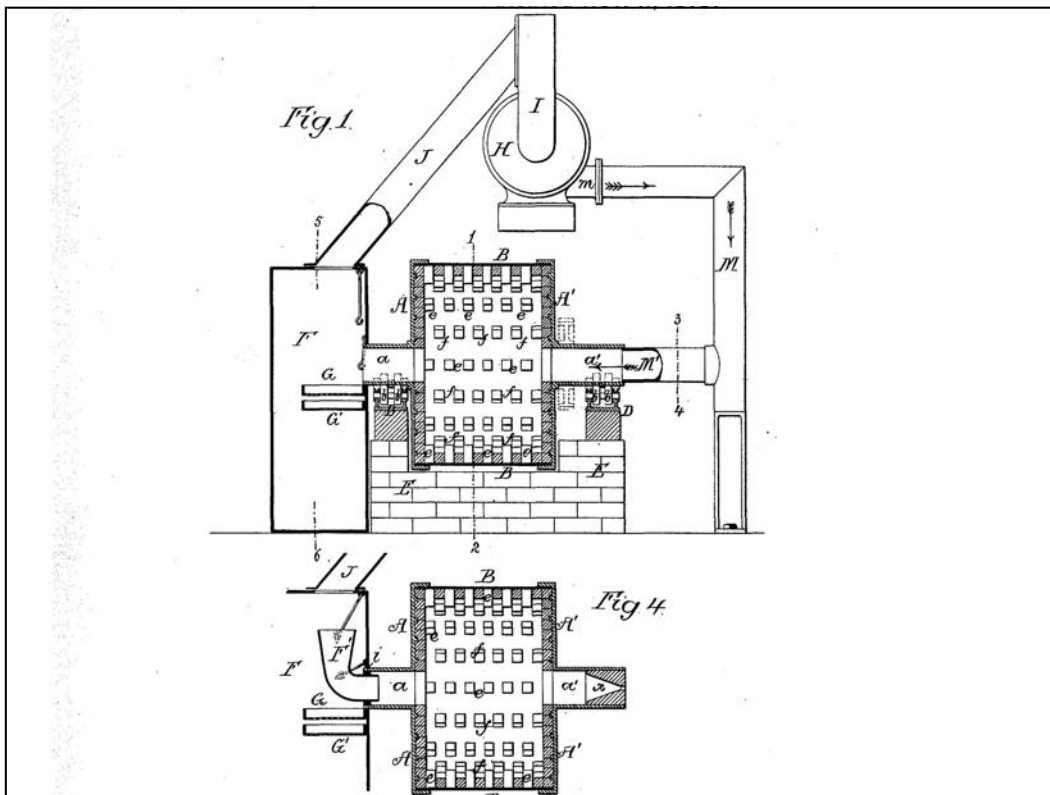
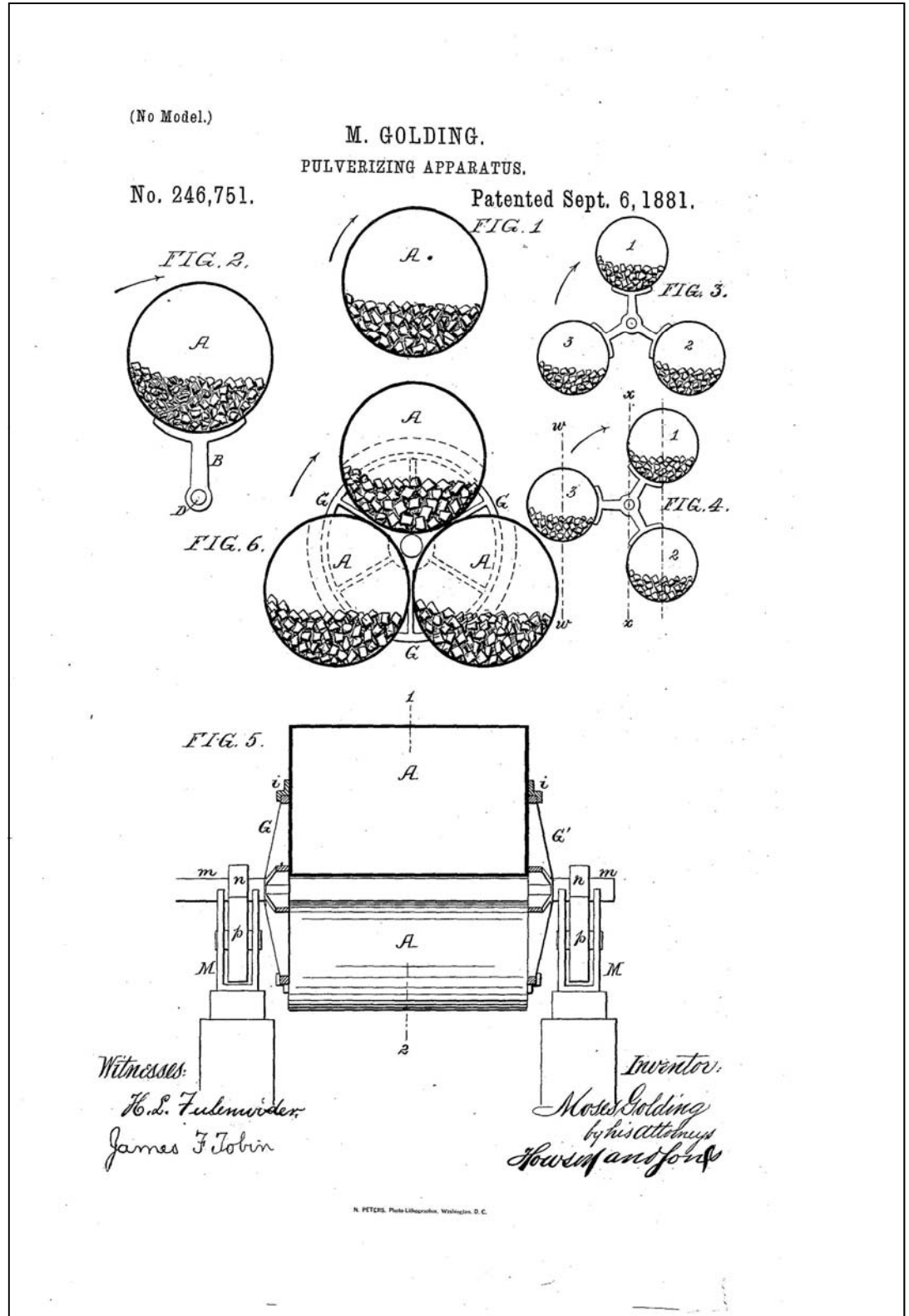


Figure 5. Illustration from Moses Golding's 1879 patent for "Improvement in Pulverizing Apparatus."

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Figure 6. Illustration from Moses Golding's patent "Pulverizing Appartus."



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prior to mixing it with other ingredients for pottery clay." (Golding 1877). Golding received his second patent in 1879 for further improvement to his grinding machine. He added a projection to the lining of the rotating cylinder of the machine "thereby insuring a more thorough agitation of the triturating-stones and of the materials acted on by the said stones" (Figure 5). In this case the materials acted upon are listed as "quartz, feldspar and other minerals" (Golding 1879). His third patent was granted in 1881 for another improvement in pulverizing stone for use in the pottery industry (Figure 6). This patent divides the rotating chambers into three separate chambers which revolve around a common shaft. The object was to "obtain a pulverizing and abrading effect on large masses of material at the expense of a limited amount of power compared with that required to produce the same effect by ordinary machines" (Golding 1881). The fourth patent was for "an improvement construction of a mining pit...more adapted for the mining of kaolin". This improvement is for wooden shoring to be constructed in a "circular space of any diameter desired, say twenty to forty feet". Layer after layer could be added to "continue the excavation of a pit to depth which the character of the soil may suggest" (Golding 1885). The depth would be determined by the depth of the bed of clay which was to be mined.

In 1924 Herbert P. Margerum purchased the controlling interest in the company (Trenton Magazine 1928). In 1928 Golding Sons Company built a new "modern" feldspar

mill on New York Avenue. Golding was one of three flint and spar mills located in Trenton. Competition was quick to come in the form of the Trenton Flint and Spar Company (established 1864) and the Eureka Flint & Spar Company (Trenton Magazine 1928).

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Membership in the Potteries of Trenton Society is open to all interested in Trenton's pottery industry and the ceramic products manufactured here. We welcome pottery workers, historians, archaeologists and collectors. Your contribution is used to support newsletter, lecture, meeting, and conference costs.

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