

Alexander Bonner “Moses” Latta, Nineteenth-Century Inventor and Entrepreneur

by Sandra R. Seidman

Often considered “dead” by the end of the 1950s, the era of steam-powered locomotives, riverboats, and agricultural engines is still very much alive. Today, one has only to attend a steam tractor meet during the summer when enthusiasts gather at fairgrounds across the United States to relive for a few weekends the excitement and pure joy of hearing the chuff-chuff-chuff of a working steam engine, seeing the smoke and cinders flying from the smokestack, and hearing the shrill whistles of impressive steamers as they signal noontime to the crowds. Whether it is a traction engine, a locomotive, a sawmill engine, or an industrial engine, a steam engine in action is as exhilarating today as it was to the farmer or engineer in the nineteenth and early twentieth centuries.

Northern Kentucky and Cincinnati were prominent participants in the steam era. The convenience of shipping locally produced equipment and material down the Ohio and Mississippi Rivers directly contributed not only to the prosperity of Cincinnati and its environs but also to the growth of many small towns that became major agricultural and industrial cities. Cincinnati and Northern Kentucky were peppered with dozens of small machine shops making everything from a specific part to an entire engine. Only a few lasted any length of time, but the handful that survived into the late nineteenth and early twentieth centuries became important firms that made an indelible mark on the growth of the nation’s agricultural and manufacturing industries. It is for steam-powered firefighting equipment that Alexander Bonner Latta is best known, but he was a man with an inquisitive spirit and remained actively involved in experimenting with diverse ideas even after retiring from his prosperous firm in Cincinnati. Sometime before selling his fire equipment business to Lane and Bodley, a Cincinnati industrial



Courtesy Don Prout, cincinnativiews.net

Alexander B. Latta is given credit for the first workable steam fire engine produced in 1853 for the city of Cincinnati.

steam engine manufacturing company, he had moved his family across the river to the area now known as Ludlow, Kentucky. He built a large home on Latta Avenue, the street now named in his honor.¹

When Ludlow received its charter from Frankfort in 1864, Latta was named one of the commissioners selected to conduct an election of officers with a six-member council eventually chosen. Latta was elected the first president of the Ludlow City Council, serving in that position for one year. According to John M. Hunnicut in his history of Ludlow, Latta was a popular figure in the community and was nominated by both the Regulars and the Independents, the two political and frequently feuding parties in the nascent town.²

Two issues immediately confronted the new council: regular transportation across the Ohio River and a locally run school for the growing number of children. A long-standing problem was dependable ferry service between Cincinnati and the northern Kentucky area. The Ludlow ferry, owned and operated by Captain William McCoy and his sons—and popularly known as the Fifth Street Ferry because its Ohio landing was at the foot of Fifth Street in Cincinnati—had no regular schedule. Ohio ferry service was more expensive. Latta, along with several other council members, formed a committee to resolve the ferry problem. Eventually a property tax of forty cents per hundred-dollar valuation and a one-dollar poll tax was levied to purchase and run the ferry. Townspeople disagreed over the property tax, and the problem was never solved until the railroad came to Covington and Northern Kentucky.³

Before the charter of Ludlow in 1864, the local school was controlled and run by the state. As the population grew, state oversight proved cumbersome. With the issuing of the charter, the state notified Ludlow that the state would no longer maintain the school. Thereafter, the town assumed responsibility for the school, and the town paid the teacher. Considering that many of the townspeople were still concerned about the Civil War until Lee’s surrender in 1865, Latta and his fellow Ludlow council members had the town surveyed and divided into three wards, passed an ordinance against vice and immorality, and established a relief fund for the poor.⁴

Latta’s lasting fame rests on his steam fire engine. The need for better fire protection, improvements in steam engineering, and the right friends and contacts all came together with Latta in the right place at the right time to reap the benefits. His beginnings were modest. He was born July 11, 1821, in Ross County, Ohio, to a farming family that moved to Cincinnati in 1827 after the death of his father in an accident. Latta was only 5 when his father died, forcing him to grow up quickly. He left school at an early age to help support his mother and brothers and found work with the David Bradford Woolen Mills, William Bylad (a ship joiner), and Samuel Cummings’ brass foundry.⁵

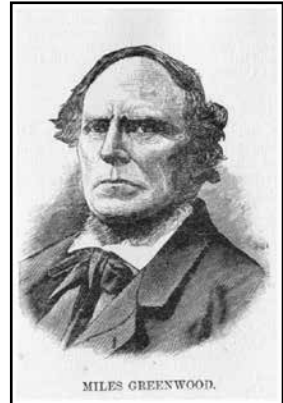
In 1841, Latta went to Washington, D. C., on business. There he met Anthony Harkness, owner of a foundry and machine shop in Cincinnati. Apparently, Latta made such an impression on Harkness that Harkness offered him the job of superintendent of his foundry. In those early years, Latta held a patent for a machine that would bend the stirrups for steamboat paddlewheels (Patent 3,022 in 1843)⁶ and designed a huge lathe and planing machine for Harkness. George Escol Sellers, who knew Latta personally, believed the planing machine was “a masterpiece of mechanism.”⁷ By the time Harkness turned his attention to locomotive building in 1845, his shop was building steam engines and boilers for the steamboat industry.⁸ Latta appeared to be the natural choice to design and build the locomotives. It is here that Latta stumbled. Latta designed and built only two engines for the Harkness foundry; both were unsuccessful in performance. Additionally, each engine took longer than expected to construct and

was more costly to produce than could be recouped in its sale. Latta was removed from his position of locomotive designer and, dissatisfied with the offer of another position, left the Harkness foundry. Harkness expanded the business, and, over the next twenty years, the company produced thirty locomotive engines. In 1848, Harkness brought his son William into the business and gradually turned the management of the foundry over to his son. In 1852, Robert Moore, a longtime employee of the firm, became a partner. John G. Richardson, a foreman with the Harkness foundry from the beginning of the locomotive ventures, joined Moore in 1853, leased the Harkness foundry buildings, and formed the Cincinnati Locomotive Works, usually referred to as Moore and Richardson. Harkness was now financially secure and pursuing other interests. By 1853, his son was no longer involved in the company and, according to the *Cincinnati Enquirer* of November 23, 1853, tragically committed suicide in the family home in Glendale, Ohio.⁹

Cincinnati Locomotive Works under Moore and Richardson prospered until adversely affected by several bad investments, the Civil War, and the inability of southern customers to obtain credit for new equipment. Moore and Richardson did not have the capacity to manufacture the larger locomotives then in demand, and, in 1868, they declared bankruptcy. John H. White, Jr., stated that “the closing of the Cincinnati Locomotive Works marked the end of the locomotive-building industry in that city.”¹⁰

Latta did not give up entirely his interest in building a locomotive. He held several patents for improvements including an automatic lubricator for axles and an improved wheel for steam carriages, as well as a metallic chimney to replace the glass chimney in oil lamps.¹¹ In 1856, he designed a coal-burning locomotive that proved to be a total failure. Undeterred, he issued a catalog in 1857 listing improvements, but there is no evidence that a machine was ever produced.¹² He made one last try—building a small steam locomotive, called a dummy, to be used on the new Cincinnati street railway. It was a mechanical success, but the *Cincinnati Gazette* of March 28, 1860, wrote that it frightened the horses so badly that it was deemed unsatisfactory for public use.¹³ Earlier, the *Cincinnati Commercial* of March 2, 1860, had given the little engine a glowing review describing its features, in particular the directing of the exhaust steam into vertical waters tanks so that the familiar “choo, choo” was silenced. Another review a few days later stated that the engine passed every test and that not a single horse was frightened; nevertheless, as White concludes, not the Latta brothers nor anyone else ever produced a steam locomotive suitable for street use.¹⁴

The threat of fire in Cincinnati was very real, and a number of prominent businesses went up in flames putting on what must have been a spectacular show. *History of the Cincinnati Fire Department* offers an excellent account of these fires.¹⁵ The need for fire protection was becoming a major concern as Cincinnati grew. Independent fire companies, using bucket brigades, were inadequate. Fiercely protective of their own territories, these companies often fought with each other while the structure they were meant to protect burned down. A central organization was called for. Several prominent Cincinnatians, led by Miles Greenwood, initiated a reform of the independent companies into a single fire department with *paid* fire-



This portrait of Miles Greenwood appeared in Henry Howe's Historical Collections of Ohio. Greenwood had the foresight, the funds, and the friends to push Cincinnati into modernizing its fire system.

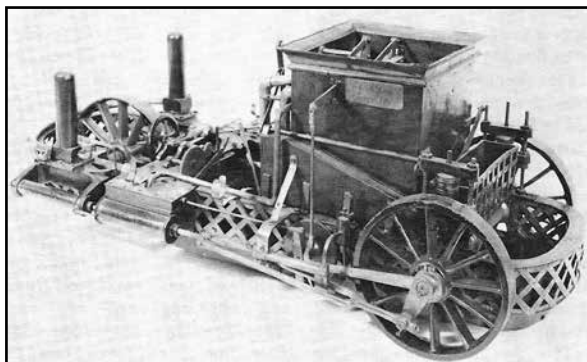
men, a new concept. Eventually an alarm system was instituted and a water supply of cisterns placed around the city.¹⁶ In 1852, Latta, with Greenwood’s encouragement, proposed a trial of his portable steam fire engine, pulled by four horses.

Latta’s claim to be the first man to build a successful steam fire engine has been repeated so often that it is taken as unquestioned fact. White has speculated that this idea might very well have been taken from Latta’s own statement in 1857 and repeated in 1860 in his pamphlet “The Origin and Introduction of Steam Fire Engines: Together With the Results of the Use of Them in Cincinnati, St. Louis, and Louisville for One Year”: namely, that he “was the only man that has built a successful machine [steam fire engine] in this country or anywhere else”¹⁷ The idea for a steam fire engine was not new. Earlier experimental machines were made as early as 1828 in England by John Braithwaite and John Ericsson and were used for a brief time in Europe. Another machine was produced in New York by Paul R. Hodge, but, unlike Braithwaite’s lightweight machine, it was heavy, clumsy, and ultimately unacceptable.¹⁸ Regardless of the truth of Latta’s claim, it can be said that he did produce a workable steam fire engine at the time Cincinnati and the town fathers were receptive to the idea.¹⁹

Before Latta became involved in the design of his first steam fire engine, Abel Shawk, a small manufacturer of door locks and a photographer²⁰ who was interested in steam engines, had purchased the patent rights to a steam generator designed by Joseph Buchanan of Lexington, Kentucky, and had added copper coils. Although there are some discrepancies, Sellers provided one of the best sources of information about Shawk in his “Early Engineering Reminiscences,” written when Sellers was in his eighties.²¹ Shawk joined Latta and his brothers in partnership sometime in 1852 to produce a test steam fire engine made up of the Buchanan boiler, a small steam engine from Latta’s shop to run the generator, and parts salvaged from an older attempt at a steam fire engine by D. L. Farnham. The Cincinnati City Council had set aside a thousand dollars for Latta and Shawk to build and test their steam fire engine, which was reported to have produced a steady stream of water within five minutes through 150 feet of hose, but the frame with its wooden wheels proved unable to carry the weight of the machine.²²

Buoyed by the success of the test run, Shawk proposed to the council that he could produce an efficient engine and guarantee its performance for the price of five thousand dollars. This proved to be completely unrealistic, and the eventual cost totaled ten thousand dollars and embroiled Latta and Shawk in a protracted legal struggle with the city for the full cost of the engine. The steam engine was named the *Uncle Joe Ross*, in honor of the city councilman who had championed the use of steam.²³

The most important requirement for a steam fire engine was for a boiler that could produce steam at a working pressure quickly. Once a large fire was well under way,



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it was impossible to stop, and the most that could be done was to try to keep it from spreading. Latta and Shawk chose to use the Buchanan boiler because it produced steam at working pressure in about five minutes by heating a small amount of water. Latta and Shawk modified the early Buchanan design by squaring the coil and placing it inside a rectangular iron box. The box had double-sided iron walls that formed a water leg. The Buchanan boiler was of the water-tube style and was dependent on a reliable pump to force water through the system at a precise rate. Boilers of this type can be called injection, continuous feed, or controlled circulation boilers.²⁴

Sellers in his “Reminiscences” believes that the partnership between Shawk and Latta was an uneasy one. Shawk wanted the simplest, most durable engine possible that incorporated a coil steam generator, steam cylinder, and pump and that was easy to handle and move rapidly. Latta believed that, because the machine was being built for Cincinnati, it was especially important that it be as perfect as possible; weight was of little consequence because he envisioned the engine as a traction engine that propelled itself. The self-propelling feature was eventually dropped; it took too long to get up steam on the way to the fire.²⁵

The *Uncle Joe Ross* was placed in service in 1852. The city was pleased with its performance and kept it in use until 1858.²⁶ In 1853, the fire engine named *Citizens’ Gift* was purchased with funds from citizens and insurance companies. By the end of the 1860s, the fire department had purchased a number of other steam fire engines, some built by Lane and Bodley, the Cincinnati firm that purchased production rights from Latta in 1863.

After the success of the *Uncle Joe Ross*, the former partners appeared to work separately. For some time, Latta had been working on his ideas for improvement of a tubular boiler using an open water box; he filed his ideas with the United States Patent Office in 1852 and received a patent in 1853. Earlier in 1853, Shawk received a patent for a similar tubular boiler but using a check valve water system. In 1854 or 1855, Shawk constructed an engine called *Young America*, exhibited it in the East, and eventually sold it in Philadelphia for over nine thousand dollars.

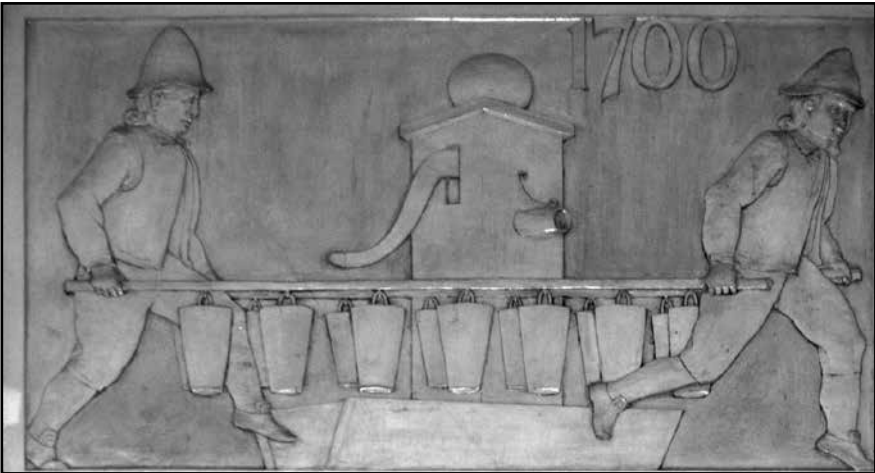
Latta sued Shawk for patent infringement, and Shawk countersued, alleging that Latta had abandoned his patent, that the patent contained no novel ideas, and that boilers similar to Latta’s had previously been used in a number of cities. At this point, legal technicalities intervened with the judge ruling that “special pleas” were not filed in a timely matter by Shawk and that Shawk did not provide the specifics required to prove that the ideas for the boiler were in use before any patent had been granted. In his instructions to the jury, the judge stated that Latta’s improvements on the older ideas were patentable and that the jury was to decide if Shawk’s boiler was substantially different from Latta’s boiler—that is, was the type of water vessel an essential or material element to the invention? The jury found that Shawk had infringed on Latta’s patent and awarded Latta damages of five dollars. Latta was represented by Alphonso Taft; Shawk was represented by C. D. Coffin.²⁷

Shawk was never able to sell any more fire engines after he sold *Young America*. He had exhausted the money from his former lock business and never recovered financially. Shawk was never given the public credit he deserved during the development of the first successful steam fire engine, and Latta was never known to have corrected accounts of their partnership in the birth of the steam fire engine.²⁸ Little more is known about Shawk.

Alexander Bonner Latta could look back on a successful career. In 1846, with his brothers Edmiston and Finley, he founded the Buckeye Works and made it financially rewarding. Sellers believed that Edmiston, in spite of a physical handicap, was a sound



These murals are from the former headquarters of the Cincinnati Fire Department located at the Cincinnati Water Works Eden Park pumping station.



Photos courtesy of Leland Hite

mechanic and may even have been the real brains of the company. Finley eventually became foreman of the city’s repair shop and was the engineer for the “Citizens’ Gift.”²⁹ Latta was the proud holder of a number of patents and was a faculty member of the Ohio Mechanics Institute, which had been founded by his friend Greenwood. Latta had gained a nationwide recognition for the first *workable* steam fire engine and put Cincinnati on the road to becoming the leading manufacturer of premier fire equipment.³⁰ He was one of the foremost participants in the industrial life of Cincinnati and an active participant in the early government of his community, Ludlow, Kentucky. His son Griffin Taylor Latta followed in his footsteps as an elected official and successful businessman in Ludlow. Alexander Latta was fortunate to be able to retire when he was still young. Unfortunately, he did not live to see Ludlow grow into a modern city; he died April 28, 1865, age 45, before he had finished his second year on the Ludlow City Council. He is buried in Spring Grove Cemetery. His last wish was to have a fire engine on top of his gravestone. This was soundly vetoed by the cemetery.³¹

Acknowledgments

The author wishes to thank Dr. Robert T. Rhode, professor of English, Northern Kentucky University, for suggesting that a history of A. B. Latta was a logical step for me to take after publication of my paper on Lane & Bodley and for his continuing support and help in the research; Thomas J. Jaffee, JD, CPA, for his interpretation and explanation of the lawsuit, Latta vs Shawk; Anne B. Shepherd, reference librarian, Cincinnati History Library and Archives, for her expert assistance; Anne Ryckbost, Library Specialist, Frank Steely Library, for assistance in locating material; Leland Hite for kindly helping to locate sources; and Don Prout for his kind permission to use his photographs.

Endnotes

1. Kenton County Historical Society, November–December 2007. It is thought Alexander Bonner Latta moved to Ludlow in 1849 and lived there until his death in 1865. After A. B. Latta's death, his son Griffin Taylor Latta had the old house torn down and built a large twelve-sided house at 254 Latta Avenue, which still stands. According to Mary Ann Kelly in her book *My Old Kentucky Home, Good Night*, on G. T.'s death in 1930, the estate was sold to Dr. and Mrs. Charles Stroup of another old Ludlow family. For many years, Mona Tritsch (the Stroups' daughter) and her family resided there. Mona Jo Williams, her daughter, lived in the house until 1978. Mona Jo was a professional ballet dancer and at one time conducted a dance school in the house. Robert Charles Tritsch, son of Mona, lived in Terrace Park, Ohio, as late as 1978. In an interview in 1968 with Sigmon Byrd in his article "Israel Ludlow's Little Town Still Has Charm," in the *Kentucky Post*, July 27, 1968, Mona Tritsch said she believed the house was built by G. T. Latta in 1903 at a cost of about forty-five thousand dollars and that Mary Latta, G. T.'s daughter, was married in the house. In 2005, the house was sold for two hundred fifty thousand dollars and is now a residence and music studio. (www.zillow.com/homedetails/254-Latta-St-Ludlow-KY-41016)

2. John M. Hunnicutt, *History of City of Ludlow*, Ludlow Volunteer Fire Department, (1935) 18-19.

3. Hunnicutt, 8-9, 14, 22.

4. Hunnicutt, 21-23, 60. Although A. B. Latta served on the city council only a year and half, his son Griffin Taylor Latta was on the council until 1893. G. T. headed the committee to get a bond issue passed to establish the Ludlow Water Works. In a special election on July 4, 1892, the issue passed, giving Ludlow the beginning of a regular water supply able to support the fire department. Latta served as the water works superintendent from 1894 to 1920. G. T. continued family involvement in his community, acting as an officer for forty years in the Kenton Building Association and the Ludlow Building Association. www.kenton.lib.ky.us/gen/Kenton/Ludlow/people.html. 11/21/2007.

5. www.kenton.lib.ky.us/gen/Kenton/Ludlow/people.html. 11/21/2007. See also Sue Latta Cox letter at archiver.rootsweb.ancestry.com/th/read/LATTA/2003-01/1042302340.

6. www.google.de/patents/US3022. The details, claims made in support of issuance, and drawings of this and other patents mentioned may be seen at www.google.de/patents/and the number of the patent.

7. John H. White, Jr., "Alexander Latta as a Locomotive Designer," *Cincinnati Historical Society Bulletin* 23 (April 1965) 128; George Escol Sellers. "Reminiscences," *American Machinist* vol. 12 (December 19, 1889) 2.

8. White, 11.

9. White, 11-43. Anthony Harkness died of cancer in 1858. From humble beginnings, he became a wealthy and respected businessman. He was one of the founders of Glendale, Ohio, still one of the premier residential communities northeast of Cincinnati.

10. White, 43-46, 143-144. Moore died in 1887, and White believes Richardson died in 1901 and is buried in Spring Grove Cemetery, Cincinnati, Ohio.

11. www.google.de/patents. US Patent 17,972, issued November, 1857; US Patent 15,297,

issued July 8, 1856; US Patent 39,154, issued July 7, 1863. Latta was also issued patents for a safety valve for steam engines (US Patent 14,963, issued 1856); an improvement in steam generators which divided the coils and shortened the time for the water to pass through the tubes and produce steam (US Patent 11,025, issued June 6, 1854); and a different way of attaching the valves which he claimed improved the independent motion of the valves within the cylinder (US Patent 10,119, issued October 11, 1853). It is doubtful many of his inventions were actually used. Around 1863, he also developed a method to aerate bread. He was a man of many interests. (Biography—Latta, Alexander Bonner #2, folder, “A Kentucky Inventor,” paper by John Burns for the Kenton County Historical Society, undated, Kenton County Library.)

12. White, 17-18.

13. White, 18-19

14. White, 128-130.

15. *History of the Cincinnati Fire Department*, Firemen’s Protective Association of the Cincinnati Fire Department (1895) 121-140.

16. *History of the Cincinnati Fire Department*, 3, 109, 112. Miles Greenwood became the first chief engineer of the Cincinnati Fire Department. Born in 1807 in New Jersey, he had moved to Cincinnati in 1817 and had established the Eagle Ironworks in 1832. He was one of the founders of the Ohio Mechanics Institute. He died in 1885 in Cincinnati.

17. White, “The Steam Fire Engine: A Reappraisal of a Cincinnati ‘First.’” *Cincinnati Historical Society Bulletin* 28 (Winter 1970) 317. Even Christopher Ahrens, successor to Latta steam engine patents, felt it was worthwhile to use this “first” steam fire engine tag line in the catalogs of his fire engine company long after steam had been replaced by gasoline and diesel.

18. White, 318.

19. White, 319.

20. Mary Sayre Haverstock, Jeannette M. Vance, Brian L. Meggitt, eds., *Artists in Ohio, a Biographical Dictionary*. (Kent, Ohio: Kent State UP, 2000) 780. An Abel Shawk is listed in 1845 in Hamilton, Ohio, as a portrait and view photographer whose daguerreotypes had been shown in an Ohio Mechanics Institute fair. Sometime between 1840 and 1849, Shawk married Phoebe Ann Marsh of Hamilton, Ohio. Sellers mentioned in his *Reminiscences* that Shawk’s daughter, Caroline Shawk Brooks, became a professional sculptress. See www.hcgsdata.org/brides/Marh-Maz.shtml. Charles Crist, in his book, *The Cincinnati Miscellany, Or Antiquities of the West and Pioneer History*, published in 1846, also writes that Shawk was known for his daguerreotypes.

21. Sellers, “Early Engineering Reminiscences,” *American Machinist* vol. 12 (December 19, 1889) and vol. 13 (January 2, 9, 23, 1890) Cincinnati Historical Society MSS VF 728. Sellers was a respected engineer who moved to Cincinnati from the east in 1841. He knew personally Latta, Shawk, Greenwood, and many other of the leading local industrialists. Sellers long promoted his own idea of a center rail system between the two main rails of track with additional wheels added to the locomotive to boost the ability of locomotives to handle steep grades. He was ultimately unsuccessful and was forced to close his shop. White provides an excellent description of Sellers’ dream and his ordeal to get his idea accepted in Chapter 3 of White’s book *Cincinnati Locomotive Builders* (Cincinnati Museum Center, 2004).

22. White, 325-326.

23. White cites an interesting conflict of opinion regarding the naming of the *Uncle Joe Ross*. Joe Ross was a Cincinnati city councilman with a keen eye on budget reform who often produced the only negative vote in meetings by thundering “I object” and thus became commonly known as the “Great Obstructionist.” White in his article on the “first” steam engine points out that, while some remember Ross as supporting the need for more modern fire equipment, some do not—in particular Sellers, who lived in Cincinnati during the birth of the steam fire engine. His recollections, corroborated by several elderly men still alive at the time Sellers published his reminiscences (1884–85) and directly involved in the negotiations for the fire engine, contradict the city council minutes, which generally favor the project. Regardless of who did or did not advocate for a more modern steam fire engine, White believes Cincinnati can claim to be the first major municipality to replace hand pumpers with steam engines.

24. White, personal correspondence with the author of this paper (June 11, 2007; July 31, 2007).

25. Sellers.

26. *History of the Cincinnati Fire Department*, 120.

27. Samuel S. Fisher, *Reports of Cases Arising Upon Letters Patent for Inventions Determined in the Circuit Courts of the United States*. 2nd ed., vol. 1. (1870) Cincinnati: Robert Clark & Co. The author of this paper is indebted to Mr. Thomas J. Jaffe, JD, CPA, for his review and interpretation of Case No. 8,116, Latta vs. Shawk, filed March 1859 in Circuit Court of the Southern District of Ohio. The complete text may also be seen at law.resource.org/pub/reporter/Hein/0014.f.cas/0014.f.cas.1188.2.html.

28. Sellers.

29. Sellers.

30. Latta sold the rights to his patents to Lane and Bodley, who in turn, sold them to their foreman, Christopher Ahrens. Ahrens and his company brought world-wide recognition to Cincinnati, manufacturing new and improved fire equipment well into the twentieth century.

31. Alvin F. Harlow, *The Serene Cincinnatians* (New York: E. P. Dutton and Co., 1950) 73.