

DAVID ALLEN'S IRON WORKS

David Allen, Eighteenth-Century Entrepreneur

David Allen arrived mid-century in the foothills of the Blue Ridge Mountains. With an eye on the plentiful timber and swiftly moving rivers, he set about building a sawmill. He likely had lumber mill experience to use in establishing his new business and was willing to take a few calculated risks. The time was ripe to build new frontier communities, and he found steady customers in the Moravian settlements to the east.

The Moravians, or the Unitas Fratrum, were a religious group originating from eastern Germany and Czech lands of central Europe. Upon migrating to North Carolina, they founded Bethania, Bethabara, and Salem in present-day Forsyth County. They kept meticulous records as their settlements grew. Their accounts show that they purchased pine boards from Allen in 1768 and 1769 for new construction.

With cash coming in, Allen was able to purchase land as soon as the state land office opened in 1777. By 1782 he had acquired 2,482 acres on adjoining tracts in southwest Surry County and eastern Wilkes County.

Producing Wrought Iron

Iron was removed from natural minerals containing iron by smelting (repeated heating and cooling). A "bloomery" furnace was one of the earliest smelting structures producing small quantities of iron at relatively low temperatures. It was a chimney built of clay or stone over a fire pit and with air opening at the base to nourish the fire. A simple bloomery could have a diameter and height of several feet and produce 20 pounds of iron daily. Iron ore was abundant in the area in all directions. In the 1980s an iron mine was discovered a quarter mile south of the Yadkin River in Jonesville, and there were certainly other mines and dig sites that have been lost to time. If Allen was able to obtain iron ore from property that he didn't own, he must have had a good working relationship with landowners on both sides of the Yadkin River.

Allen's workers transported rocks containing iron to the bloomery site, broke them into manageable sizes and heated them to remove moisture. The rocks were then crushed by hand or by water-powered hammers. This area along the Yadkin River, once referred to as "Allen's Settlement", was easily able to supply the tremendous amount of wood needed to heat the furnace. The wood was first burned to produce charcoal. Then equal amounts of crushed rock and hot charcoal were fed into the bloomery stack. Sustained by air forced from bellows, the heat produced a soft loose mass called "bloom" in which globs of iron ore began to separate from slag (impure minerals) in the rock. The hot bloom was hammered to push the slag away from the iron. It was then put through the furnace and hammered repeatedly to further refine the iron from the impurities. This produced "wrought" iron or iron bars. The slag was discarded.



Volunteers and history enthusiasts have recovered over 100 pounds of slag from the Big Elkin Creek. These pieces are over 200 years old, possibly dating to before the Revolutionary War.



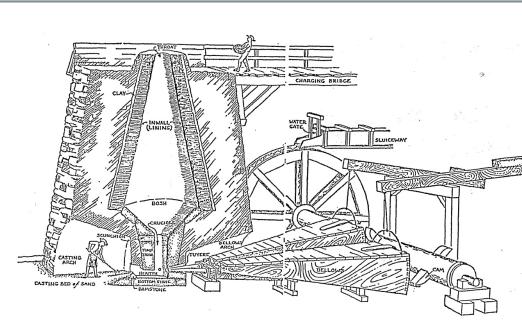
Small bloomery forge stack built by Mark Green to produce iron using the old methods.

An Exceptional Location

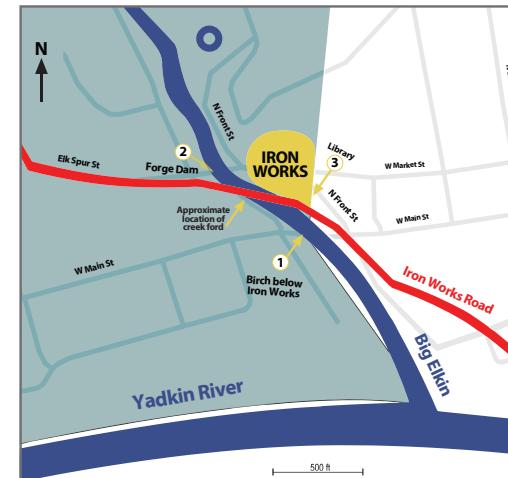
David Allen sold all of his property and interest in iron production to William Hill in 1786. Then during the next two to three decades, the Big Elkin forge was managed by Hill, Jonathan Haines, and a Mr. Martin. Maps dated 1798 and 1808 label the site the Martin Iron Works. Surry County court records from 1802 state that more than 5,000 pounds of iron had been made at the site belonging to Hill and Haines that year. The 1810 manufacturing census listed five bloomery iron works in Surry County. It's possible that this site supported multiple furnaces with the water dam powering air bellows and hammers to crush rock.

The next record referring to the forge was in 1830 when William Green mortgaged 367 acres "which was part of the old iron works site." Finally, in 1839 Richard Gwyn purchased the old iron works tract and built a grist mill with a dam on the site in 1840, followed by a cotton mill in 1847, leading to the Elkin Mfg. Company and eventually Chatham Mfg. Company.

Iron works in the area went out of business for a number of reasons: increased settlements reducing the supply of timber; competition from more efficient, sophisticated forges using hotter fuel built elsewhere; or new residents who worked in farming and animal husbandry for income. But what is known is that later entrepreneurs saw the same excellence in the location as did David Allen: choice land at a small, deep river with plentiful drop in elevation providing natural power and at an intersection with a larger river. Transportation and power continued to drive innovation into the nineteenth century.



Large forge operation. Ransom, James Maxwell. *Vanishing Iron Works of the Ramapos: The Story of the Forges, Furnaces, and Mines of the New Jersey — New York Border Area*. New Brunswick: Rutgers University Press, 1966.



Through careful reading of land deeds and grants, researchers have been able to map Allen's land tracts and pinpoint exactly where the iron works were located. Boundaries and landmarks in the deeds refer to a "corner birch" (1) downstream from the Allen Forge at present day West Main St and to a walnut (2) on the creek's west bank at the forge dam near the present-day Market St bridge. This is the same location of a later dam that powered Richard Gwyn's mills. The forge was on the east creek bank (3), just north of the present Elkin Public Library.

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Sign Information: Jason Duncan - Sign Design: Joanna L Davis - Sign Production: Tri-County Signs (Jonesville)*

Allen's Iron Works on the Big Elkin Creek

In 1750 Great Britain forbade the manufacture of many iron products in the American colonies, forcing the colonists to purchase them from England and pay tariffs on these imports. Taxes paid to the Crown were a sore point among the settlers, yet iron goods were essential to development. So the 1775 NC Provincial Congress offered a bonus of up to £500 anyone who created a blast furnace. Consequently, iron works began to be established in places where the needed raw materials – iron ore, water, trees, and workers – were found to be in abundance.

David Allen was positioned to take advantage of the offer. He already owned plenty of timber to fuel a furnace, he employed workers and built a dam providing power, roads had been established to his sawmill, and river transportation was right outside his door. All he had to do was look about for evidence of iron ore on his land and start excavating it.

Roads leading to the forge were often referred to as the "Iron Works Road" as early as 1778. Proceeding north from the forge, the road (later Elk Spur St) forded the creek and ran toward Longbottom (present-day Trap Hill); south from the forge, the road (present-day Front St.) headed toward the Yadkin River. This would have been a principal route for transporting wrought iron to customers south and east. The first documentation of production from Allen's forge was by the Moravians in 1776. They bought iron for a sawmill and later iron plate on which to burn lead. In 1781 the NC House of Commons exempted 12 employees at Allen's forge from military service in the war against Great Britain. Home front iron production was as important as soldiers in battle.

The date for the end of the iron works operation is not known, but the last iron bars were produced sometime after 1802 and well before 1830. The November 26, 1922, issue of the *Winston-Salem Journal* referred to the old iron works on Elkin Creek:

A small dam was built across the creek to furnish a sufficient supply of water to run the forge. Every time the creek got up three or four feet, the dam would be swept out. A man named Hanes was the manager of the forge and, becoming worried with the washouts, employed a lot of laborers and built a dam on a rock foundation, drilling deep holes into the rock and inserting iron bars and rock and mortar.

They finished the dam on Saturday and Hanes boasted that God, man nor devil couldn't move it. That night a cloud burst on the creek above and next day the only sign of the dam that was left were some of the holes in the rock where the iron bars had been. This was the end of the iron forge.



A view looking upstream on the Big Elkin Creek. Galloway Memorial Episcopal Church is on the left along the road that forded the creek. c1900.



This is a view of the old dam and flume that fed water to the cotton mill. This dam was located where the Market St. bridge is today. Records suggest this was also the location of the old forge dam.



The old Richard Gwyn grist mill is the white building on the left. The cotton mill is atop the rock foundation, some of which still exists today. This wall is believed to be near the location of the old iron works. c1890.