

Eberhard Faber's Pencil Factory
By Mary Habstritt

The manufacture of lead pencils was becoming a prominent business in the U.S. by 1876. They were generally being made using a pulverized graphite mixed with clay, a French technique developed to maximize scarce and breakable graphite as well as creating a strong dark line when used. All graphite originally came from an English mine in Borrowdale discovered in 1564. In spite of carefully husbanding this resource, it was difficult to access and nearly played out by the 18th century. By the late 19th century, graphite could be found in Siberia, Norway, Spain and Ceylon and was being found in the U.S. Most pencils had been imported up to this time, largely from the house of Faber established in 1761. The company had by the mid-19th century opened a branch in the U.S. Superior lead pencils were also being made by the American Lead Pencil Co. at their factory in Hudson City, NJ with graphite from Georgia.

Kaspar Faber started a cottage business (literally) making pencils in Stein near Nuremburg Germany in 1760. His son Anton Wilhelm took it over in 1784 and gave the company the name by which it would become famous, the A.W. Faber Co. A.W. kept on making pencils the old-fashioned way, smelting "Spanish lead" and sawing it into pieces to fit into a wooden case. The business was not prospering when his son Georg Leonhard took over in 1810. Without access to the English graphite or adoption of the French process, there was little hope for the company's survival. Competition in the Nuremburg area was increasing and the only way to expand was to make cheaper pencils.

Although some management changes occurred, little else changed and the business barely clung on until 1839 when son John Lothar took over. He had traveled to France and England and saw the advantages of a world market and the importance of developing more and better products. The French process was adopted allowing Faber to introduce a new line of smooth drawing pencils with varying hardnesses. Faber then traveled all over Europe looking for outlets for these products, benefiting all German pencil makers and eventually giving him a patent of nobility after which he was known as Baron von Faber. By mid-century, Faber had become synonymous with pencils, making a consistently fine product. This was facilitated by their gaining exclusive rights to a newly discovered (1856) deposit of graphite in Siberia which proved to be as fine as the English graphite.

Any mechanization up to the 1840s in German factories was really a continuation of making pencils one at a time. Machinery was used to cut and groove the wooden slats into which the leads would be inserted and the graphite-and-clay mixture was being extruded in long strips from presses (square to fit square grooves). Labor was then so cheap in Germany there was little motivation to mechanize further.

Joseph Dixon Crucible Co. of Massachusetts which made graphite liners for crucibles got into the pencil manufacturing business as early as 1827. Dixon's father was a shipowner and saw graphite, brought back from Ceylon as ballast, being dumped in the bay. Looking for uses for this cheap material, he experimented with pencil-making and continued to tinker with it while at the same time making very fine crucibles, opening a

factory in Jersey City in 1846 to meet the demands of the Mexican-American War. It was only when German companies began establishing factories in America that they started making pencils in earnest. Dixon's son-in-law took this on and by 1873, they introduced a good quality American pencil having patented a wood-planing machine to facilitate mass production to meet the increasing demand stirred by the Civil War. In 1873, Dixon purchased the American Graphite Co. of Ticonderoga, New York, which gave its name to the yellow pencil the company still makes today. The plant in Jersey City has been converted to apartments.

High demand was accompanied by high tariffs on foreign pencils after the Civil War so only higher grades were imported. A.W. Faber already had an office in New York at 133 William St. represented by Eberhard Faber, Lothar's youngest son. One of the principal purposes of his move to America in 1849 was probably to secure a supply of cedar for the German plant. All major pencil makers used cedar from Florida and there was competition for a dwindling supply of this wood. Faber purchased a large tract at Cedar Keys on Florida's west coast and established a sawmill there.

Other considerations resulted in a decision to open a factory in America. In addition to the tariffs, freight and marine insurance costs rose after the war. New York was closer to the cedar supply, but further from the Bavarian clay and graphite. It was decided that leads made in Stein would be shipped to America to be assembled in the Florida cedar, with machinery being used to offset the higher cost of New York labor.

The factory opened in Manhattan at the foot of 42nd St., the current site of the United Nations, in 1861. It was cited by King's Handbook of New York City as the first lead pencil manufactory in this country. The ingenuity of Americans combined with German experience soon resulted in a number of entirely new machines to mass produce pencils, more cheaply but also with a better and more uniform finish than ever before. This factory was destroyed by fire in 1872. An urgent need for a new plant resulted in the company buying several existing buildings in Greenpoint, Brooklyn.

Eberhard died in 1879 and the business was run by his two sons, Lothar W. and Eberhard II. At some point there was a falling out with the German branch of the family and the company was incorporated as E. Faber Pencil Co. in 1898. The plant in Brooklyn became this company's headquarters. It was reincorporated in 1904 as the Eberhard Faber Pencil Co. after several lawsuits between it and A. W. Faber over the use of the family name.

Lothar Faber died in 1943 and Eberhard II ran the company with Lothar's son Eberhard III, but within two years both Eberhards had died and there was no Faber to run the business. In 1953 Eberhard III's widow Julia took an active role until their son Eberhard IV could take over. By 1956 the plant was obsolete and the company moved operations to Wilkes-Barre PA. In 1988 Eberhard Faber was sold to the A.W. Faber-Castell Corporation, re-uniting the two competing branches of the family.

The process begins with graphite being ground and mixed with water and acids to remove impurities, then it is washed and allowed to settle out and dry. It is then mixed with clay that itself has gone through a purifying wash and dried. The two powders are mixed together with water to a consistency of cream. The higher the proportion of clay, the harder the lead; the more graphite, the softer the lead.

The mix is fed into mills for finer grinding, a process similar to grinding pigments for paint. It sometimes passes through the mill as many as 24 times for fine pencils, and comes out in the form of a paste. It is then enclosed in canvas and put through a steam press to press out all the water, creating a dough, and it goes on to the forming press. A powerful screw extrudes the lead in a thread of the desired shape, square or round. The leads, very brittle at this point, are then dried and cut and baked in a crucible at high heat for hardness.

The cedar, which is soft and close-grained, is sawed into blocks the length of a pencil and the width of six pencils. These blocks are run through a machine that planes and grooves them with grooves the depth of ½ a lead. The leads are then laid into the grooves of one piece of wood while a second piece is coated with glue and laid over the first. These are then placed in a press until the glue is dry. A planing machine then cuts apart and shapes the individual pencils.

Sources:

Asher & Adams' Pictorial Album of American Industry, 1876. (Reprint. New York: Rutledge Books, 1976), 171.

Edward H. Knight, "Pencil," in *Knight's American Mechanical Dictionary, A Description of Tools, Instruments, Machines, Processes and Engineering; History of Inventions; General Technological Vocabulary;...* (New York: Hurd and Houghton, 1876), 1657-1659.

Benson J. Lossing, *History of American Industries and Arts* (Philadelphia: Porter & Coates, 1878), 511-12.

Henry Petroski, *The Pencil: A History of Design and Circumstance* (New York: Knopf, 1992).