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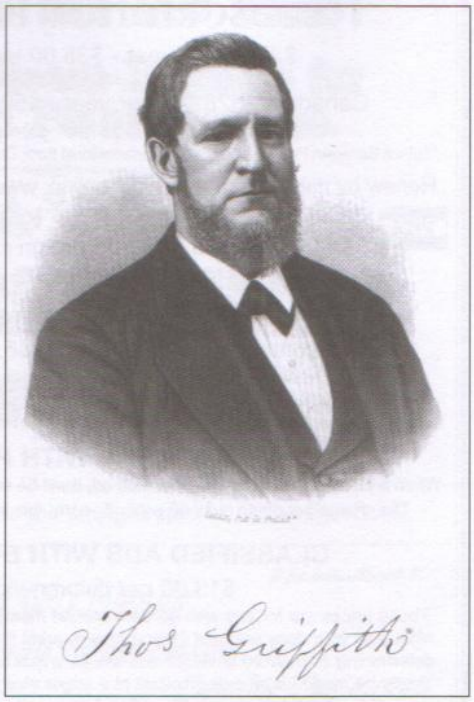
H. & F. Blandy of Zanesville and Newark, Ohio

By Robert T. Rhode and John F. Spalding

Here is a photograph of Henry Blandy with his signature below. Courtesy Barbara Knighten, great grand niece of the Blandy brothers

This steel engraving portrait of Frederick John Leonard Blandy appeared in *The Biographical Encyclopaedia of Ohio of the Nineteenth Century* (Cincinnati: Galaxy Publishing Company, 1876).



This steel engraving portrait of Thomas Griffith was included in *The Biographical Encyclopaedia of Ohio of the Nineteenth Century.*

Frederick John Leonard Blandy and his brother Henry Blandy were from Bristol, England. Henry was born in October of 1810, and Frederick was born in May of 1816 or possibly 1820-both dates have reasonable documentation. The Blandy family traced its ancestry back to William the Conqueror. On the death of Frederick and Henry's grandfather, the estate was thrown into litigation with the result that the family's fortunes were lost. Frederick and Henry came from a family of eleven children. Their parents were Benjamin and Jane Addison Blandy. Their mother was related to Joseph Addison (1672-1719), the well-known English essayist, poet, and politician. One of Jane's nephews served as page to Princess Charlotte Augusta of Wales (1796-1817), the only child of King George IV. Jane was an aunt of William H. Hopkins, the widely recognized painter of West Country landscapes and racehorses whose works are available online through sellers of fine art prints. Zella Allen Dixson, who headed the University of Chicago Library in the late 1800s and early 1900s and who authored several books, was a daughter of Frederick and Henry's sister Mary Caroline.

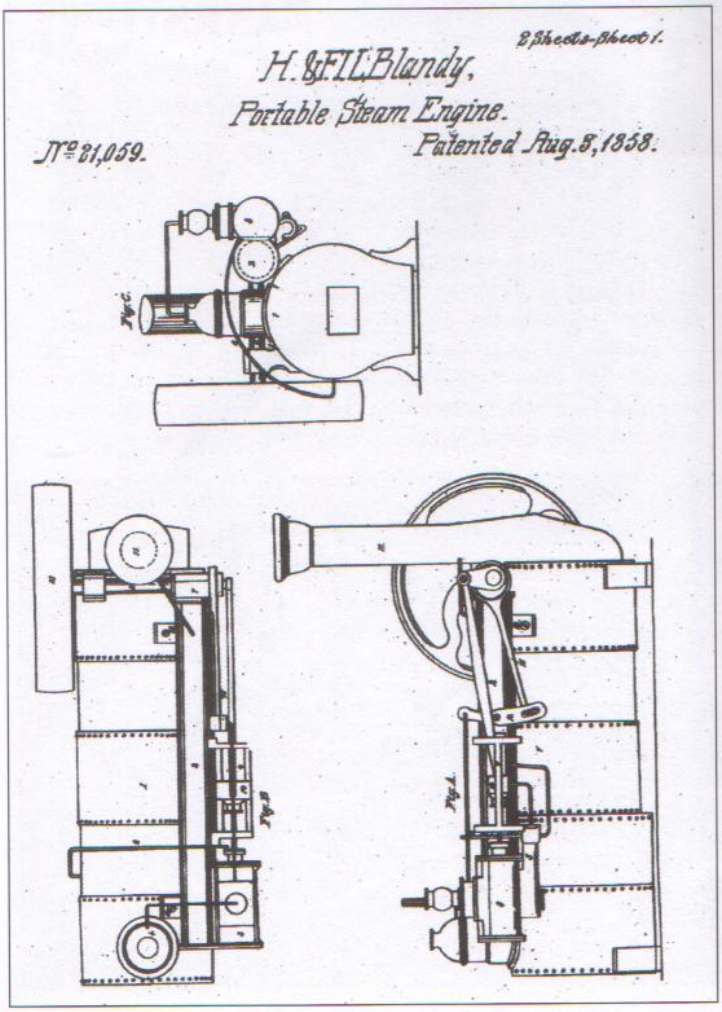
Inside this Issue

On the Cover

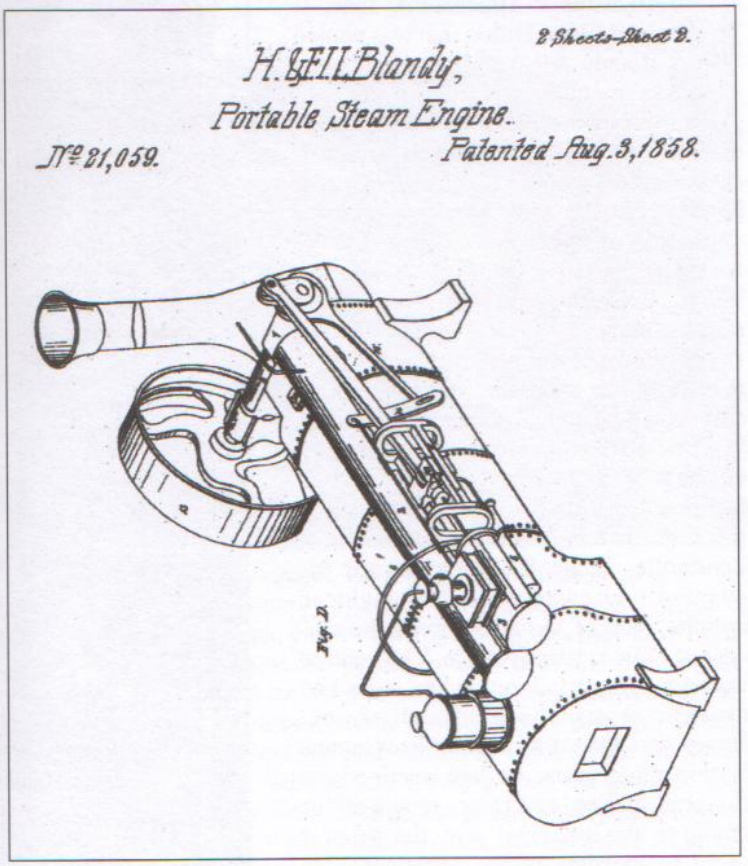
This splendid Blandy chromolithograph dates to 1867, the era of Reconstruction. Since 1864, the Blandys had been running factories in both Zanesville and Newark. One of the Blandy portable agricultural engines is in the distance, and the firm's skid engine and sawmill are featured in front. A section of fine print reports that such a steam-powered Blandy sawmill beat six competitors to take the first premium at the U. S. Fair at Cincinnati. This event could have been the first of the so-called industrial expositions that took place in the Queen City in 1869, but it could also have been an exhibition held closer to 1865, the end of the war. The Ohio Mechanics' Institute had been sponsoring such fairs in Cincinnati at least as early as 1838. Courtesy Robert T. Rhode

After the financial ruin of the Blandy estate, Benjamin--the father of the family--worked hard to restore his wealth and his good name, and he succeeded. Henry was educated at Ashton Gate Academy, a private boarding school, where he earned distinction. Henry studied mathematics, Latin, and Greek. John Lewton, who was a coal miner's son, served as a linguist, historian, and theologist at Ashton. Lewton tutored both Henry and Frederick. Henry had such respect for Lewton that he corresponded with his former tutor for thirty-three years. Frederick was educated first in Golston's school, which by some accounts had an oppressive intellectual atmosphere, then in Hewlett's Academy, which appears to

Lloyd's American Guide for 1857 included this woodcut of a Blandy skid engine. Note the straight spokes in the flywheel.



This drawing of the Blandy stationary engine is from the 1858 patent.

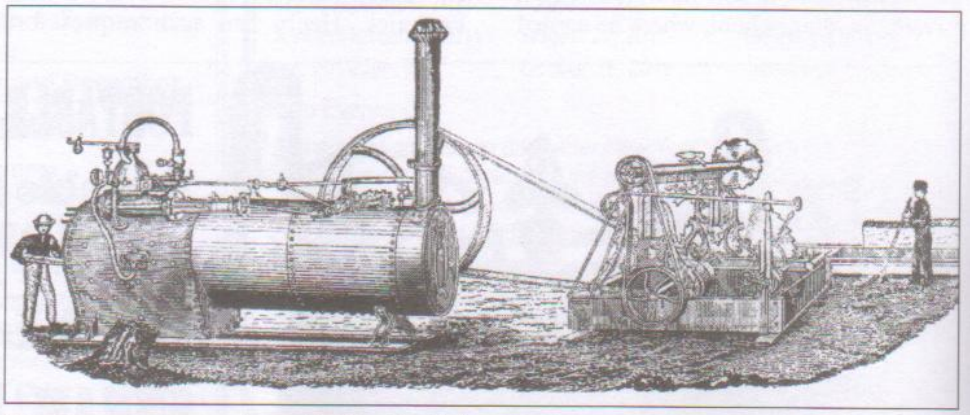


This drawing is from the Blandy patent of 1858. In the December 1858 issue of *The Cultivator*, the Blandy brothers wrote, "All whom it may concern are hereby notified that infringements of our patent, dated August 3, 1858, by builders, venders, or operators, will be prosecuted to the fullest extent of the law." History shows that they weren't kidding.

have offered a healthier educational environment.

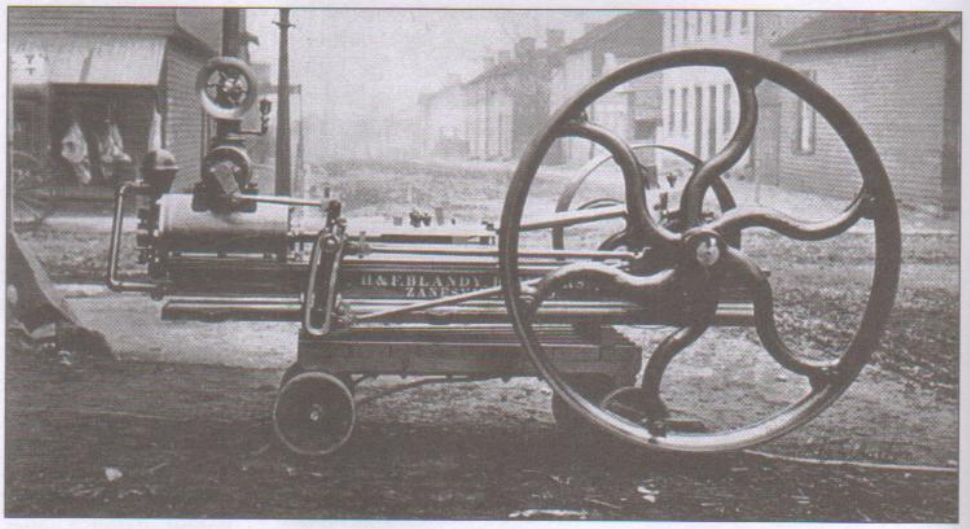
In 1832, Benjamin sailed to the United States to seek a new home for his family. He was favorably impressed with Zanesville, Ohio. At the time, Zanesville had a population of 3,800. Benjamin returned to Bristol and prepared his family for the journey to America. In the autumn of 1833, the Blandys landed in New York City--bringing with them a considerable fortune. Apparently, Henry returned to England to sell cut glass while Benjamin and his family spent the winter at the Orange Spring Mansion in Orange, New Jersey, because of the threat of cholera in Ohio. In the spring of 1834, the Blandys reached Dresden, Ohio, where they boarded a small steam packet that ran between Dresden and Zanesville. At the points where the river was too shallow, horses were unloaded to drag the boat to deeper water. Henry rejoined his family. In early 1835, Henry Blandy formed a business with Judge Horace William Blocksom (an outspoken Democrat and father of the well-known Major Augustus P. Blocksom), John T. Fracker, and Lloyd Dillon that was named Dillon, Blandy & Co., which established a forge to smelt iron at Licking Falls, four miles from Zanesville. Frederick guarded the storeroom that was stocked with groceries and dry goods. This building and a house were the only structures on the north side of the river, which had to be forded or crossed in a skiff, there being no bridge. Robbers were common in those rough times. Frederick later recalled sleeping on the counter at night with a revolver under his head. Frederick repeatedly experienced chills and fever. John T. Fracker was so involved in the foundry business of Blocksom & Fracker that he had devoted little time to the iron-smelting work, and, by becoming postmaster of Zanesville, Judge Blocksom turned his attention elsewhere. After eighteen months, lack of business forced the closure of Dillon, Blandy & Co. The venture was not a total failure, as the store had made over six thousand dollars, but Henry was forced to declare bankruptcy. Within three years, he had regained his financial footing, and Henry repaid all his creditors the principal and the interest owed to the date of the settlement. He then joined Blocksom & Sons, the foundry run by Judge Blocksom and his sons, George W. and Augustus P.

Next, Frederick became a clerk for a manufacturer in New York City. After two years with the firm, Frederick visited the family home in Zanesville. As his father was going to be in Europe for some time, Frederick's mother and sisters asked him to remain with them. To persuade him not to return to Zanesville, his employer in New York offered a salary increase. In response, Benjamin promised to set up Frederick in a business when Benjamin came back from Europe. True to his word, Benjamin built a large foundry for



Here is a cut, or engraving, of a Blandy skid engine that appeared on page 1,769 in *Knight's American Mechanical Dictionary* (Boston, Houghton, Osgood and Company, 1880).

This Blandy letterhead appeared in John H. White, Jr.'s *A Short History of American Locomotive Builders in the Steam Era* (reprinted in the Fall-Winter 2007 issue of *Railroad History*). The portable engine dates to the 1850s.



Here is a Blandy engine that was photographed as it was being trucked across the factory yard in Zanesville. Courtesy Wayne C. Estep

Frederick in 1840. As Blocksom & Sons was dissolving, Henry joined Frederick's firm, which was then named H. & F. Blandy.

The factory built stoves, hollowware, plows, and threshers. Several teams of horses were required to make deliveries to area farms. The Blandy brothers often accepted horses in exchange for farming implements. Frederick drove them across the mountains to New York City: a three-week trip one way. From 1844 through 1848, Frederick made several such trips. In January of 1849, Benjamin, the Blandy brothers' father, died.

H. & F. Blandy's first two contracts were for the iron goods used in Zanesville's water works and gas works. H. & F. Blandy accepted a proposal to build a large rail mill in Ironton, Ohio, southeast of Portsmouth, and they admitted a third partner for the purpose. The Blandys dug coal mines, made millions of bricks, and helped construct twenty dwellings for workers. The depression of railroad stocks and the failure of their new partner caused the rail mill to go belly up. The Blandys sustained an enormous loss but did not lose their credit.

In 1847, the Ohio Central Railroad had been in the planning stages, and, by 1850, H. & F. Blandy began to build locomotives to supply the Ohio Central. The firm also entered into contracts to provide locomotives to the Mad River and Lake Erie, which was Ohio's second-oldest railroad, having begun in 1835; the Cincinnati, Wilmington and Zanesville; and the Steubenville and Indiana railways. At first, the Ohio Central project looked promising enough. By 1852, trains were running between Zanesville and Newark, Ohio, and, by the following year, service had been extended to Columbus. By late 1854, the railroad stretched between Bellaire and Columbus. In that year, the Zanesville City Council appointed a committee to investigate whether John H. Sullivan, president of the Ohio Central, had acted arbitrarily without the consent of the stockholders, many of whom resided in Zanesville, when Sullivan allegedly reneged on a promise to Henry Blandy that Blandy's factory would be a principal supplier of locomotives to the railroad. The committee reported that Blandy had been ill used. Subsequently, stockholders and other citizens at a public meeting cried out against Sullivan's injustices, which were perceived as harming Zanesville's interests. Henry Blandy spoke at the meeting.

Sullivan published a forty-page defense of his business decisions. Sullivan blamed Francis Wedge, a Blandy employee who journeyed with Sullivan to study

In 1859, the Ohio State Fair was held in Zanesville between the 20th and the 23rd of September. Rain and drizzle marred most of the days. The pickpockets that haunted such fairs added to the misery. On the 21st--the only sunny day of the fair--photographer J. Tresize took this stereoscopic picture. Tresize's picture captured all of one engine and part of another. One or both of the engines may have been from the Blandy brothers' factory, but also at the fair were engines from the Newark Machine Works and from a Zanesville firm named J. & J. H. Duvall. In 1840, Elias Ebert and Jacob Whitaker had left Jeremiah Dare's machine shop to build their own facility near the canal, and James Duvall had eventually taken charge of Dare's shop, which was located across from the Blandy factory on Third Street. Duvall & Company traced the firm's origin to 1830, when Dare & Ebert began. The business had reorganized in 1856. At the fair three years later, a reporter for the *Cincinnati Commercial* wrote, "Eight steam engines are . . . puffing and clanking upon the grounds this morning, and the clatter is almost stunning." A reporter for the *Ohio Farmer* said, "The liveliest place on the grounds was about Power Hall, where the steam engines were ripping up logs, and yelling enough to take a man out of his boots. . . . The application of steam to farm purposes is enlisting unusual interest in the manufacture of portable engines, which have been brought to great perfection, and are doing efficient service all over the country." The Blandys won the medal for the best steam engines overall and another medal for the best portable farm engine. After the fair, J. & J. H. Duvall wrote to the State Board of Agriculture to complain that the latter premium was awarded unfairly. The board refused to overturn the judgment of the committee and dismissed the matter. On *this* occasion, the Blandy brothers were victorious. Note the platform and the barrel attached to the engine. The young man at the left is probably A. Bedford Dumm, who had been a pony express rider. Dumm worked for Blandy. At the fair, judges acknowledged Dumm's invention of a saw gummer, which is a grinder for sharpening circular saws. Courtesy the Ohio Historical Society (ohiohistory.org)

the engines of the leading locomotive manufacturers of the East. Sullivan said "that it was unfortunate . . . that Mr. Wedge should have expressed a preference for, and selected as a model, engines so old-fashioned and so much behind the times as the New Castle engines." By virtue of his status as a railway presiding officer, Sullivan enabled Wedge to take detailed measurements of locomotives that were built by the New Castle Manufacturing Company in Delaware. The Blandy locomotives were largely copied from New Castle engines. Perhaps acting independently, Sullivan signed a purchase agreement for four New Castles--a deed that surprised Henry Blandy and others that were under the impression that Sullivan would buy only one to serve as an example for Blandy and his engineers to mimic. (Ultimately, Sullivan took delivery of only two of the New Castle locomotives and refused acceptance of the remaining two on the grounds that they were behind schedule.) Sullivan claimed that the first of Blandy's locomotives to leave the factory were inferior machines, and he clung to the charge of their inferiority to justify his having turned to eastern manufacturers for new locomotives. Sullivan's abandonment of Zanesville locomotives meant extreme financial hardship for Blandy. Sullivan accused Blandy of "restless jealousy," "coarseness," and "brutality." Sullivan also characterized Henry Blandy as having been a traitor to Zanesville when Blandy attempted to locate the rail mill in Ironton. Sullivan concluded that "the concurrent judgment of the contractors, chief engineer, superintendent, and master of machinery [was] that Mr. Blandy's make of engines was not desirable for our road."

Henry Blandy consequently published a twenty-nine page rejoinder. Blandy hammered the theme that Sullivan was incompetent: "We are deeply convinced, that [the Ohio Central] has suffered immeasurably by Mr. Sullivan's mismanagement; that its progress has been retarded; the receipt of its revenues postponed; the stock and bonds depreciated; and the whole enterprise brought into discredit, so that especially to those best acquainted with its ridiculous mismanagement, that which was once their pride and delight has thus become a very stench in their nostrils." Blandy said that Sullivan "descends to charge me with falsehood, meanness, and base efforts to induce him to act *in bad faith* with different parties. To those best acquainted with me, I feel the strongest confidence that I need not say one word in refutation of these charges; neither shall I stoop to railing for railing nor mar my own peace by the indulgence of bitterness of feeling but shall proceed to a candid examination of the points yet untouched, resting in the power of truth and stubbornness of facts." Blandy then proceeded to prove that his earliest locomotives were not inferior and that his later ones benefited from improvements in design. He argued that many trustworthy judges of locomotives had considered the New Castle to be an admirable model. Blandy contended that, at one point, Sullivan had ordered coal-burning, six-wheel, heavy locomotives that were built to railway specifications

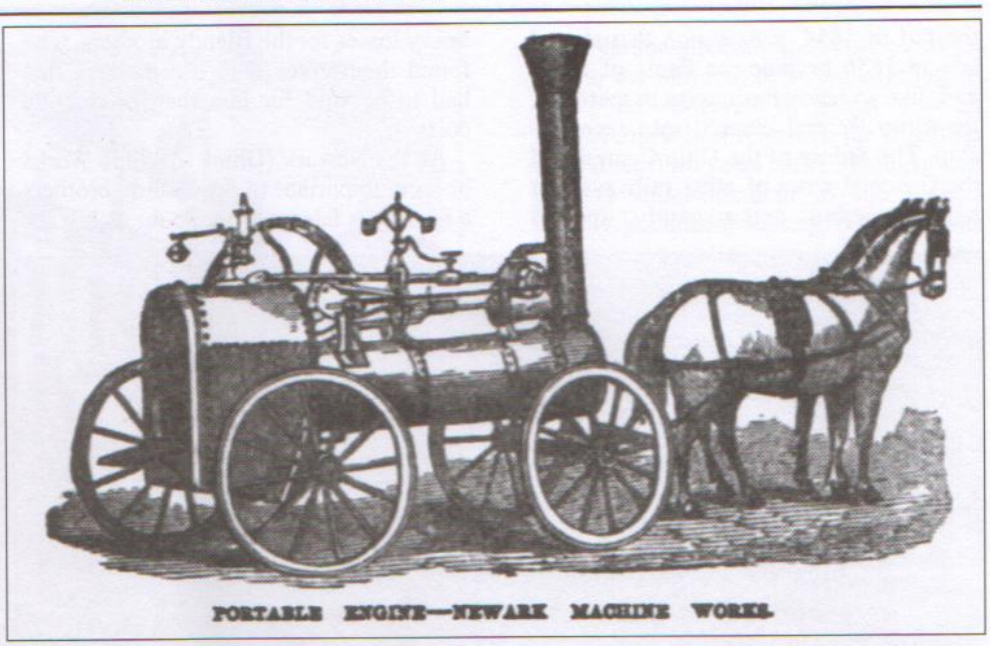
This photograph is said to date to the Fourth of July in 1854. It depicts the Newark Machine Works. The rare and wonderful picture deserves careful study. In October of the same year, the Ohio State Fair was held in Newark. Originally from New York, Joseph E. Holmes, chief engineer at the Newark Machine Works, served as superintendent of Mechanics' Hall during the exhibition. The year before, Holmes had amassed considerable experience as superintendent of the machinery exhibits at the Crystal Palace Exhibition, a world's fair that was held in New York. Courtesy the late Thomas Norrell.

but that were too heavy for the light rail and the lack of ballast. Blandy contrasted these machines with other locomotives that were built to *his firm's* specifications and that had received compliments from master mechanics.

The bombastic rhetoric of Sullivan's and Blandy's accounts typified business and politics in their era, and, although it would be tempting to point to one or another of their accusations as the truth, the often venomous language of the early 1800s served to conceal more facts than were revealed.

History shows that strong personalities can make or break business ventures. While Sullivan and Blandy might have been victims of a personality conflict, a looming economic disaster more likely was the culprit that spawned the rancor.

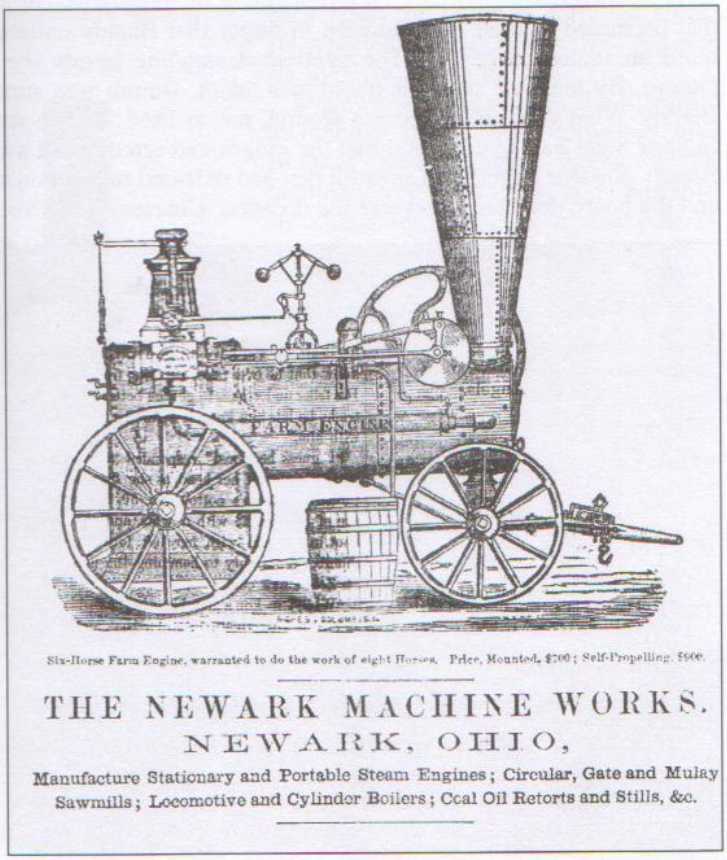
Indeed there were many derailments because the Ohio Central roadbed had been hastily and cheaply built without ballast and because maintenance was lackluster at best. As the line developed a reputation for costly delays, credit began to dissipate. As if nothing had been learned from the economic problems in



PORTABLE ENGINE—NEWARK MACHINE WORKS.

This cut depicts a Newark steamer that won the award for the best portable engine at the Ohio State Fair that was held in Cincinnati in 1857. The twelfth annual report of the Ohio State Board of Agriculture published the illustration on page 147. Blandy engines received commendation from the same judging panel. Robert D. Gray of the Newark Machine Works won special acknowledgment for his balanced steam valve and for the best improvement in steam engine design. A comparison of this engraving to the detail of the Newark engine in the Norrell photograph suggests that the wheels of the engine in the photo might be arranged for traction.

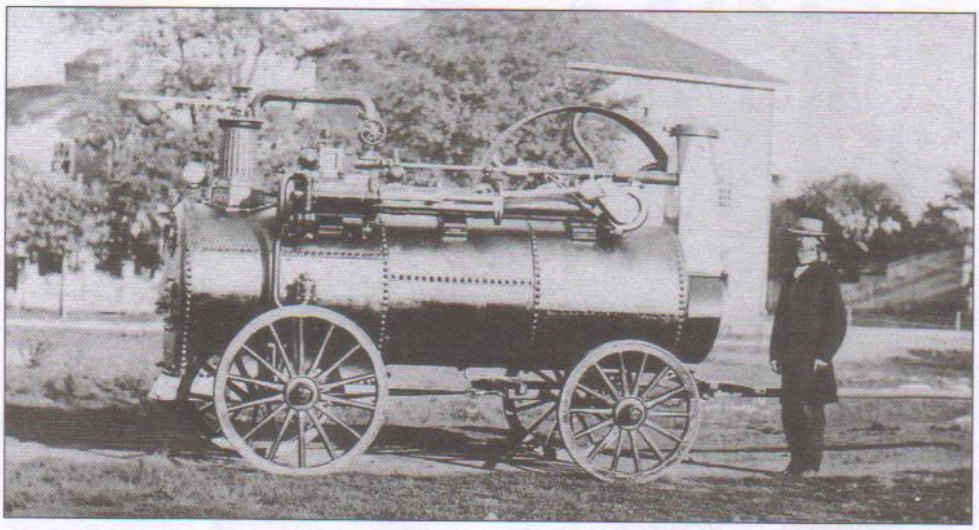
A steam engine that curiously does not resemble other Newark portable engines from the same period is featured in this detail from the photograph that Thomas Norrell collected. If the date of 1854 is correct, could this be the prototype of the Newark self-propelling engine of 1858? The photo does not easily surrender its truths, for the image is simply not sharp enough to draw any conclusions. Certainly, the position of the crankshaft and maybe the position of the axle make it possible that the engine could be geared for traction. Such a tantalizing morsel causes the authors to hunger for a closer view of the scene.



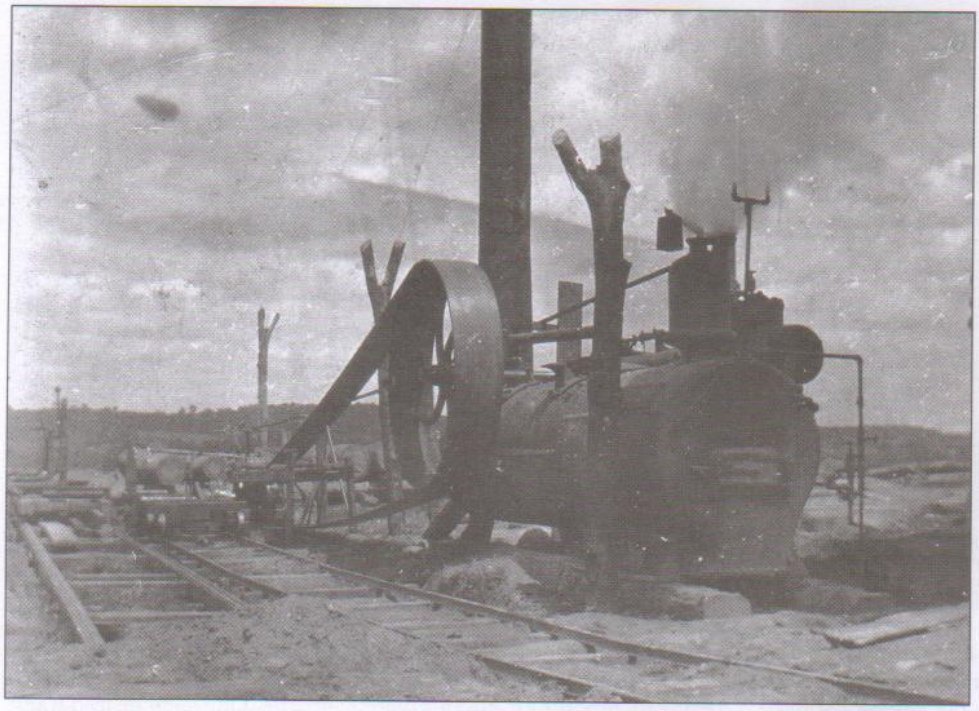
This woodcut of a Newark Machine Works engine appeared in *The Ohio Farmer* for the 21st of July in 1860. The fine print says that self-propelling engines were available. One such geared traction engine built by Newark made a successful forty-six mile trip in 1858. Courtesy Robert T. Rhode

the fall of 1854, a recession that started late in 1856 became the Panic of 1857, and, like so many businesses in that year, the Ohio Central entered into receivership. The failure of the Ohio Central and the financial woes of other railways that had expanded extravagantly spelled heavy losses for the Blandy brothers, who found themselves with locomotives that had to be sold for less than production costs.

As the Newark (Ohio) Machine Works became important to the Blandy brothers a few years later, a word about its history is appropriate here. Established around 1850, the Works built portable engines, threshers, and sawmills. As will shortly be seen, the Newark plant became a veritable Who's Who of Union officers during the war. Willard Warner was born in Granville, Ohio, in 1826. He was a graduate of Marietta College. Warner prospected for gold in California in 1849; then he ran a wholesale grocery business in Cincinnati. In 1854, he moved to Newark, where he quickly became treasurer of the Machine Works. He was named general manager in 1856. At the outbreak of the war, he organized the 76th Regiment of the Ohio Volunteer Infantry. Warner served under General William Tecumseh Sherman. From 1866 until 1867, he was a member of the Ohio State Senate. As he owned a cotton plantation in Alabama, he was elected to the Alabama legislature as a Republican during the era of Reconstruction. He is credited with building the iron industry in Alabama and Tennessee. Even though national Republicans courted him, he refused offers of high office because he thought that the party was taking unfair advantage of the South. Ultimately, he parted with the Republicans altogether.

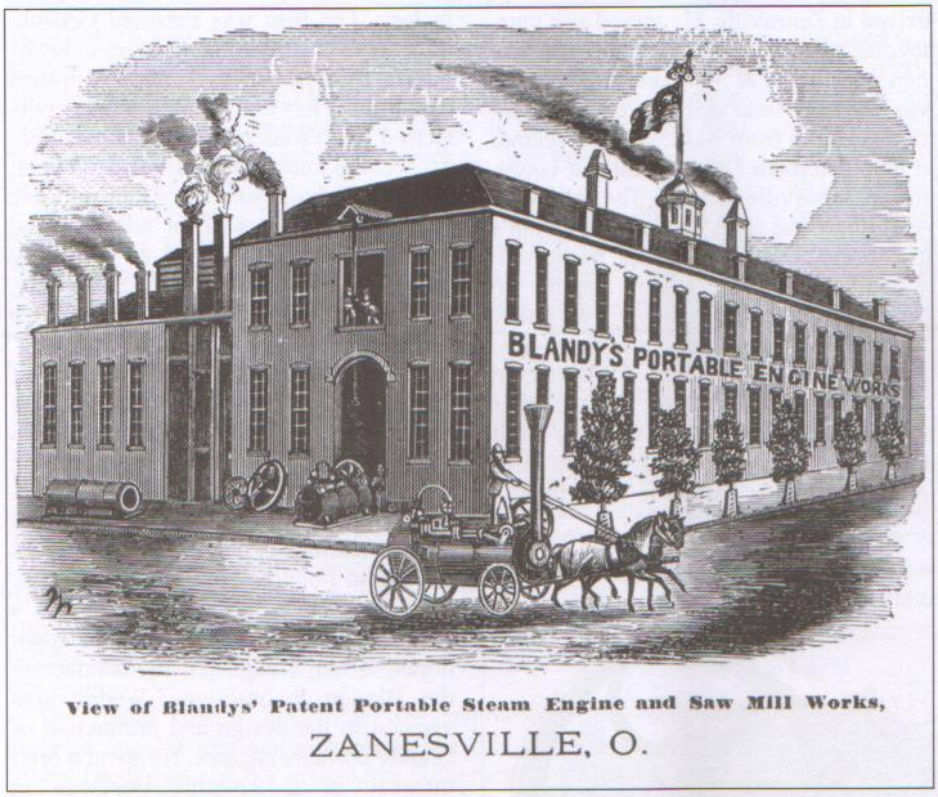


Photographers Sayre and Chase, who were located above Jones' Stove Store in Newark, produced this carte de visite depicting a Blandy portable engine that probably dates to 1864, the year when the Blandys purchased the Newark Machine Works. A few of the parts on such Blandy portables resemble those of Newark Machine Works engines--a fact that prompted at least one historian to imply that Blandy collaborated with Newark to build an improved engine. The gentleman standing beside the engine is A. Bedford Dumm. By the time that this photo was taken, Dumm was superintendent of H. & F. Blandy. What goes around comes around, for, in 1868, Dumm wrote to the board of the Indiana State Fair to complain that the judges had erred in not awarding a premium to a Blandy portable engine and sawmill that had defeated two opponents in a sawing contest, and the board declined to reverse the decision. Courtesy Scott Vezeau



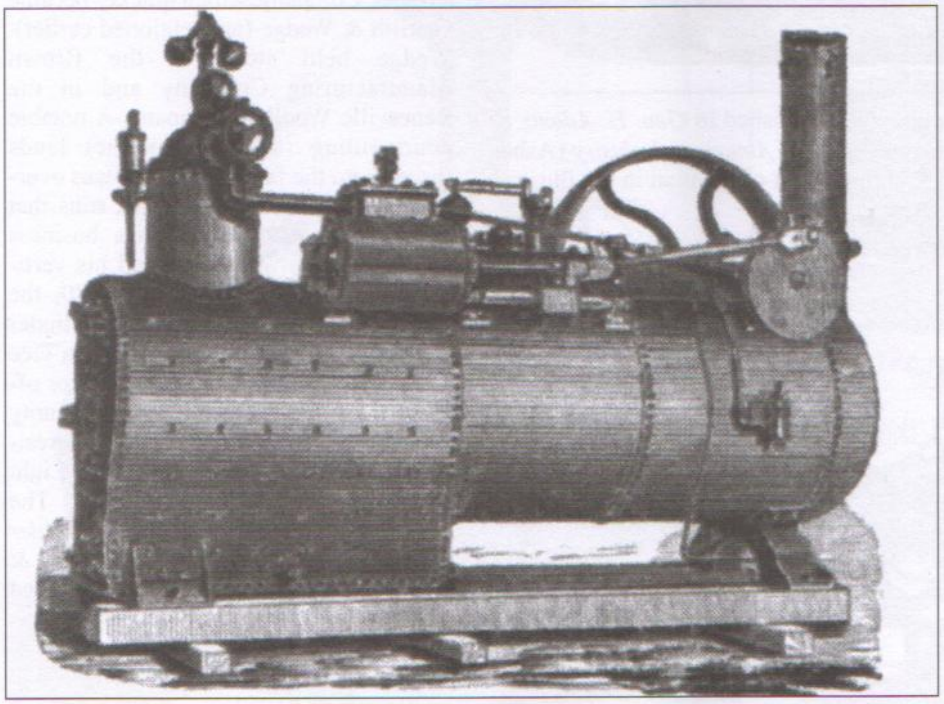
This Blandy skid engine looks as if it has been hard at work for a long time. Its weighted safety release valve is open while the engine powers a sawmill. Courtesy John F. Spalding

Henry S. Babbit was a medical doctor who turned to public service. Joseph E. Holmes, who had offices in New York City, was superintendent of machinery at the Exhibition of the Industry of All Nations, a world's fair that was held in New York City and that is better known as the Crystal Palace Exhibition of 1853. Babbit was assistant secretary of the Crystal Palace Association and in charge of the agricultural department. By 1854, Holmes and Babbit were both in supervisory capacities at the Newark Machine Works. Apparently, the Newark Works underwent an expansion in 1854--despite the fact that the money market in America was in a panic by that autumn. Brothers John William Gray and Robert Dickinson Gray of Fallsburg, New York, began their employment as mechanical engineers at the Newark plant around that time. John was said to have first worked for Gordon McKay, the well-known, wealthy industrialist who was born in Pittsfield, Massachusetts, who owned various firms in Lawrence, and who was associated with the engine builder John Chipman Hoadley; an obituary for John W. Gray locates him within a Quaker community in Pittsfield before he reached the age of majority--a detail suggesting that he easily could have been apprenticed with McKay. Holmes was perhaps as interest-



View of Blandys' Patent Portable Steam Engine and Saw Mill Works,
ZANESVILLE, O.

This cut of the Blandy factory in Zanesville was published in the Blandy brothers' catalog for 1872. Of note is the fact that the man stands to drive the team. The flagpole sports a decoration in the shape of a Blandy portable engine. Courtesy John H. White, Jr.



Here is a cut of a Blandy skid engine that appeared in an advertisement on page 825 in George W. Howard's *The Monumental City: Its Past History and Present Resources* (Baltimore: J. D. Ehlers, 1873). The ad mentioned that Blandy stationary engines ranging from 10 to 500 HP and portable engines ranging from 6 to 40 HP were available through a branch office and warehouse in Chicago. Published histories suggest that several firms in Zanesville kept close business ties to Baltimore--connections that prompted Howard of Baltimore to describe Henry Blandy and his business in glowing terms.

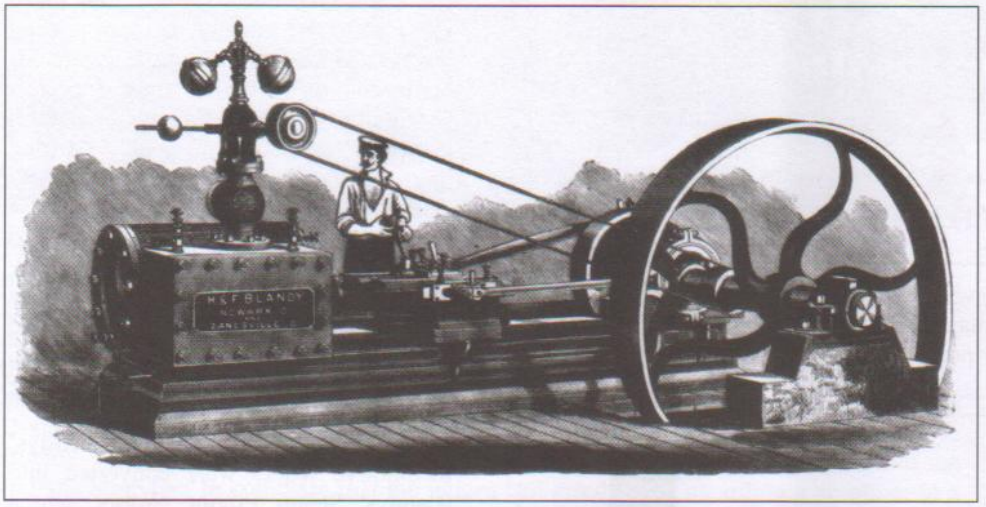
ed in the manufacturing of coal oil as he was in the building of steam engines; in 1859, he received a patent for an improvement in a retort for the distilling of coal oil. Two years earlier, Holmes was general superintendent of the United States Agricultural Society. When the war began, Babbit held many positions in the Union Army--notably as a defender of southern Ohio against Morgan's Raiders. Eventually, Babbit served as treasurer of the Ohio Agricultural and Mechanical College, which evolved into The Ohio State University. Holmes, meanwhile, served as assistant commissioner for the American exhibits at the International Exhibition, also known as the Great London Exposition of 1862, and faced the daunting challenge of transporting displays to England during a war in his home country. Holmes figured prominently in engine manufacturer Charles T. Porter's fascinating book entitled *Engineering Reminiscences* (New York: Wiley, 1908).

In the autumn of 1858, the satisfied owner of a geared traction engine built by the Newark Machine Works drove his steamer from Warrenton to Cadiz and back again for a total of forty-six miles. He reported the feat in *The Ohio Farmer* for the 21st of July in 1860.

Meanwhile, in Zanesville, the Blandys' locomotive works were converted into Blandys' Steam Engine Works, which manufactured sawmills and portable steam engines. Frederick secured patents for several of his inventions, including 21,059 (a portable steam engine with a hollow bed plate that was granted in 1858 and that was extended in 1872); 43,387 (an improvement in a pump gear that was granted in 1864); 43,471 (an improvement in a steam engine valve gear that was granted in 1864); and 97,302 (an improvement in the head blocks for sawmills that was granted in 1869). The Blandys were not afraid to sue for infringement of their patents. In September of 1869, the case of Henry Blandy and Frederick J. L. Blandy vs. Thomas Griffith and Francis Wedge was heard in the Circuit Court for the Southern District of Ohio. The judge decided that the hollow bed plate that was described in the patent granted to the Blandys in 1858 was original to them, that the firm of Griffith & Wedge--also of Zanesville--had infringed the patent, and that Griffith & Wedge must pay H. & F. Blandy appropriate remuneration. Frederick said that the brothers won all their lawsuits, and a review of legal doc-

uments by the authors suggests that Frederick was telling the truth.

When the Blandys were involved in litigation against Griffith & Wedge, they were contesting former friends that shared their British nativity. Thomas Griffith was born in November of 1817 in Warwickshire, England. Shortly after his family moved to Oswestry in Shropshire, Griffith moved in with an uncle in Manchester. The uncle took his nephew to Philadelphia and Baltimore in 1827. Griffith spent three years in a school in Baltimore. In 1830, Griffith was apprenticed to Sinclair & Moore, a firm that built agricultural implements in Baltimore. In December of 1838, Griffith arrived in Zanesville. He served as a journeyman first with Dillon's tool factory then with Ebert & Whitaker. Elias Ebert was one of several skilled workmen who had been sent from Baltimore, Maryland, to help Jeremiah Dare establish a cotton mill in Zanesville in 1829. The following year, Ebert and John D. Dare, Jeremiah's son, formed Dare & Ebert and purportedly built the first steam engine in Zanesville. When Jacob Whitaker became a partner in 1832, the firm name became Dare, Whitaker & Company. In 1837, Ebert and Whitaker formed their own business. Ebert & Whitaker built new shops in 1840. Griffith rose to foreman and to junior partner in Elias Ebert's factory. The firm was renamed Griffith, Ebert & Company. The economic downturn in 1857 pushed the company toward bankruptcy. In 1858, Francis Wedge purchased Ebert's interest. Soon, the company became known as Griffith & Wedge; the factory built stationary and portable steam engines, steamboat engines, and sawmills. Griffith served as a county commissioner. Like Frederick Blandy, Griffith was a director of the Brown Manufacturing Company.



This cut of the Blandy slide-valve stationary engine was published in *Geo. H. Adams & Son's New Columbian Rail Road Atlas and Pictorial Album of American Industry* (Asher & Adams, 1879), which was copyrighted in 1874. If the height of the man in the illustration can be trusted, the machine was relatively large.

Also in *Geo. H. Adams & Son's New Columbian Rail Road Atlas* was this artistic rendering of a Blandy portable engine pulled by fancy, high-stepping horses.

Francis Wedge was born in January of 1825 in Staffordshire, England. He apprenticed for five years under Joseph Whitworth of Manchester. In 1848, he arrived in Zanesville. He set up machinery for the Ohio Iron Company. He and a partner named John H. Jones rented the Blocksom Foundry for eighteen months. Wedge then served for eight years as a foreman for H. & F. Blandy; as mentioned earlier, Wedge helped manufacture the Blandy locomotives. Wedge also assisted in the design and production of Blandy portable engines. He spent a brief interval in a sawmill business in Arkansas, after which time he helped design a portable steam engine for Owens, Lane & Dyer in Hamilton, Ohio. In 1858, he joined the firm of Griffith, Ebert & Company, which quickly became Griffith & Wedge (as mentioned earlier). Wedge held stock in the Brown Manufacturing Company and in the Zanesville Woollen Company. A notable court ruling (available online) lends insight into the fact that Wedge was overly protective of the one of his sons that occasionally made injudicious business arrangements. Wedge patented his vertical portable steam engine in 1870; the boiler was horizontal, and the cylinder was vertical. In 1875, Wedge was a vice president--and Griffith was a director of--the Zanesville and Muskingum County Board of Trade. Wedge rose to the presidency of the Zanesville Electric Light Company. Griffith died in 1885. The August issue of *Manufacturer & Builder* in that year announced that the Griffith & Wedge Company had been incorporated to build mining machinery, as well as engines and sawmills. Wedge died in 1893. The firm that he and Griffith had led lasted until 1917.

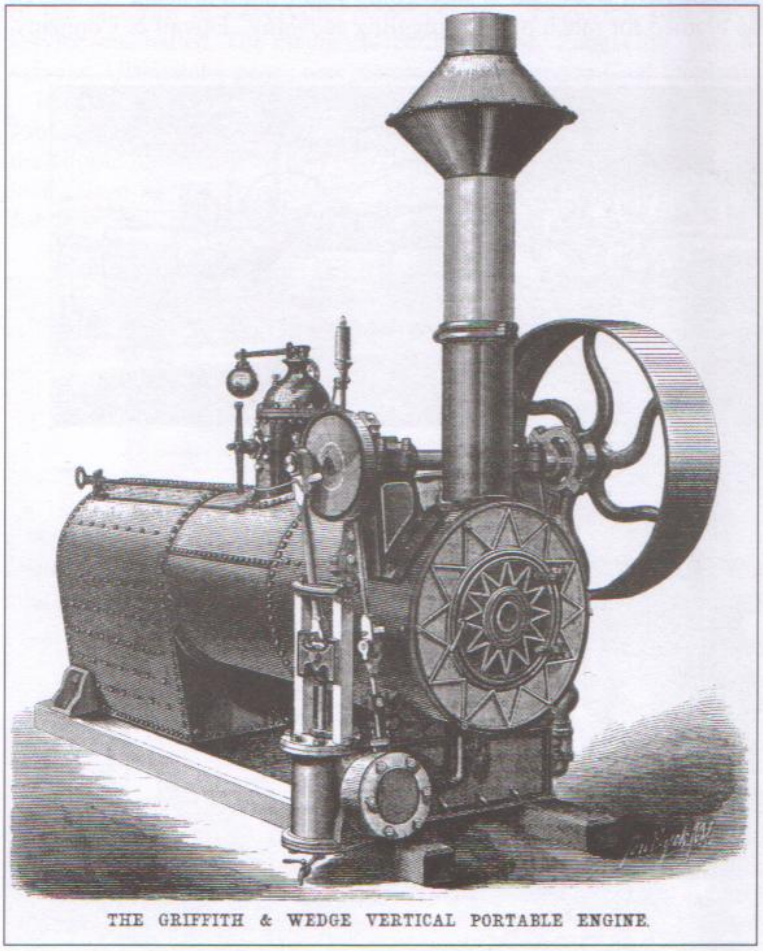
In December of 1858, an advertisement in *The Cultivator*, published by the New York State Agricultural Society, reported that the Blandys' portable engine had won a first premium at the Ohio State Fair that was held in Cincinnati in 1857--the year before their portable engine

received a patent. The ad said, "We invite the attention of the people to our portable steam engines, designed expressly for their use; so simple in construction that they can operate them without the assistance of experienced engineers; so cheap as to come within their means; so light that they are easily removed, very durable, and burning any kind of fuel."

When conflict arose between the North and the South, the Blandy brothers lost $150,000 owed to them by southern purchasers, but lucrative contracts for the Union government compensated them. The Blandys advertised sugar mills and portable engines in the *Ohio Cultivator* for October of 1862.

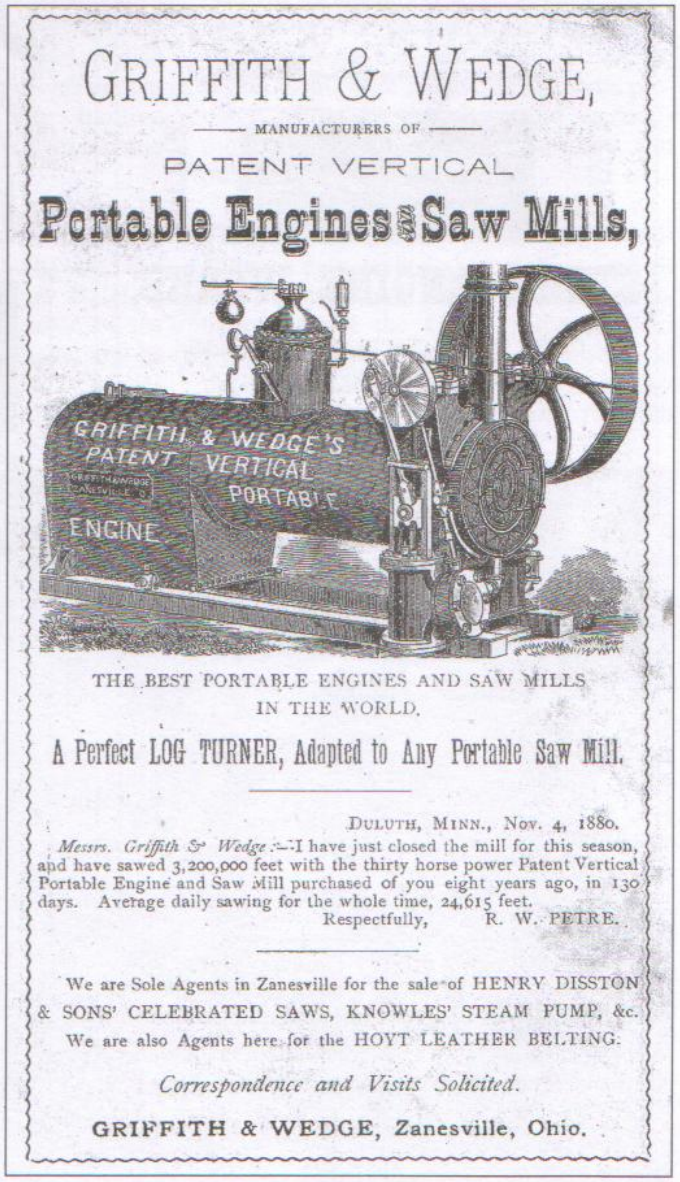
Despite the amazing success with at least one traction engine in 1858, the Newark Machine Works had begun to experience financial difficulty by the late 1850s. In 1860, the firm went bankrupt and appointed Reinhard Scheidler one of the receivers. He named his fellow machinist John H. McNamar the plant manager. By 1861, at the start of the war, the plant was all but closed. Scheidler began his own machine shop. In 1863, the Blandys decided that their factory in Zanesville was too small to produce machines expeditiously, and, in 1864, they bought the Newark Machine Works--in effect, doubling their capacity. Did the Blandy brothers follow the Newark Machine Works' lead and build a traction engine? So far, history is silent on the matter.

The Henry Blandy household was responsible for a song that became popular throughout America. As Ella Blocksom's parents--Judge Blocksom and his wife, Anna Fulkerson--were now deceased, she lived with her sister Mary Amanda, whom Henry Blandy had married in 1834. Henry and Mary had seven children of their own; three died in childhood. The Blandys attended the Universalist Church, where a young minister--the Rev. Henry DeLafayette Webster--presided. In 1856, Webster fell madly in love with Ella, but Henry Blandy intervened. Ella gave the minister a letter containing the sentence "If we try, we may forget." Webster resigned and left Zanesville. The minister met Joseph P. Webster, who had composed such famous songs as "In the Sweet By and By." The minister gave the composer a poem about Ella that included her sentiment about trying to forget. Ella's name was changed to Lorena--a name inspired by Lenore in Edgar Allan Poe's poem entitled "The Raven." Joseph set the poem to music. In 1857, the song was published by Higgins Brothers in Chicago. It became a sensation and was beloved by soldiers on both sides of the war that began in 1861. According to an apocryphal anecdote, a southern officer commented that the northern army won because the song made the southern soldiers too homesick to fight. Ella later married William Wartenbee Johnson, who served on



THE GRIFFITH & WEDGE VERTICAL PORTABLE ENGINE.

This Griffith & Wedge engraving appeared on the first page of *Scientific American* for January the 28th in 1871. Except for the lack of wheels (and the skids), this engine was identical to the Griffith & Wedge portable steamer.



Here is a detailed Griffith & Wedge cut that the *Zanesville Weekly Courier Almanac* carried in 1881. Courtesy the Pioneer and Historical Society of Muskingum County

the Ohio Supreme Court. She is buried in Ironton.

Henry's first wife did not live to see the war; Amanda Blocksom died in 1859. In June of 1860, Henry married Amelia Adeline Douglas of Lowell, Massachusetts. The couple had three children. Amelia died in 1867. In 1868, Henry married Amelia's sister, Nellie P. Douglas; they had one child.

In 1865 (the last year of the war), the Blandys sold more than $1,250,000 in machinery. In April of that year, the assassination of President Abraham Lincoln prompted a spontaneous meeting of the citizens of Zanesville in the Market House Hall. Henry chaired the afternoon session, which produced a series of nine resolutions condemning the assassination and pledging support for President Andrew Johnson. The list of particulars was widely distributed. Zanesville agreed to hold funeral services for Lincoln at the same time as those in Washington, D.C.

The same *Zanesville Weekly Courier Almanac* featured this advertisement for Duvall & Company. As the Duvall skid engine closely resembled Blandy skid engines--and as Duvall traced its roots to a company that allegedly built the first steam engine in Zanesville--did the Blandy brothers pattern their patented engine on a forerunner of the Duvall machine shown here, or did the Duvall engines from the late 1870s and early 1880s imitate Blandy designs? Courtesy the Pioneer and Historical Society of Muskingum County

In November of 1866, the Blandy brothers' mother, Jane Addison, died. At about that time, Union General Mortimer D. Leggett became superintendent of the Zanesville and Newark works.

The Blandy brothers manufactured stationary engines used in mills and blast furnaces: some of these machines were rated at 500 HP. At the peak of the Blandy enterprises, machines were shipped to Africa, Australia, Europe, the Pacific Islands, and South America.

In 1866, while Henry was visiting John Lewton in Paulton, which is located south of Bristol in England, fire destroyed the Zanesville plant, but the factory was rebuilt within four months by running the Newark facility day and night to keep up with demand. Using one of the firm's portable steam engines and sawmills on his fruit farm three miles east of Zanesville, Frederick cut 1,500 logs into lumber for the reconstruction of the factory.

As of 1872, Henry Blandy, Esquire, a devotee of fine horses, owned a racehorse named Vivandiere from the stables of L. J. Polk of Tennessee. Henry was also a founder of Buchtel College, which was a Universalist institution of higher learning that was given to the city of Akron in 1913 and is considered the forbear of the University of Akron. All his life, Henry had sought to answer perplexing theological questions. Raised in the Church of England, he had early considered becoming a minister, but he eventually broke with the Anglican tradition. The Universalist minister Rev. G. T. Flanders influenced Henry to believe that, ultimately, good will triumph over evil.

Apparently, good *did* triumph over evil for the Blandys because, by the mid-1870s, there were some four thousand Blandy portable engines that were still in use.

The Panic of 1873 worsened in succeeding years, and President Ulysses S. Grant was blamed for much of the struggling economy. Duvall & Company,

These cuts of Griffith & Wedge engines appeared opposite page 328 in J. F. Everhart's book entitled *History of Muskingum County, Ohio*, which was published in 1882.

another Zanesville firm that manufactured steam engines and that had reorganized in 1856, reorganized *again* in 1876--as did many American firms that were practically driven out of business. The recovery did not begin until late in 1878 during the Presidency of Rutherford B. Hayes, the victor in the highly contested election of 1876. In the summer of 1877, railroad strikes beginning in West Virginia spawned violence in such states as Maryland and Pennsylvania. In Zanesville, two thousand men gathered before a hotel that was being built and urged the construction workers to walk off. The workers joined the throng, which continued to the courthouse. There, Henry addressed the crowd. He advised moderation and suggested that the workers turn to the Democrats to seek consolation. Henry probably intended the suggestion seriously, as he frequently switched political parties; at various times, he was a Whig, a Republican, and a Greenback--and his father-in-law had been a staunch Democrat. After listening to Henry's speech, mobs shut down most of the factories in Zanesville. Street car service was halted. The mayor closed the saloons. Ultimately, peace was restored.

In 1851, Frederick was married to Julia Johnson of Philadelphia, Pennsylvania; the couple had four sons and two daughters. Two of the sons--Henry "Harry" Johnson and Frederick Addison--died within five months of one another: Harry on the 19th of August in 1879, Frederick A. on the 20th of January in 1880. Frederick A. had graduated from the Harvard Law School, and Harry had graduated from the Harvard Medical School. Frederick A. had accepted a position with the law firm of Collins & Herron in Cincinnati. The brothers died of consumption, as tuberculosis was called in those days. Only one week after Harry's death, Frederick John Leonard Blandy's brother Henry died.

Just before Henry's death on the 26th of August, 1879, the brothers had signed two large contracts to equip the Custom House and the Fullerton Avenue Pumping Station in Chicago. When Henry passed away, Frederick completed the projects as head of the Blandy Steam Engine Works. At some point in the melancholy year of 1879, the Blandy factory in Newark was sold to the Union Iron Works, which made belt drives and chain drives to convert portable engines into traction engines--and which built its own traction engines.

Frederick also served as president of the Zanesville Union Bank, the Ohio Furnace Coal Company of Shawnee and Zanesville, and the McIntyre Building Association. He was a director of the Brown Manufacturing Company, and he held interests in various coal companies and stock farms. He owned two large farms up the Muskingum River.

Frederick John Leonard Blandy died on the 6th of February in 1884. His widow then ran the company. When Henry Howe in 1887 completed the research for his publication entitled *Historical Collections of Ohio*, he had found approximately a hundred employees at Griffith & Wedge and only half that number at F. J. L. Blandy's works. In the summer of 1898, the Union Machine Company was incorporated as the successor to the Blandy firm, but Union closed its doors in 1901. The Blandys' buildings--which had witnessed such a significant portion of the steam era--became garages for streetcars. The Mark Manufacturing Company bought Griffith & Wedge in 1917.

Such was the end of the Zanesville companies that had helped chart the course of bringing steam power to America's forests and farms. Entrepreneurs like the Blandy brothers, who had lost fortunes only to regain them, were farsighted industrial pioneers whose biographies stand as testimonies to adventurous spirits and indomitable wills.

ACKNOWLEDGMENTS

The authors thank Ann Miller Carr, award-winning auto racing photographer and an expert genealogist, for discovering information about the Gray brothers; Vicki Cooper, records management assistant in the Steely Library of Northern Kentucky University (NKU), for helping research

Here is a Griffith & Wedge engine with a vertical boiler, straight spokes in the flywheel, and a water barrel. This rare photograph was taken directly in front of the Griffith & Wedge factory. Courtesy the late Chance Brockway

Blandy biographies; Wayne C. Estep, Zanesville historian, for granting permission to use his previously published photograph of a Blandy steam engine and for details about Griffith & Wedge; Jim Geyer, director of museums of the Pioneer and Historical Society of Muskingum County, for supplying an advertisement that features Griffith & Wedge and for offering an ad that depicts a Duvall skid engine; Lois Hamill, university archivist at NKU, for providing hypotheses useful in locating Blandy biographies; Judith Ann Kimball, avid genealogical researcher and regent of the Daughters of the American Revolution, Presidio Chapter in San Francisco, for identifying the Gray brothers and the history of their family; Cristen E. Ross and Erin Smith, extended collection services assistants at NKU, and John Schlipp, extended collection services librarian at NKU, for obtaining Griffith & Wedge cuts, as well as several items pertaining to Blandy; Janice Tallman, administrative assistant in the division of rights and reproductions at the Ohio Historical Society, for facilitating the process of publishing the 1859 Tresize stereoscopic view of the state fair in Zanesville; Mitch Taylor, volunteer curator and trustee of the Pioneer and Historical Society of Muskingum County, for finding ads depicting the products of Griffith & Wedge and Duvall & Company; Scott Vezeau, collector of rare historical images, for allowing the authors to publish his carte de visite photograph of an early Blandy portable steam engine; and John H. White, Jr., author of numerous books and articles on locomotives and riverboats, historian for many years at the Smithsonian Institution, and faculty member at Miami University, for sharing his expertise about early American locomotives in general and about Blandy locomotives in particular and for giving one of the authors a file containing nearly fifty years of his painstaking research into the Blandy firm.

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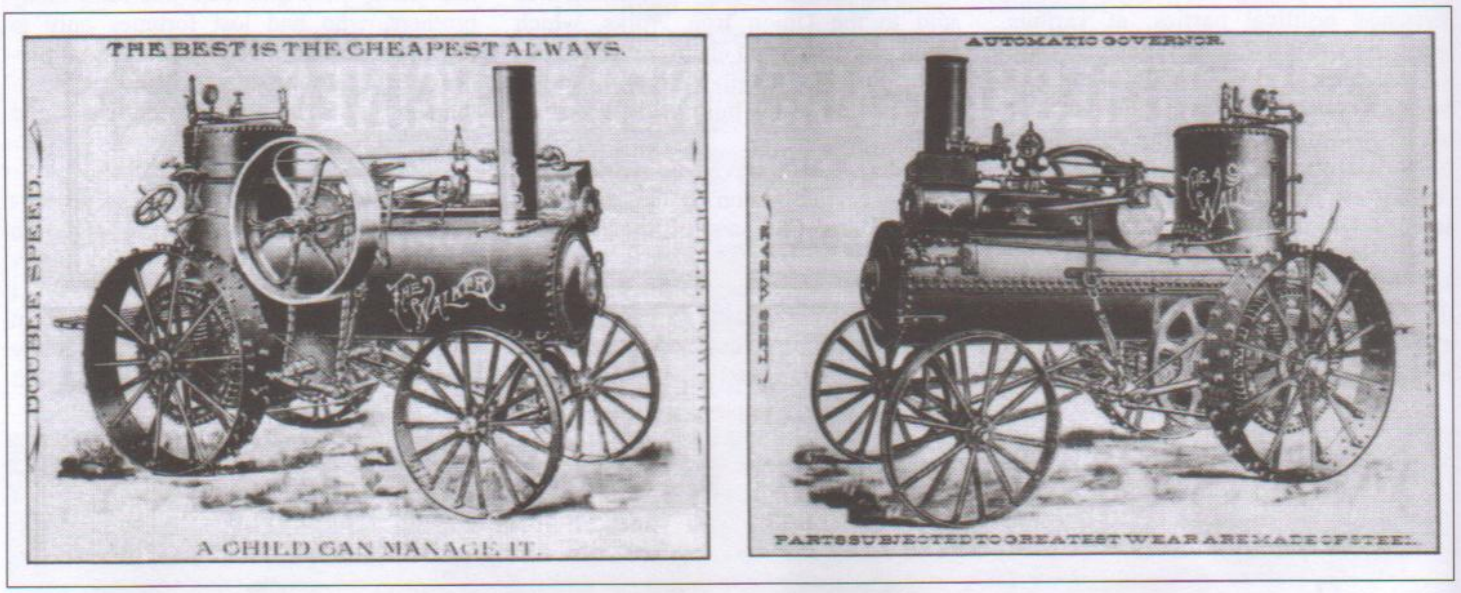

After Frederick J. L. Blandy sold the Newark factory to the Union Iron Works in 1879, the latter firm produced the Walker engine. These cuts, which are dated 1884, appeared on page 15 in Floyd Clymer's *Album of Historical Steam Traction Engines* (New York: Bonanza Books, 1949). The caption at the bottom of the left-hand illustration says, "A child can manage it." Jack Alexander, author of *Steam Power on California Roads and Farms* (1998) and *The First American Farm Tractors* (2003), found that the *Scientific American* for September 29th, 1860, announced that John Walker of Mount Vernon, Ohio, had exhibited a self-propelling "locomotive cross-cut steam sawmill" at the United States Agricultural Society Fair in Cincinnati. The magazine characterized the workmanship of the Walker machine as "rude" and criticized the placing of an upright boiler, water tank, and engine on an insecure three-wheeled wooden frame. The article stated that the engine had a flywheel and explained that a pitman from a crosscut saw could be attached to the flywheel for milling work. Henry Howe's *Historical Collections of Ohio*, which was researched prior to March of 1887, lists the Union Iron Works as manufacturers of traction engines. In the steam literature, there is an obscure reference to a Mr. Walker who was described as a Canadian who built two engines for the Union Iron Works in Newark after 1890. Is this person the John Walker of the 1860 *Scientific American* story and the name behind the engine in the cuts above? Professor John Edson Sweet, a well-known engineer and educator, complimented one of the Union Iron Works engines on display at the 1893 Columbian Exposition in Chicago. That engine was mounted on a locomotive boiler. According to the November 8th, 1940, edition of the *Newark Advocate*, a Walker engine once demonstrated its power at the Licking County (Ohio) Fair by lifting a mass of iron by means of a pulley attached to the limb of a tree. Reinhard Scheidler provoked Walker into betting a hundred dollars that no other engine could manage the weight. The next morning, Scheidler attached mud lugs to the driver wheels of his road locomotive. Walker and Union Iron Works employees protested, but nothing in the wager precluded lugs. A Scheidler son jerked the throttle open, and the wheels slipped in the mud. After stopping, he patiently tried again. The engine crept forward as the bulky pig iron rose higher and higher. Walker yelled, "Stop her! Stop her!" Scheidler's son kept going, as his father directed. The limb crashed to the ground, and the engine dragged its trophy back to the exhibit of Scheidler equipment while the crowd roared its approval.