THE HENRYS AND ARMS MANUFACTURING

By Robert A. Sadler

Ron Gabel has documented the Henry family well, detailing their role in commerce, governance and in numerous industrial revolution arenas. The family had great influence throughout the nation.

Their involvement in arms manufacturing is rather difficult to trace with so many family members involved and often several at the same time. Works by Dillin, Reilly, Moller and the new book by Peter Schmidt all helped in the organization of this material. The microfilm of the material at the Hagley Museum Library that we have at the Long Rifle Museum in Boulton and in addition *Henry of Boulton* by the Jacobsburg Historical Society was also an excellent reference. Ed and Helen Flanagan visited and shared some of their early Henry arms. But nothing helped more than working with the Jacobsburg group who has a breadth of knowledge and a profound love for the Henrys and their contributions. And finally, thanks to Tim Lubenesky (an arms curator at Jacobsburg) who provided three Kentucky-style rifles for further education for all.

This material is intended to paint the history of Henry arms making with a broad brush and by no means to be a definitive work on all of their arms making endeavors. It certainly appears that Henry was one of the major arms contractors for the U.S. government, at least until the period of production of the 1816 musket. The breadth of their efforts include Revolutionary War involvement, U.S. government contracts, U.S. Naval contracts, arms for the Indian trade, fur trade, the Civil War, foreign arms sales, privateer arms sales and general public arms sales as well as manufacturing parts for all of the above.

The Henry family was of Scottish descent and moved to Chester County, Pennsylvania via New Castle, Delaware.[1] William Henry I was born in 1729 and appears to be the first Henry to enter the arms business. At the age of 15, he was an apprentice to Matthew Roesser, a master gunsmith in Lancaster County. William I, a partner with Joseph Simon, opened a business in the sale and production of arms and hardware in Lancaster, Pennsylvania.[2] While Ron detailed many of William I accomplishments, he was also the armorer for two expeditions on Fort Duquesne, later called Fort Pitt. He served as Assistant Commissary General for the Continental Army and as Superintendent of Arms and Accoutrements under resolution of the Board of War.[3]

Although William Henry I was in the gunmaking business for over thirty years, there are few arms that can be attributed to him. It is known, for example, that William Henry I fabricated arms for the Committee of Safety of Pennsylvania under a contract with the Continental Congress in 1776.[4] There is one smooth bore musket of the Brown Bess style signed "Wm. Henry" on the lock in the Lancaster County Historical Society. I was fortunate to find and finally acquire this fine flint lock and Kentucky style rifle from the early Henry period (Figure 1).

It is .64 caliber, with a 50 1/2 inch octagon barrel with a four piece brass patch box and brass fittings. The lock is unsigned, and the barrel is signed "W. Henry Lancaster" (Figure 2).

William I and Ann Henry had 13 children, all born in Lancaster. Of the seven that survived, two sons followed in the gunmaking trade. William II and Abraham were both apprentices.

In 1770, William II was an apprentice to Andreas Albrecht of Lititz, Lancaster County. Albrecht was once the Master at Christian Springs.[5] In 1776, William II went to the Moravian gunsmithing school at Christian Springs near

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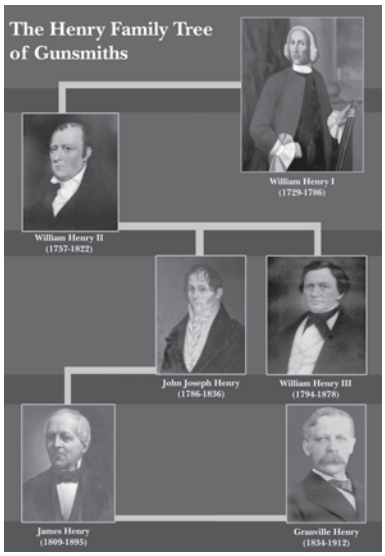

Figure 1. Henry Gunsmith Family Tree. Courtesy JHS Museum.

ident. William Henry named his youngest son (also a painter) Benjamin West Henry.

In 1755 William Henry I started his military career, serving as Captain and Armorer for the ill-fated provincial forces attached to the General Braddock Expedition against Fort Duquesne at Pittsburgh. It was around this time that William met George Washington for the first time.

Henry family documents tell of an interesting incident that occurred during the French and Indian War. At Braddock's defeat in July of 1755, Captain Henry was at the head of his troop. He saw a party of British soldiers force a young Indian brave to the ground and cruelly mistreat him in preparation for death. The Indian, when faced with imminent death, gave the Masonic distress sign which Henry recognized. He rushed forward, and by extraordinary efforts rescued the Indian from British bayonets. Names were exchanged in recognition. The Indian gave Henry what to him was the supreme gift of friendship, his name. He in turn took Henry's name, pledging that the first-born son of every generation of his descendents would also bear the name of Henry. The Killbuck Indian family has had loyal ties to the Henry family ever since, to this day giving the middle name Henry to all their first-born male offspring. Although this is one of those "passed down" family stories that you never know whether you should believe, the late John Henry Killbuck, a Moravian missionary to the Indians, carried the Henry name as did his first-born son.

The Killbuck family reunion was held at the Henry home in Boulton, PA in the late 1800s at which time the Killbuck family presented Henry with an authentic Indian pipe tomahawk.

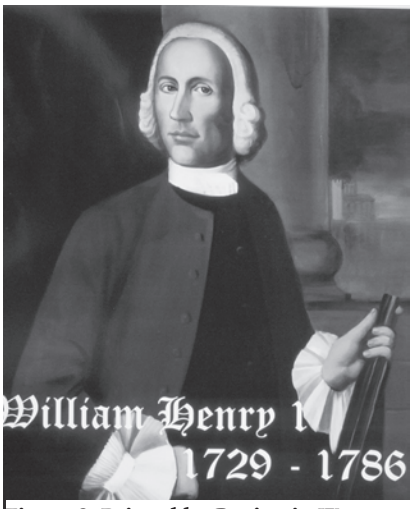

Figure 2. Painted by Benjamin West. Courtesy JHS Museum.

This tomahawk is on display today at the Pennsylvania Long Rifle Museum in Boulton, PA.

In 1758, William was again engaged to serve as Armorer, this time for the British General Forbes, whose expedition successfully captured Fort Duquesne, renaming it Fort Pitt. In this campaign Henry advanced to the rank of Major.

Figure 3. "Death of Socrates" by Benjamin West. Copy JJ Historical Society.

William held a commission as Justice of the Peace from 1758 to 1777.

In 1760 William Henry I sailed to England on business where he met James Watt.

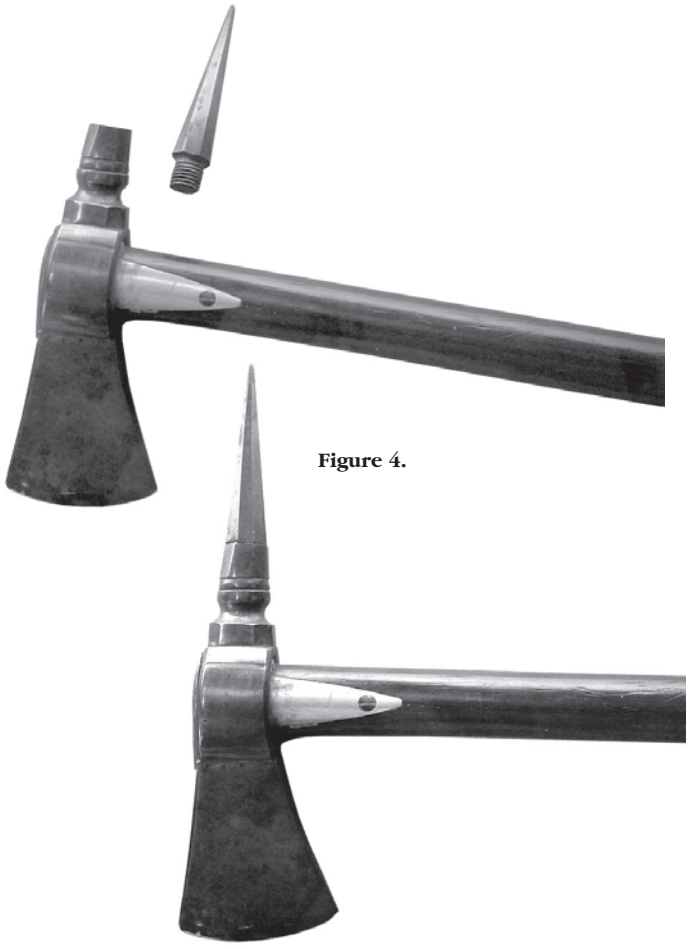

Figure 4.

Watt had been granted a patent by Parliament in 1755 preventing anyone else from making a steam engine such as the one he had developed. James Watt and Matthew Boulton, a successful businessman from Birmingham, started a business in 1773 and for the next eleven years successfully produced and sold Watt's steam engines. Henry became friends with Watt, and later Matthew Boulton, and studied Watt's steam engine in operation.

Henry conceived the idea of applying steam power to boats on our inland rivers from this association. According to the book "*Robert Fulton"* by Dr. Robert H. Thurston, late professor of engineering, Cornell University:

> "To Henry belongs the honor of conceiving the idea of utilizing steam as a motive power for marine navigation, and of building the first steamboat built in the United States."

In 1763 Henry attempted to operate his own model stern-wheel steamboat on Lancaster's Conestoga Creek. Although the experiment failed, it was the first of its kind in the colonies. The idea for this model steamboat was conceived at least five years before Robert Fulton was born.

John Fitch (1743–1798) was a clockmaker, skilled mechanic, engine builder, gunsmith for the Committee of Safety of the province of New Jersey during the revolution, and builder of the first successful full-size steamboat. He visited William Henry's home in Lancaster and was dismayed to learn Henry had long anticipated his own speculations for a steam-propelled vessel. But Henry, who had not yet submitted his drawings to the American Philosophical Society, was generous:

> "Although I am many years before you in the scheme, yet as long as I have not brought it to the public view. . . . I will lay no claim to it".

Fitch later confessed that:

> "It chagrined me considerably to find that I could think of nothing but someone would be before me in the thought".

The era of the steamboat in America began, nevertheless, when John Fitch made the first successful trial of his full-sized twelve-paddle steamboat on the Delaware River, on August 22, 1787.

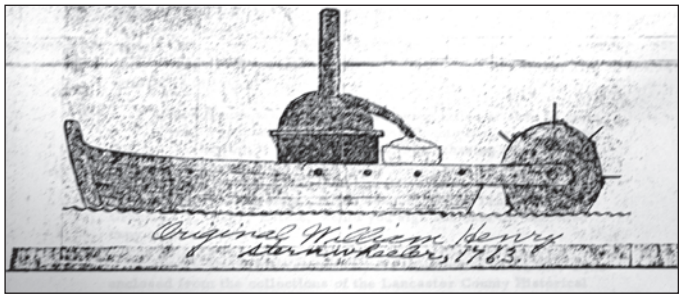

Figure 5. Drawing of William Henry's 1763 model sternwheeler steamboat. Lancaster Historical Society.

John Fitch was granted a United States patent for the steamboat, and although his boats were mechanically successful, he was unable to justify the economic benefits of steam navigation.

Robert Fulton (1765–1815) was born south of Lancaster, in what is now Fulton Township in Lancaster County, Pennsylvania.

As a boy, Fulton's home was across the street from William Henry I's shop where his father operated a small tailor business. As early as the age of twelve, newspapers indicate, Fulton was a frequent visitor at the Henry home. A recent book on Fulton notes that he was a gunsmith early in his life, presumably having apprenticed at the Henry shop. Fulton, who is often credited with inventing the steamboat, was actually the man who put the design into practice. Fulton was undoubtedly influenced by Henry's earlier work on the steamboat prior to leaving Lancaster for Philadelphia at the age of seventeen. Fulton dreamed of becoming a painter as a young man and went to England to study under Benjamin West. Eventually the former painter, following his earlier interest in steam navigation, had a small steam engine shipped from England and constructed a hull similar to that of existing fast ocean ships.

Fulton's first boat, *Clermont*, was tested in 1807 on the Hudson River. On August 17, 1807, Fulton's steamboat, Clermont, left New York for Albany, thus inaugurating the first successful commercial steamboat service in the world. It was Fulton who later became known as the "Father of Steam Navigation."

William Henry I was a charter member of the Juliana Library of Lancaster, founded in 1759, one of the first circulating libraries in the country. Henry was its librarian for a time. From 1766 to 1776 this library was housed in a second floor room of William Henry's home on the square.

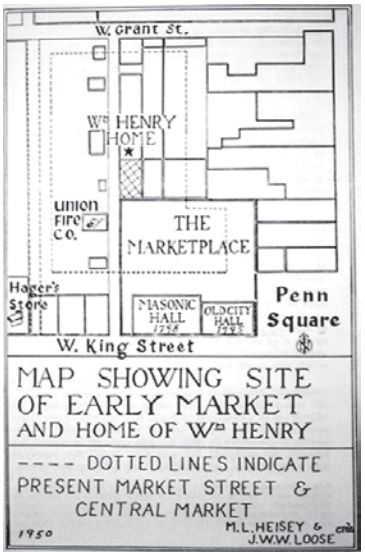

Figure 6. Lancaster Historical Society.

William I changed his religion from Presbyterian to the Moravian Church in 1765, thus setting the stage for the family's later involvement with the Moravians and eventual move to Nazareth, Pennsylvania.

In addition to his other activities, William I served as Assistant Burgess, or Mayor, of Lancaster, Pennsylvania for ten years, from 1765 to 1775.

In 1767 Henry became a member of the

Figure 7. Wm Henry's shop as it appeared in 1888. Lancaster County Historical Society.

American Philosophical Society, which was founded by Benjamin Franklin. Ben Franklin's signature is attached to Henry's certificate of membership.

Entrepreneur inventor that he was, Henry created labor-saving devices for his Revolutionary War factory: a screw auger (for which he held the English patent) and a steam-heating system which used heated air to open and close a flue-damper on his furnace. Henry reported on this to the American Philosophical Society.

Henry was appointed by the Pennsylvania Assembly as Canals Commissioner for Pennsylvania in 1771 and served as a member of the Committee of Safety for Lancaster County and the Supreme Executive Council for the Board of War.

> Sir:
>
> You are hereby authorized to impress all the blankets, shoes, stockings, and other articles of clothing that can be spared by the inhabitants of the county of Lancaster for the use of the Continental Army, paying for the same at reasonable rates or giving certificates. Given at camp at Pennypacker's Mill, this 27th day of Sept., 1777.
>
> Geo. Washington
>
> To William Henry, Esq,. Lancaster

Figure 8. Wm Henry's Revolutionary War Factory in Lancaster. Lancaster County Historical Society.

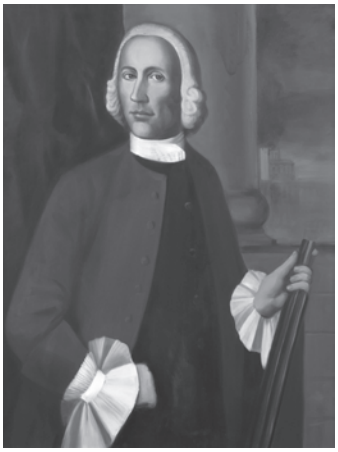

Figure 9.

Henry served as Superintendent of Arms and Accoutrements for the Continental Army, exercising great judgment and power in the direction of arms procurement and supplies for the army in all of eastern Pennsylvania. He established workshops in Philadelphia, Lancaster and Allentown and elsewhere in the state for the making of boots, shoes, hats, and accoutrements for the army.

William Henry I was a Justice of the Peace from 1770 to 1772 and Associate Justice of the Court of Common Pleas, Quarter Sessions and Orphan's Court in 1780. He was elected a member of the Pennsylvania Assembly in 1776, sat upon the bench as one of its judiciary, served nine years as treasurer of Lancaster county from 1777 through 1786, and finally served as a delegate to the Continental Congress in 1784 and 1785.

It is interesting to note that upon Henry's death in 1786 his wife Ann assumed his duties as treasurer of Lancaster county and was subsequently appointed to fulfill the remainder of his term. This is the first recorded instance of a woman holding such an office in the Annals of Pennsylvania.

William Henry I and his wife Ann had thirteen children, of which two, William II and Abraham, later became gunsmiths.

Another son of William I, John Joseph Henry I, although not a gunsmith, ran away from home in the winter of 1775 to accompany patriots in Arnold's attempt to capture Quebec.

John Joseph later wrote the only firsthand account of the expedition, which was published in book form in the United States and Canada. John Joseph was a member and volunteer officer of the First Pennsylvania Rifle Regiment and later became a judge of the Pennsylvania Superior Court in Dauphin county.

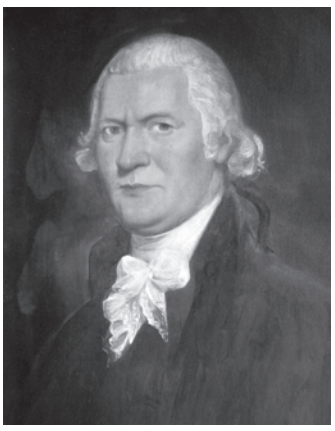

Figure 10. Picture of John Joseph Henry I. Painted by his brother Benjamin West Henry.

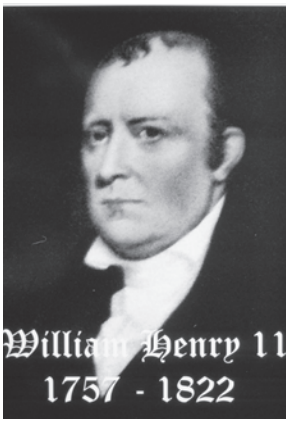

Figure 11. JHS

William Henry II, the eldest son of William I and Ann Henry, was born in Lancaster, Pennsylvania in 1757.

William Henry II apprenticed to the gunsmith Andrew Albright in Lititz, Pennsylvania from 1767 to 1776.

William II moved to Christian's Spring in 1776 where he worked as a journeyman gunsmith for Christian Oerter in the Moravian settlement near Nazareth, Pennsylvania.

In August of 1780 he set up his own gunsmith shop on South Main Street in Nazareth. William II also served as village architect and carpenter for Nazareth, established the community's first fire company, and acted as its first fire chief. He was commissioned in 1788 to serve as Justice of the Peace.

Abraham Henry, the second son of William Henry I, worked with his brother William II in Nazareth from 1781 to 1790, after which he returned to Lancaster where he died in 1811.

William II purchased 500 acres of land in nearby Jacobsburg along the Bushkill Creek and relocated his gun making operation there between 1792 and 1798. During this same period he played a key role in efforts to exploit the anthracite deposits of what is now Carbon county, starting the first anthracite coal mining company in Pennsylvania, the Lehigh Coal Company, in 1793.

William II was appointed Judge of Courts of Common Pleas and Quarter Sessions of Northampton County from 1793 to 1812 and in 1795 was appointed to the Commission which directed construction of the first bridge to span the Delaware River at Easton, Pennsylvania.

In 1808, to assure his supply of high grade iron, William Henry II erected the first iron forge in Northampton county for the manufacture of bar iron on the Bushkill Creek near Jacobsburg.

In 1812 William Henry II called on his son William III to help oversee the construction of the new Boulton Gun Works.

William Henry II had nine children of which two, John Joseph II and William III, were gunsmiths. William II died in 1822.

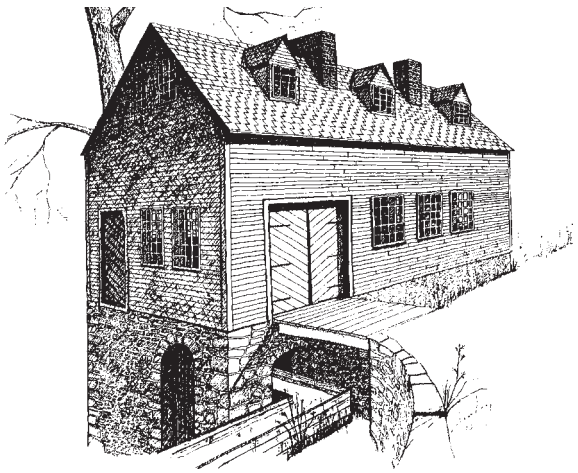

Figure 12. The Jacobsburg Gun Factory. JHS.

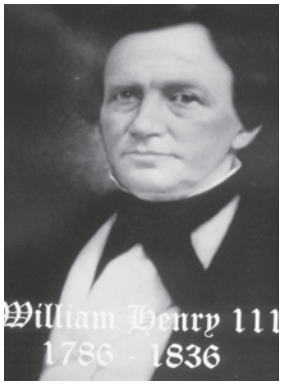

Figure 13.

Figure 14.

John Joseph Henry II was born in Nazareth in 1786 and was educated at nearby Nazareth Hall. He apprenticed his father in the gunmaking business and at the age of twenty-one was sent to Philadelphia to set up the family gun showroom at 3rd and Noble Street. In 1811 William Henry III was also sent to Philadelphia to set up a separate gun assembly shop.

This shop was known as "The American Rifle Manufactory" and employed a workforce of twenty-four workmen. John Joseph and his brother William III sold thousands of muskets and pistols from this location to John Bolivar, the brother of Simon Bolivar, liberator of South America.

William Henry's sons John Joseph II and William III assumed management of the Henry gunmaking operations, creating a new and larger gun factory at Boulton, PA in 1812. The Boulton location was named for Matthew Boulton, previously mentioned partner of the English inventor James Watt, who had become a friend of the Henry family as a result of William I's visit to England. The iron forge was turned over to Matthew Henry, son of William II (not a gunsmith) who erected the Catherine Furnace in Jacobsburg in the late 1830s.

Matthew Henry became a historian of Lehigh and Northampton counties, publishing a history of Lehigh county which still can be found on library shelves. He also wrote an unpublished history of Northampton county, which has been transcribed and is available in the archives of several libraries.

Figure 15. The Boulton Gun Factory. JHS -Prinkey.

William Henry III sold his interest in the Boulton Gun Works to his brother John Joseph in 1822 for $8,750.00. The remainder of William's career was spent as a prominent iron master.

In 1828 William III moved to Oxford, New Jersey, where he was Iron Master at Oxford Furnace. While at Oxford he developed a furnace blower using a hot blast system for ironmaking.

In the 1830s he hired Seldon Scranton as Superintendent of Oxford Furnace and in 1839 Seldon married William III's daughter Ellen. Seldon's younger brother Charles Scranton married William III's daughter Jane.

With the help of the Scranton brothers, William founded the Lackawanna Iron Company in Slocum's Hollow, thus becoming the founding father of the city of Scranton, Pennsylvania. William III was the first entrepreneur to explore the development potential of a railroad system in that region, establishing the Delaware and Lackawanna railroad in 1840 to provide service to his Lackawana Iron Works at Harrison, Pennsylvania, later renamed Scranton, PA. William Henry III died in 1878 in Wyoming, Pennsylvania.

In 1832 John Joseph Henry built a Philadelphia-style townhouse at Boulton for his wife, Rebecca. This mansion stands today and is known as the "J.J. Henry House." It is owned by the Jacobsburg Historical Society and is available for tours.

John Joseph died in 1836. His factory workers held him in such high regard that they insisted on carrying his casket on their shoulders over two miles to the Schoeneck Cemetery where he is buried.

James Henry, son of John Joseph II, was born in Philadelphia in 1809. James entered Nazareth Hall Academy at the age of twelve, and at the age of sixteen, entered the Moravian Theological Seminary. In 1829, he joined the faculty at Nazareth Hall. By 1831 James left the Nazareth Academy to join his father in the gunmaking business. Upon the death of John Joseph Henry II in 1836, James assumed control of the family gunmaking enterprise. It was during the tenure of James that the family's involvement with the fur trade reached its peak; however, the Boulton factory received its last order for trade guns in 1858.

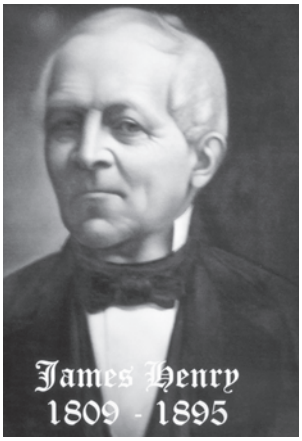

Figure 17.

James Henry traveled to Saxony as a representative of the church and published a history of Moravian missions in book form in 1859. He wrote countless articles on Moravian history for church newsletters.

James was a key figure in establishing Arbor Day as a tree-planting time in Pennsylvania. In the 1880s he introduced a bill through his legislator, asking the government to offer free seedlings to all the people who would plant them and help replenish Pennsylvania forests.

He wrote an article on forestry and preserved the forested area of his own land so that "Henry's Woods" can now be an important part of a state-owned 1200 acre Environmental Education Center. James Henry has been credited with being instrumental in encouraging state universities in Pennsylvania to establish forestry in university curriculums. James Henry served in the Union army as a Private. All four sons of James Henry worked at the family gun factory. His son Edward was unique, having served in both the Union Army and Navy during the Civil War. He was wounded at the Battle of Bull Run while in the army, hospitalized in Washington, D.C., returned home to recuperate, and then enlisted in the navy, serving on one of the iron boats under Admiral Farragut.

The Henry works continued to produce firearms under the direction of Granville Henry, son of James, who was born in Boulton in 1834. Granville was educated at Nazareth Hall and, in 1858, entered the gun business with his father. In 1859 Granville became a partner in the J. Henry & Son business. Granville enlisted in the Civil War, but shortly after became ill and was sent home.

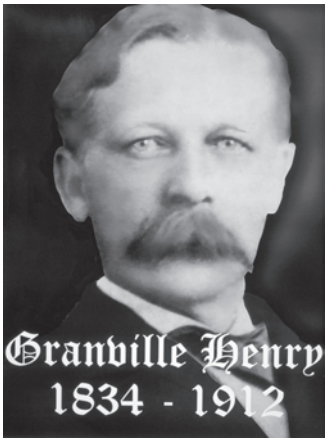

Figure 18.

Granville served as President of the board of the Nazareth Hall Military Academy. By 1895, the production of gun parts came to an end at the Henry factory. Granville became president of the Nazareth Hall Military


Figure 16. Original photo of the John Joseph Henry Mansion. Henry Paper.

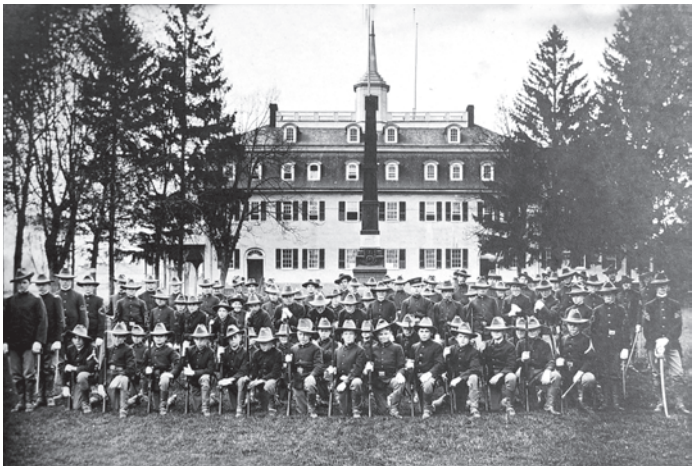

Figure 19. Nazareth Hall Military Academy. Moravian Historical Society.

Figure 20. The Gun Factory at Boulton. Henry Arebus.

Academy and established Camp Granville Henry in Henry's Woods for the students of Nazareth Hall.

Arms continued to be assembled at Boulton from parts in inventory until 1907. Granville died in Boulton in 1912.

The Henry gun works at Boulton produced a total of over 110,000 firearms, a staggering amount for the day. Those that remain are a true reflection of the dedication, spirit, hard work, and creativity of the Henry family and their contributions to a growing America. If I have accomplished my goal, I have stirred your interest in researching the backgrounds of our well known American gunsmithing families.

NOTES

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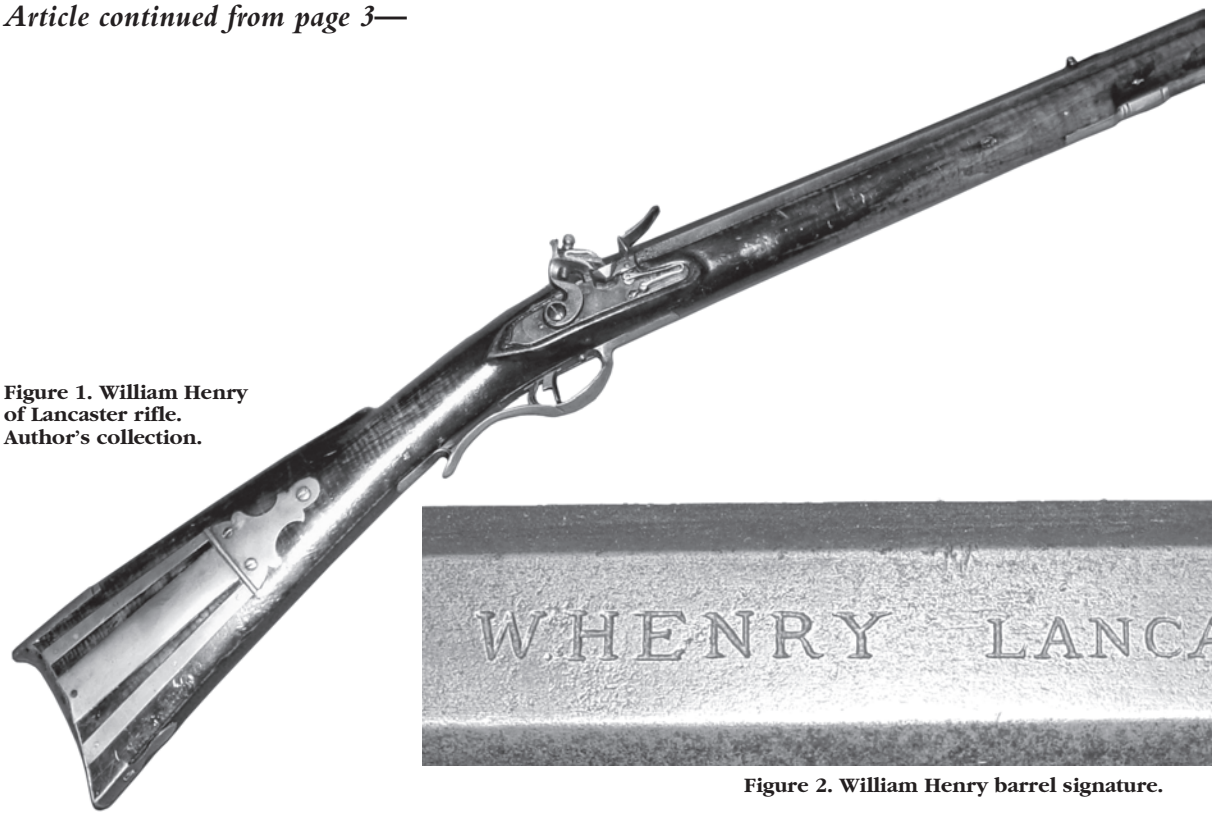


Figure 1. William Henry of Lancaster rifle. Author's collection.

Figure 2. William Henry barrel signature.

Nazareth, Pennsylvania for additional training under Christian Orter. There are records of William Henry Jr. (also called William Henry II) receiving payment in 1778 for arms repair work he performed for the continental government.[6]

In 1780 William II set up his gunmaking shop in Nazareth, Pennsylvania.

A pair of high quality brass-barreled pistols marked "WM. Henry JR" on the lockplates and "Nazareth" on the barrels were donated along with some original paintings to the Historical Society of Pennsylvania in Philadelphia. One last word, the pistols are no longer on display, some say they have been sold (Figure 3).

In 1781 Henry's brother Abraham came to apprentice under him. Abraham later returned to Lancaster and worked with John Graeff producing French patterned muskets made for Pennsylvania. The two secured a contract to make 2000 muskets, which they signed "Henry and Graeff" and others simply "Henry".[7] Abraham Henry later appears with the company of Abraham Henry, Jonathan Guest and Peter Brong of Lancaster when they contracted with Trench Coxe to fabricate 400 1807 U.S Contract Rifles.[8] The rifles were completed and signed by individual gunmakers (Guest, Brong and Henry). Abraham Henry was credited with 62 rifles.[9]

Figure 3. "WM Henry JR" of Nazareth pistols. Photograph from the Historical Society of Pennsylvania, Philadelphia.

A converted Abraham Henry rifle is at Jacobsburg Historical Society. The Barrel is signed "A. Henry" and the barrel is proofed with an eagle over a "P" in an oval. The barrel also has a crude "US".

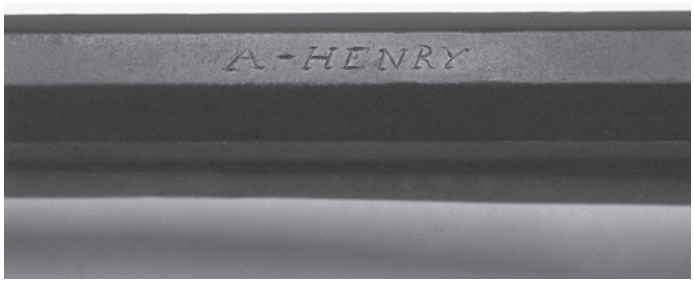


Figure 4. Abraham Henry barrel signature on an 1807 contract rifle. Courtesy of Jacobsburg Historical Society.

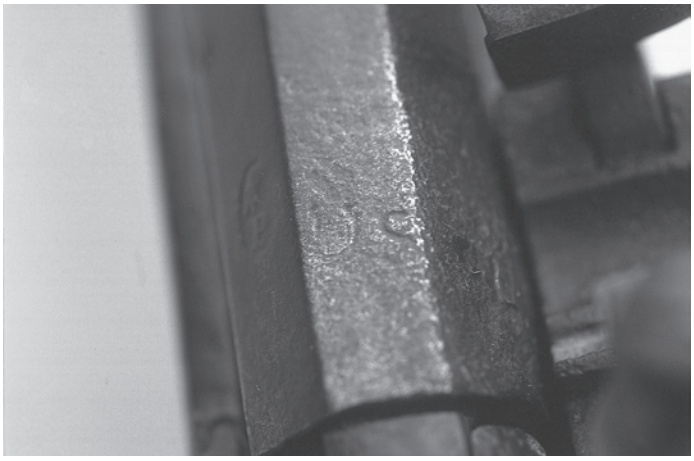


Figure 5. "U.S." on Abraham Henry musket.

William Henry II married Sabina Schropp in 1781. They had nine children and their three sons that reached adulthood worked at gunmaking for a time. John Joseph was the eldest son of William II. He trained under William II as did his brother William III.

Since the move to Nazareth, Henry found there were several problems that interfered with the gunmaking trade. Test firing guns made or repaired upset the town folk. The pacifist consciences of many Moravians were against any arms made for "war". The main issue was the lack of an abundant water supply. These issues led William Henry II to begin construction of a gun facility in 1790 on a tract of land along the Bushkill Creek in Jacobsburg.[10]

William II began moving his gun-making operation to Jacobsburg in 1792 and closed his Nazareth operation in 1798.

One of the first arms manufactured in Jacobsburg was the 1794 Contract musket. The Henrys made several hundred of these muskets as did several other contractors.

I know of only one 1794 Henry musket and it is in the collection of Ed and Helen Flanagan. The rare musket is .69 caliber with the lock signed "Henry" behind the cock and "U.S." under the pan (Figures 7, 8).

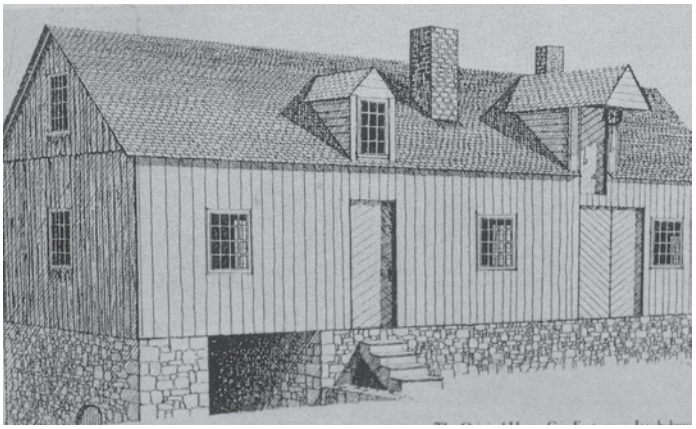


Figure 6. Drawing of Jacobsburg Gun Factory. Courtesy of the Jacobsburg Historical Society—drawing by David Prinkey, Jacobsburg Park Manager.

It was in Jacobsburg in 1798 that William II began the manufacture of 2000 muskets for the state of Pennsylvania. This was a result of the 1797 Act by the Commonwealth of Pennsylvania. According to a draft letter by William II, that contract was completed in 1803.[11] While William was completing the Pennsylvania contract he simultaneously fulfilled the contract for 500 1794 muskets for the United States.[12]

The 1797 musket had various signatures over the period of its manufacture. This particular musket has crossed axes over "CP" beneath the pan. The crossed axes are considered by many to be attributed to Lancaster. The barrel is stamped "CP" and the left stock flat is stamped "CP/V". Therefore, Pennsylvania gun makers suggest this musket was made by Abraham Henry. The lockplate also has "Henry" behind the cock. (See Figures 9 and 10.)

John Joseph Henry opened his own business, The American Rifle Manufactory, in Philadelphia, Pennsylvania in 1807. Numerous government contracts were gained for the production of pistols, muskets and rifles during the time the Henrys were in Philadelphia. Certainly the move to Philadelphia opened numerous opportunities for Henry with the Bureau of Ordinance Deputy Agent for the North and East Stationed in Philadelphia.[13] With the new manufacturing facility in Jacobsburg, there was sufficient manufacturing capability, but there were seldom sufficient skilled craftsmen.[14]

John Joseph Henry acquired contracts for the 1807 style pistol and the 1807 Contract Rifle, the Trench Coxe Indian Rifle circa 1807, the 1808 pistol, the 1808 musket, the 1812 Navy Contract for 110 pair of pistols, the 1813 Maryland contract and the subcontract for the repeating "Chambers" style pistol. The Chambers repeating pistol led to another contract

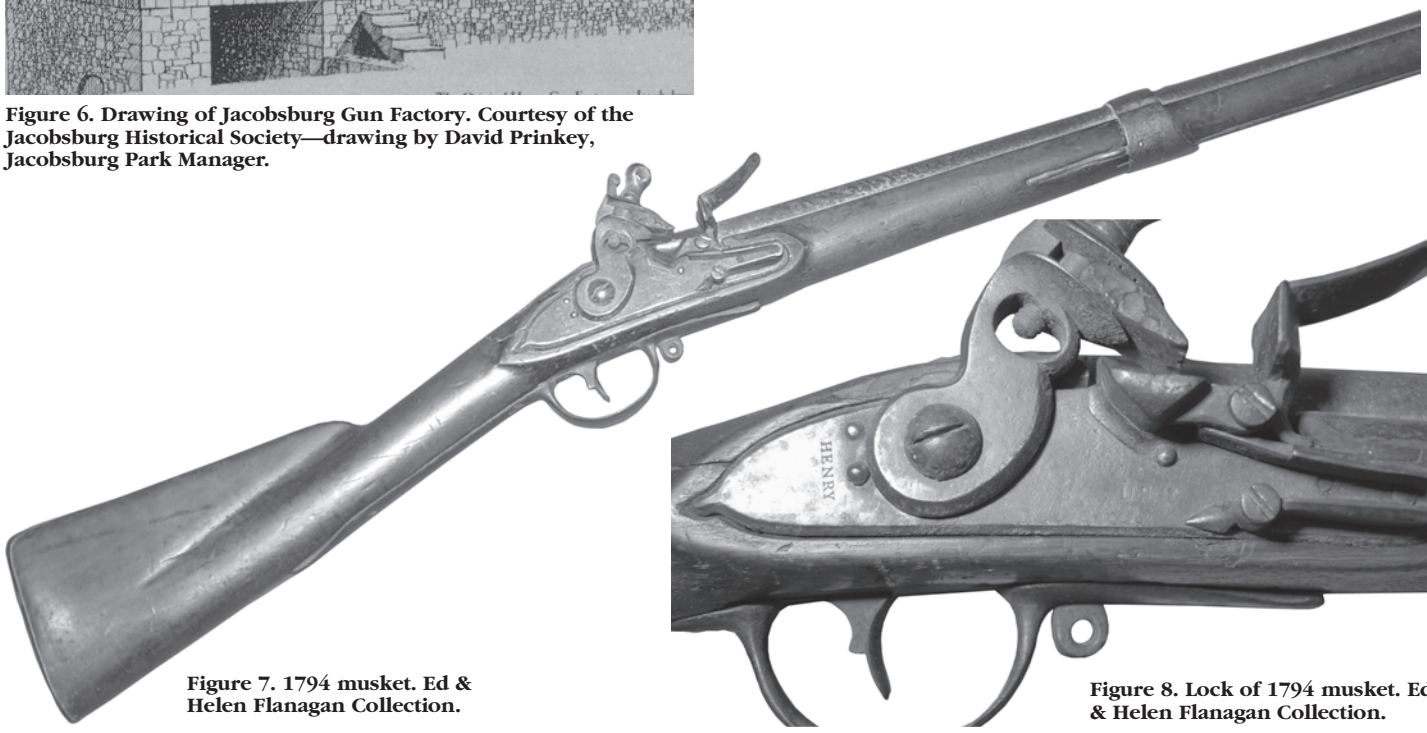


Figure 7. 1794 musket. Ed & Helen Flanagan Collection.

Figure 8. Lock of 1794 musket. Ed & Helen Flanagan Collection.

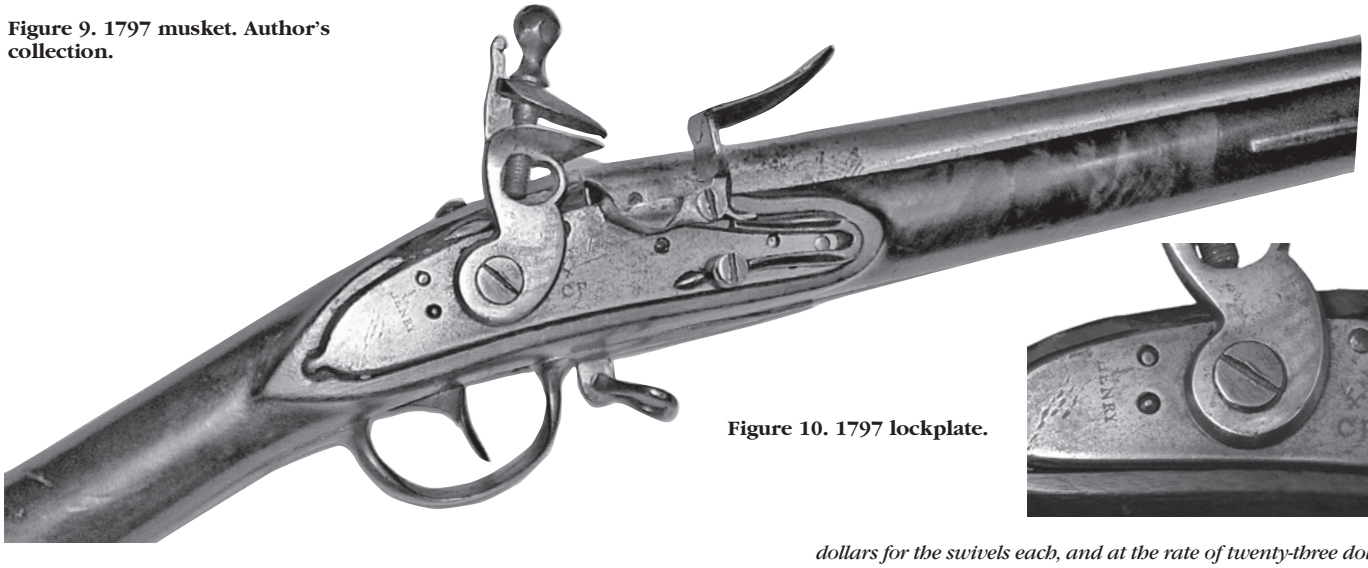


Figure 9. 1797 musket. Author's collection.

Figure 10. 1797 lockplate.

with the U.S. Navy for Henry and Tryon in 1814 for 20 Repeating Swivels and 200 repeating muskets.[15] This contract and many other cooperative efforts were made between the Henry and Tryon families since 1811, when the Tryon family got its start in the arms manufacturing business. The text of the contract in the Henry files as transcribed for Granville Henry by Henry J. Reusswig of Nazareth Hall Military Academy, in Nazareth, Pennsylvania on February 3, 1911 follows:[16]

Philadelphia, Pennsylvania

Be it remembered that on the Sixteenth day of February, A.D. 1814. It is agreed between George Harrison, Esquire, Navy Agent of the United States in behalf of the United States, and George Tryon and J. Joseph Henry of the city and county of Philadelphia in manner and form following, viz.: The said George W. Tryon and J. Joseph Henry do agree to make in a complete workmanlike manner twenty swivels according to the description mentioned in the annexed memorandum, furnished by Joseph G. Chambers, Esq., and also two hundred muskets of description as particularized in the aforesaid memorandum annexed, at the rate of one hundred dollars for the swivels each, and at the rate of twenty-three dollars for the muskets, when completed and finished as the aforesaid, and to fabricate and make the same of the best materials, and that same shall correspond with the pattern to be furnished and according to the instructions hereto annexed as aforesaid, and deliver the whole of the swivels and muskets within three months from the date of this agreement, and in case a part should be finished at intervals between the dates and time limited for their delivery as aforesaid, then to furnish the same.

And further they agree to use all due diligence to complete and deliver one half of the aforesaid muskets and swivels in sixty days after the date thereof.

In consideration whereof the said Harrison, Agent aforesaid, agrees to pay to the said George W. Tryon and J. Joseph Henry six thousand six hundred dollars upon the due performance and completion of the aforesaid contract according to the stipulations therein and in the annexed description contained.

In witness whereof we have hereunto set our hand and seal the date and year above written

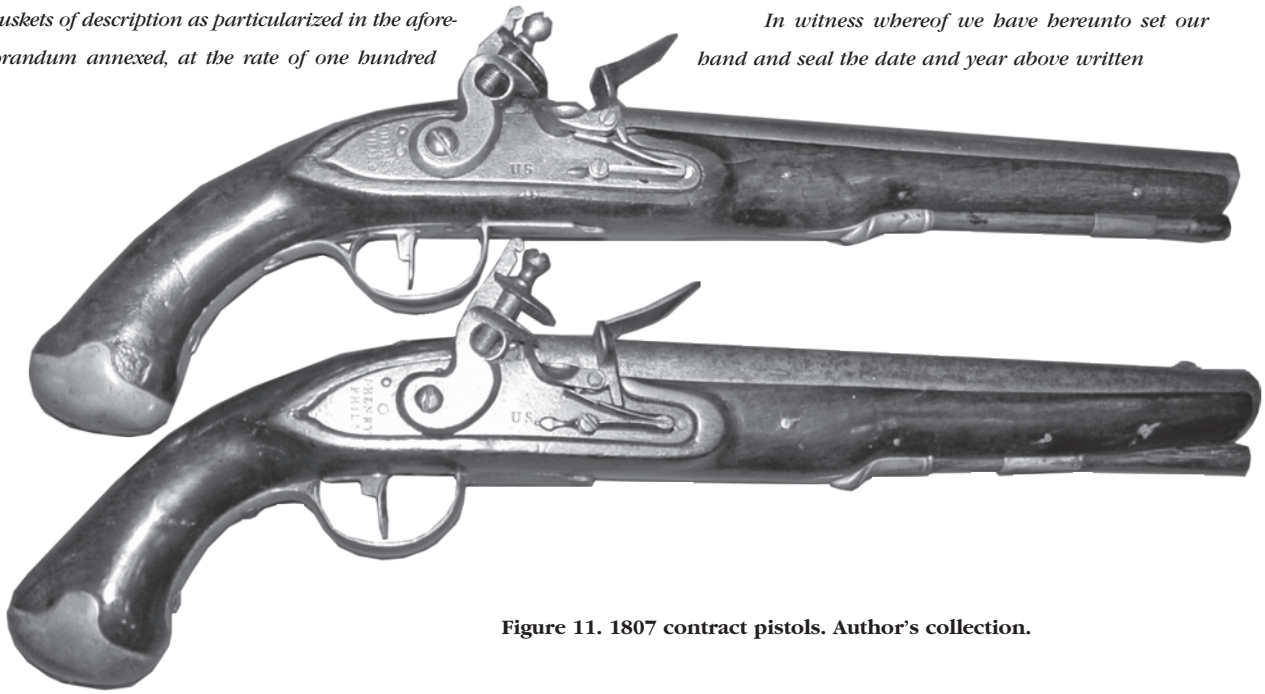


Figure 11. 1807 contract pistols. Author's collection.

The instructions referred to as the "attached memorandum of Joseph G. Chambers, Esq." are fabrication descriptions and are attached as Appendix A.

EARLY PISTOLS

There were numerous major pistol contracts and various pistols produced for U.S. government militias and private purchasers during the early 1800's. The two 1807 pistols shown are alike in many ways but have their differences as well (Figure 11).

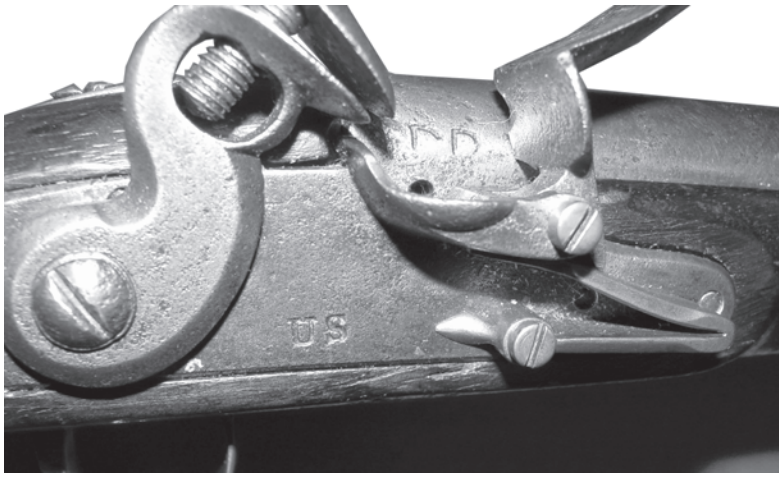


Figure 12. 1807 lockplate.

One has standard "US" under the pan with "J. Henry/ PHILa" behind the cock and standard proofing on the unsigned barrel. The other pistol is quite similar with the barrel maker's initials, "DP" for Daniel Pannabacker, above the touch hole. The barrel is signed "J. Henry Phila" (Figure 12).

Several other pistols of this era include a circa 1812 pistol with a bag grip and belt hook (Figure 13).

The pistol is stamped "I Henry" which ties it into the 1812–1815 period when John Joseph was the sole Henry in Philadelphia since William Henry III had returned to Boulton to begin construction of the gun factory there. Several muskets were marked with "I Henry" during this period.[17]

The Henry Chambers repeating pistol was produced around 1812 and it led to the previously mentioned contract between Tryon, Henry and the Navy (Figure 14).

A full shot of the pistol shows the wood replacement when the pistols were reconverted to single shot flint at the arsenal. It has a belt hook and a "P" in an oval for a barrel proof. The lockplate is signed "J.Henry".

Many Henry arms were sold to private trade and militias as almost all major arms manufacturers tended to do. A pistol with definite Henry characteristics came out of the Kindig collection. It is totally unmarked except for a "P" proof in an oval on the barrel. Some unmarked arms were

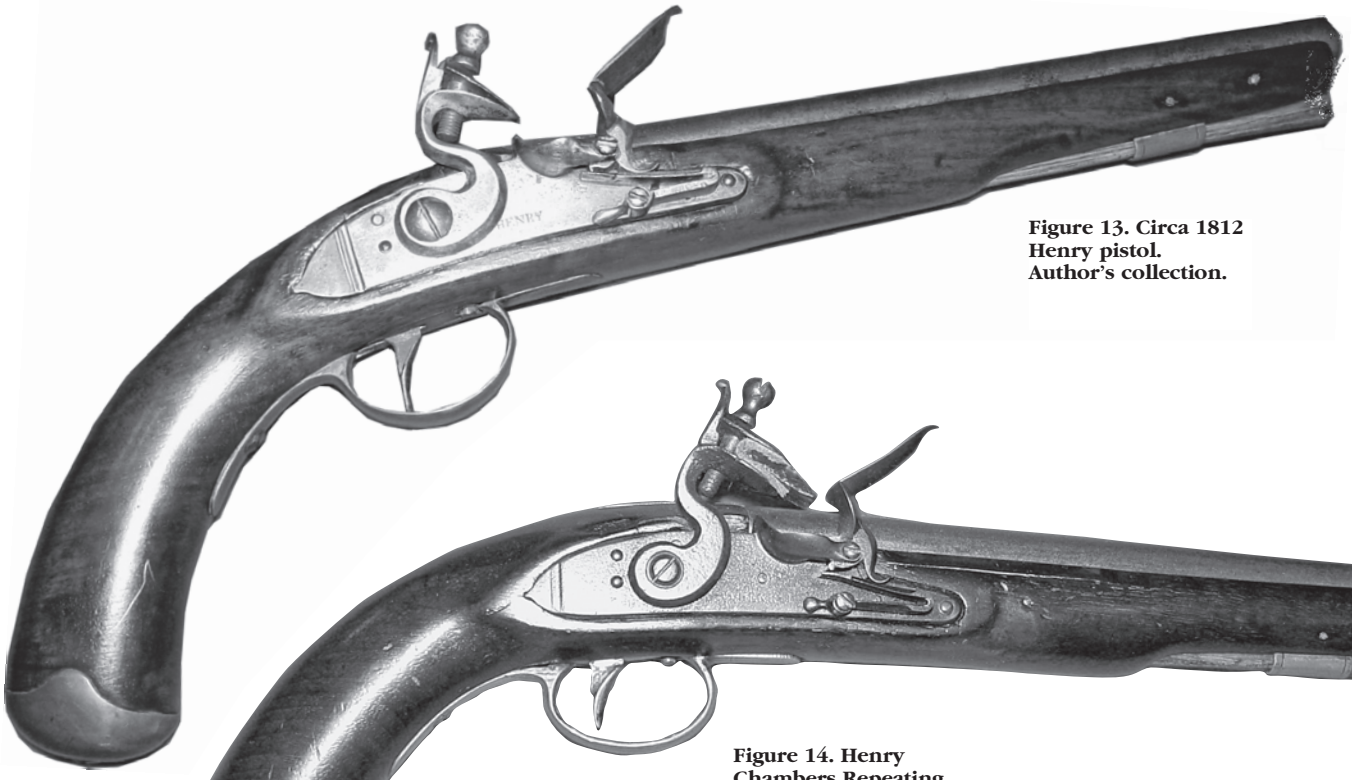


Figure 13. Circa 1812 Henry pistol. Author's collection.

Figure 14. Henry Chambers Repeating pistol. Author's collection.

for the privateer trades and others made for individual private trade. It was not unusual for them to be unsigned.

The unsigned pistol certainly conforms to the "Henry" style and it was cheaply made without a side plate or ram rod entry pipe (Figure 15).

The state of Maryland had several contracts with Henry and the pistol shown is typical of the Maryland pistols he delivered. The lock is marked "J.Henry/PHILa" and the barrel is proofed with a "P" in an oval and the block "M" (Figures 16–17).

Another Henry pistol of the era appeared to be an early piece manufactured for private trade. It was called a dueler when in the Locke collection. It is .62 caliber with a ten inch octagon barrel and may be an early piece judging

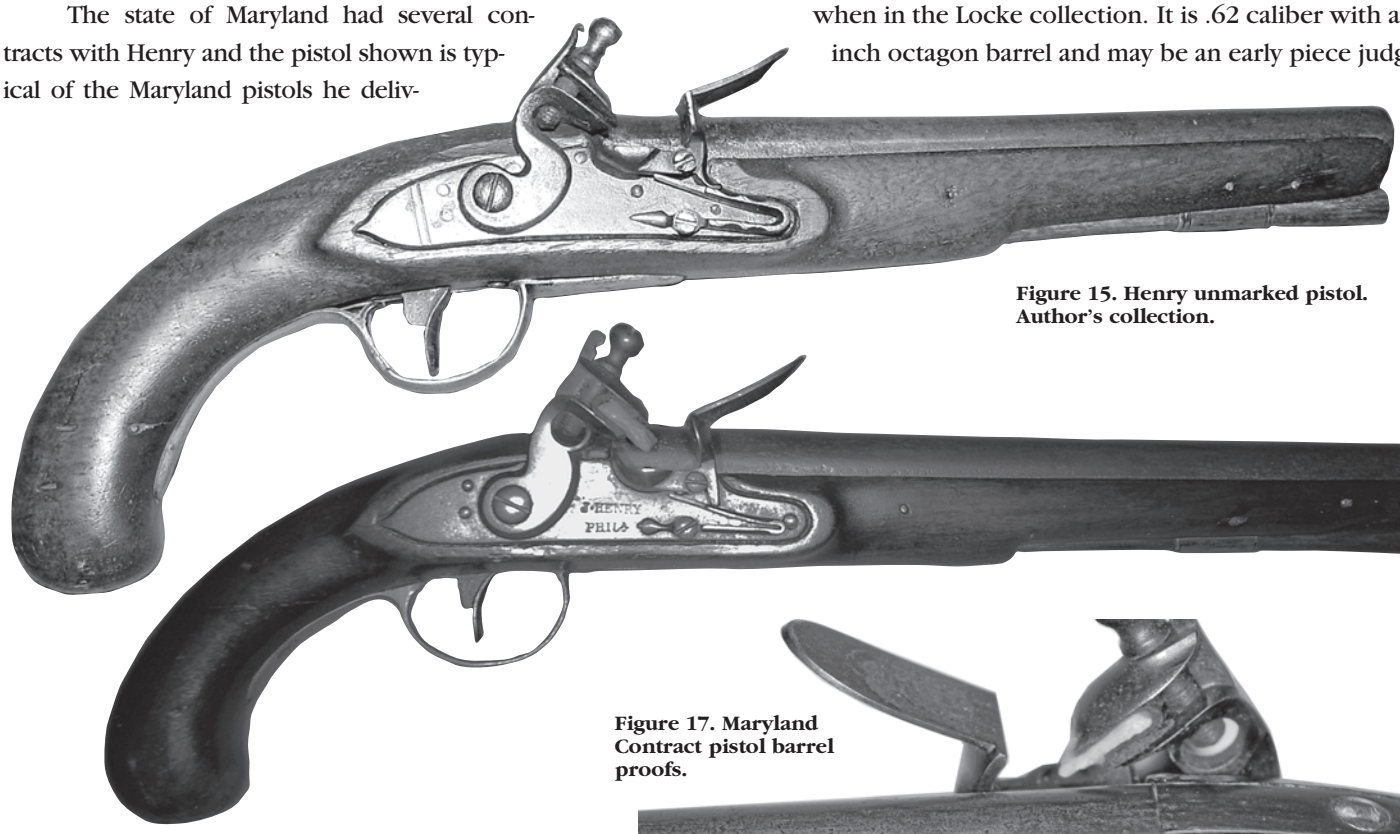


Figure 15. Henry unmarked pistol. Author's collection.

Figure 16. Maryland Contract pistol. Author's collection.

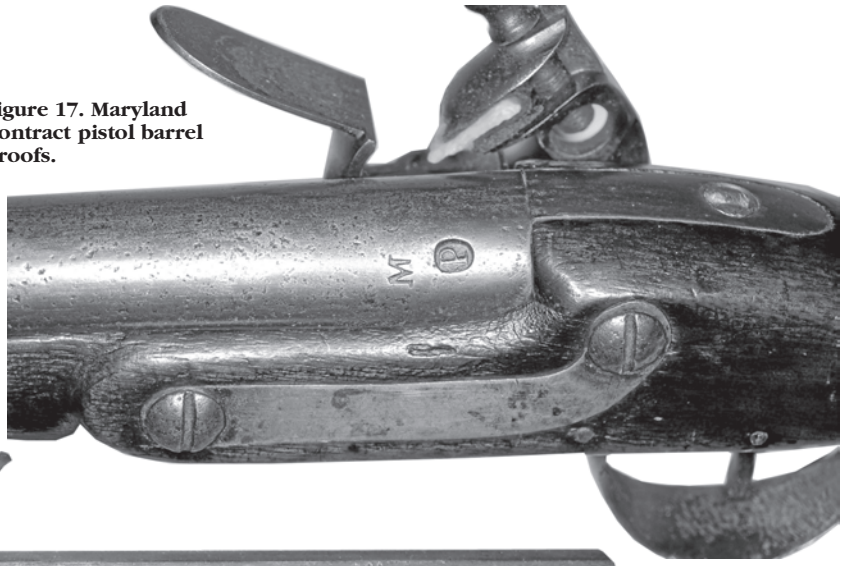


Figure 17. Maryland Contract pistol barrel proofs.

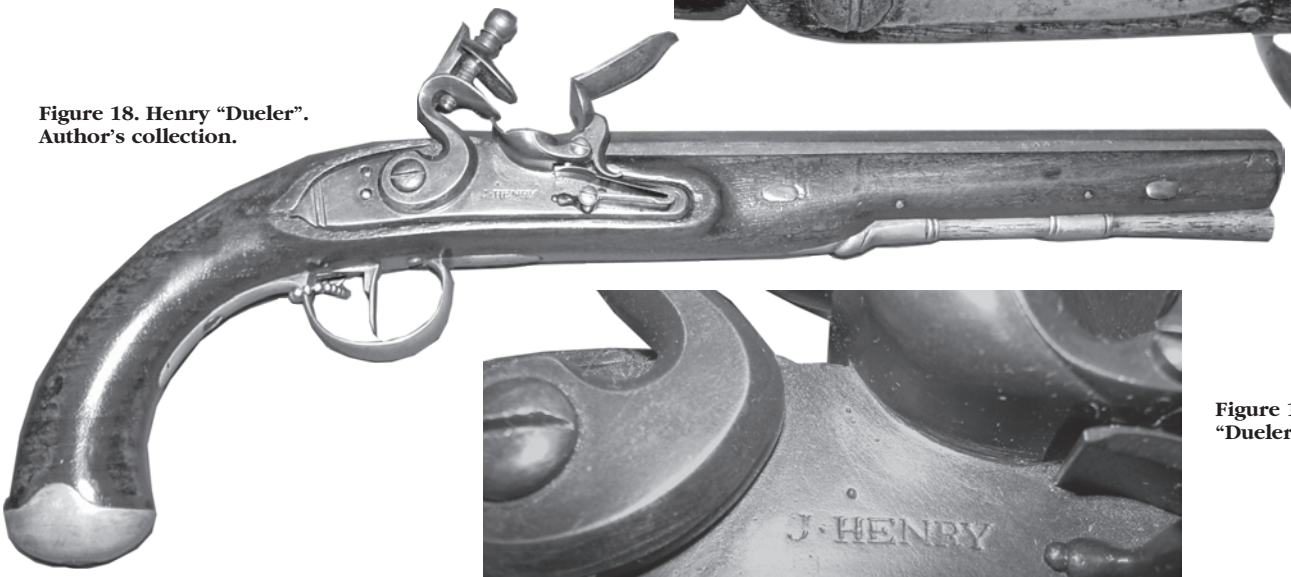


Figure 18. Henry "Dueler". Author's collection.

Figure 19. Henry "Dueler" lockplate.

by its goose neck hammer. It is signed "J.Henry" on the lock under the pan and there is a crude "M" under the touch hole (Figures 18–19). Finally, no Henry pistols are more famous than those carried by Commodore Oliver Hazard Perry during the war of 1812. During the war of 1812 Admiral Perry was ordered to Lake Erie where he supervised the building and assembly of a small fleet. Perry met the British near Put-in-Bay, Ohio in September, 1813 and captured their entire force of six ships. During his service on the lakes, Perry equipped himself with a pair of Henry manufactured 1807–1808 naval pistols. One resides at the U.S. Naval Academy in Annapolis, Maryland and the other remains with the family (Figure 20).

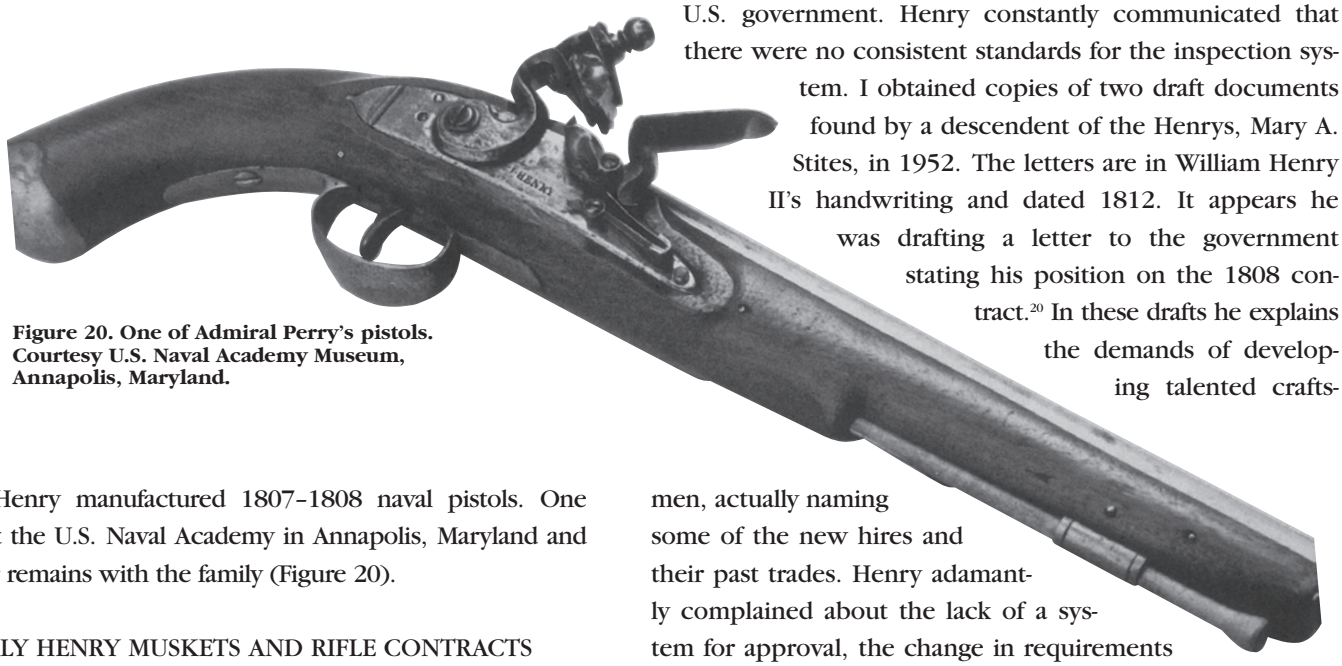


Figure 20. One of Admiral Perry's pistols. Courtesy U.S. Naval Academy Museum, Annapolis, Maryland.

EARLY HENRY MUSKETS AND RIFLE CONTRACTS

In late 1807 after John Joseph Henry had moved to Philadelphia, he was awarded a contract to produce 300 1807 rifles. In early 1808 he contracted for an additional 600 rifles to be delivered in eight months (Figures 21–22).[18]

The rifles were assembled from component parts he attained from the surrounding area. The rifle shown below has a barrel made by Daniel Pannabacker and is marked "D P" on the underside. The Germanic style lock is unmarked.

In 1808 William Henry II, now in Jacobsburg, and John Joseph Henry of Philadelphia were awarded a government contract for 10,000 model 1808 muskets. They received $10,750 advanced payment and each received pattern muskets. The Henrys delivered approximately 4,014 stands of muskets by 1812.[19] There were constant struggles between William Henry II and the inspectors of the arms made for the U.S. government. Henry constantly communicated that there were no consistent standards for the inspection system. I obtained copies of two draft documents found by a descendent of the Henrys, Mary A. Stites, in 1952. The letters are in William Henry II's handwriting and dated 1812. It appears he was drafting a letter to the government stating his position on the 1808 contract.[20] In these drafts he explains the demands of developing talented craftsmen, actually naming some of the new hires and their past trades. Henry adamantly complained about the lack of a system for approval, the change in requirements from the furnished patterns and the price paid ($10.75) which he deemed to be 20% too low.[21] He was especially upset with inspector Charles Williams.[22] The two letter drafts are attached as Appendix B. There are numerous mus-

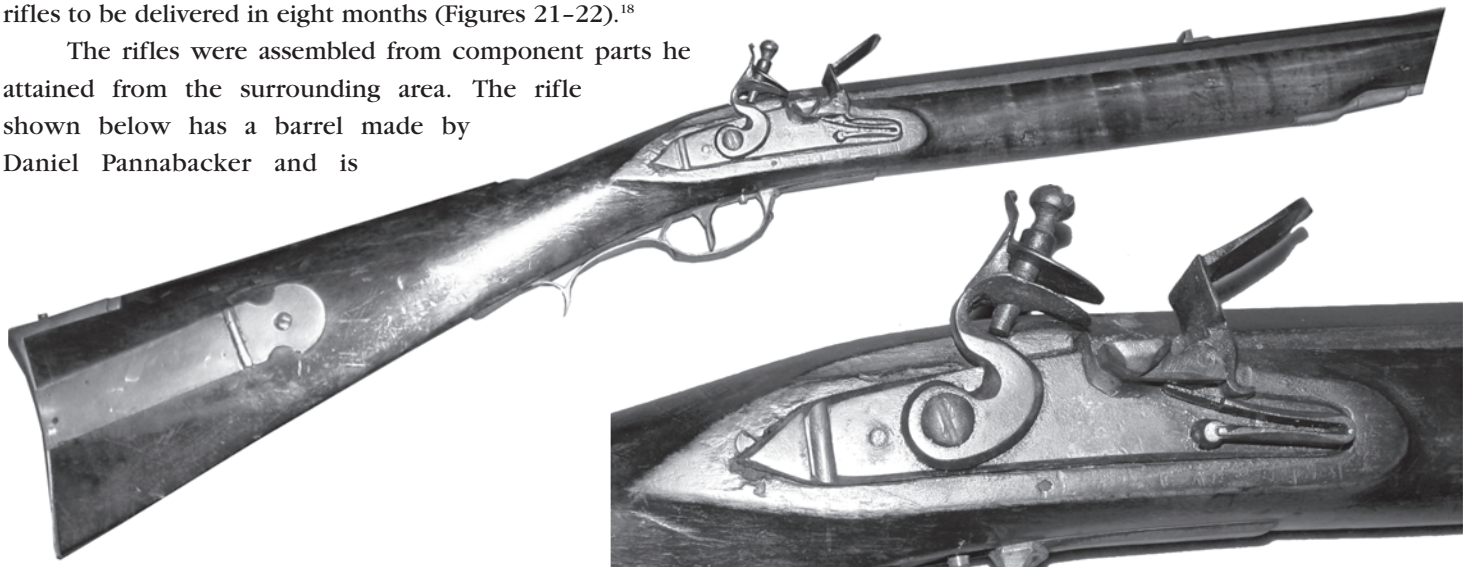


Figure 21. Henry 1807 contract rifle. Author's collection.

Figure 22. Henry 1807 lock.

ket markings on the Henry arms. At times the markings are a clue to the approximate date of manufacture.

An early musket signed "W. Henry/Nazh" was produced when William II was in Nazareth (Figure 23).

A later musket has the lockplate signed "J. Henry/ Philada" and an eagle over "U.S." (Figure 24).

In 1811, in the midst of arms production on the 1808 contract, William Henry III joined John Joseph Henry in Philadelphia to work on a contract for Bolivia to make 1000 muskets (using condemned parts).[23] Henry, like Tryon, North and other contractors, often got better prices from privateers, foreign governments and private sales than government contracts. This often caused a shortage or late deliveries on government contract work.

As previously stated, William III left Philadelphia in 1812 to begin construction of a new factory along the Bushkill. The Henrys named this new complex Boulton. By 1813 the new facility began producing rifle and musket barrels along with numerous parts to be shipped to Philadelphia for assembly.[24] At this time William III chose to stay in Boulton (Figure 25).

Figure 23. Picture of full lock early 1808 musket. Courtesy Jacobsburg Historical Society.

Figure 24. Later 1808 musket lockplate. Author's collection.

Even though there were ongoing problems with the 1808 contract, William II and John Joseph Henry entered a Federal contract for 2,277 1815 style muskets, which was basically an improvement of the (1808). The war of 1812 found the new nation critically short of arms. Callender Irvine, the Commissary of general purchases, let several contracts for muskets in the 1812–1815 period. It is interesting that the higher price of $14.25 was negotiated, probably to facilitate the repayment of Henry's debt. With J. Joseph Henry, the lone Henry of the Philadelphia operation, some of the 1815 Henry muskets were stamped "I Henry" and others "J. Henry". As noted previously, this leads me to believe that pistols marked "I Henry" were of the same period.

The later musket markings conform to the "1815 Standard Musket" and are signed "J.J. & W. Jr Henry".[25] The barrel is proofed with a "P" in an oval (Figures 26–27, page 17) and stamped "SALEM".

While I have seen conflicting accounts of the number of arms produced by Henry it appears that the Henrys turned the 1815 contract over to Wickham after making only 200 muskets.[26] According to Jacobsburg records a part of the agreement was that Wickham would have use of their facilities on Noble Street in Philadelphia for 5 years. The agreement further specified the transition of component parts, the sale of certain equipment and the settlement of financial affairs.[28] Henry factories at Boulton and Philadelphia acted as subcontractors for Wickham while their musket production continued. Orders from the states of Delaware and Maryland kept the businesses thriving.[29] Henry had many friends in the trade and many of the Henry arms provided to the state militia were manufactured by other arms makers.[30] This is much the same as the 1000 "Henry" Maryland swords that Jacque Andrews proved were made by Daniel Henkels of Philadelphia.[31] In 1816 Henry finally settled his accounts with the U.S. government and Marine T. Wickham assumed the remaining debt,

Figure 25. Boulton Gun Factory Circa 1870. Courtesy Jacobsburg Historical Society.

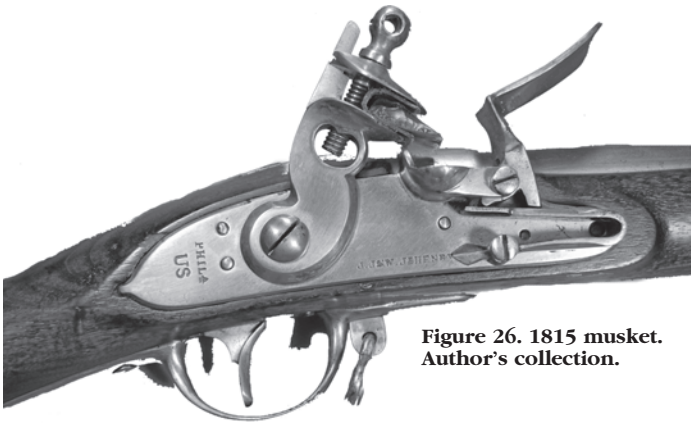


Figure 26. 1815 musket. Author's collection.

Figure 27. The lock signature up close.

acquiring his first contract for the 1815 musket. This led to Wickham's 1816 contract (Figures 28, 29, 30).

A great aide in identifying Henry arms is the *William Henry II and J. Joseph Henry Sketch Books.* Many of the locks, patchboxes, engravings and adornments are sketched out in this compilation of the two Henrys that was assembled at Jacobsburg.

During this same period (1815–1820) Henry was also deeply involved in the manufacture of the Kentucky style rifle. Two such arms are a quite fancy Kentucky style rifle manufactured by J. J. Henry in Philadelphia and the other a rather plain buck and ball gun signed Henry on the lockplate and barrel.

William Henry II died in 1821. In 1822 William III sold his shares in the Philadelphia operation to John Joseph and left the arms business to open a business in Wind Gap, Pennsylvania several miles north of Boulton. Within the same year John Joseph Henry closed the Philadelphia business and moved to direct the activities at Boulton.

In 1826 the Boulton works began one of the most successful periods of its history with the start of gun production for the Indian fur trade. Ramsey Crooks, a representative of the Astor American Fur company, established a business relationship with the Henrys that lasted until a few years before

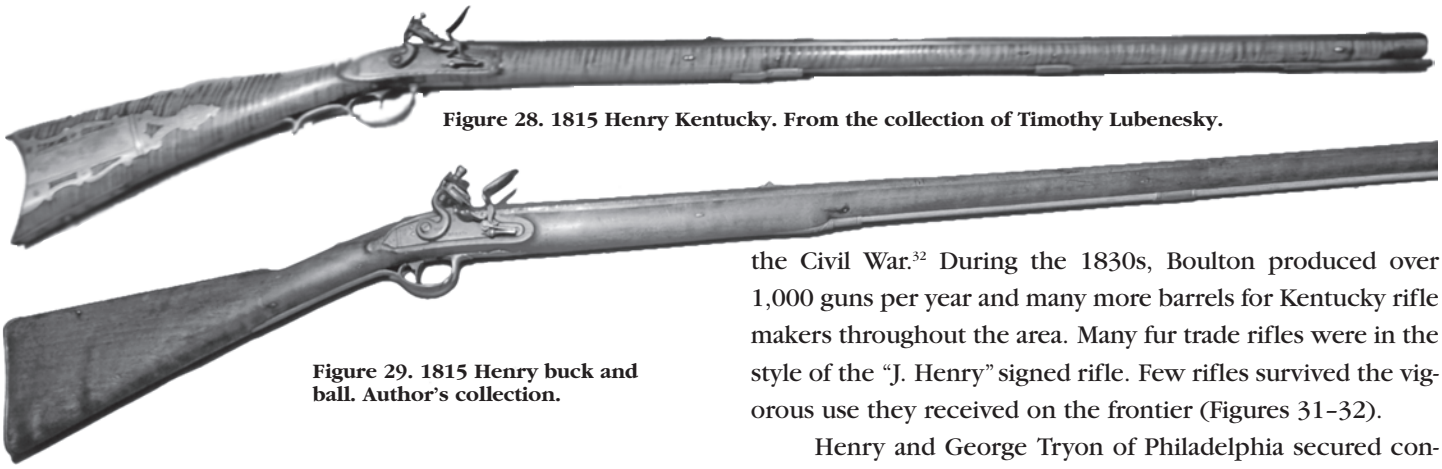


Figure 28. 1815 Henry Kentucky. From the collection of Timothy Lubenesky.

Figure 29. 1815 Henry buck and ball. Author's collection.

the Civil War.[32] During the 1830s, Boulton produced over 1,000 guns per year and many more barrels for Kentucky rifle makers throughout the area. Many fur trade rifles were in the style of the "J. Henry" signed rifle. Few rifles survived the vigorous use they received on the frontier (Figures 31–32).

Henry and George Tryon of Philadelphia secured contracts for several pieces for the Indian trade and Northwest guns. This is one of few surviving Henry Indian trade–Northwest guns known. It was produced at Boulton, and signed "J.J. Henry/Boulton". The "gun" has the traditional serpentine side plate (Figures 33–34).

J. J Henry also produced a prototype of the Henry "New English Pattern" rifle and presented it to the American Fur Trade Company in 1836. It was accepted and produced exclusively for the American Fur Trade Company, almost until the Civil War (Figure 35).[33]

While prospering with the Fur Trade, Henry also continued to make militia arms while staying removed from federal contracts, a pattern that continues through the remainder of Henry arms manufacturing. Two such arms of the period include an 1826 style pistol probably made as a militia arm and

Figure 30. Buck and Ball signed lock.

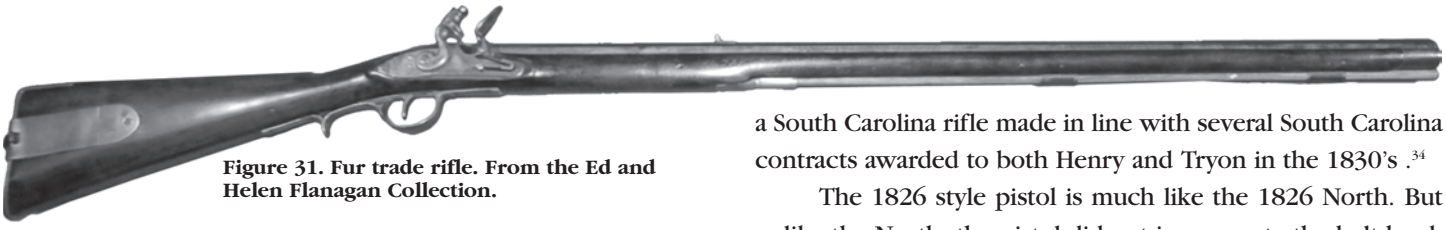


Figure 31. Fur trade rifle. From the Ed and Helen Flanagan Collection.

Figure 32. Trade rifle lockplate.

Figure 33. Tryon Northwest trade gun. Author's collection.

Figure 34. Northwest gun serpent sideplate.

a South Carolina rifle made in line with several South Carolina contracts awarded to both Henry and Tryon in the 1830's .[34]

The 1826 style pistol is much like the 1826 North. But unlike the North, the pistol did not incorporate the belt hook (Figure 36).

The South Carolina rifle is signed "J. Henry" on the lockplate and "South Carolina" on the barrel. It has a patch-box similar to the Fur Trade rifles (Figures 37–38).

Henry continued to make a few high-quality Kentucky style rifles like this one from the 1830s period by J. J. Henry. This rifle is from the 1831 to 1836 period when many rifles were signed: "J.J. Henry & Son/Boulton" (Figure 39).

At this same time Henry was also producing a limited number of swivel breech flintlock rifles (Figure 40).

In addition, the company had a large market for parts and stocks throughout the country. A Lehigh county rifle from the Peter Kuntz shop utilizing Boulton locks and signed "J.J. Henry/Boulton" is shown in Figure 41.

The gunmaking fraternity was close-knit, though quite competitive. J. J. Henry left Philadelphia in 1822, but his relationship and business dealings continued there.

A letter from George Tryon to John Joseph Henry illustrates the continuing relationship between the two families.[35]

> Mr. J. Joseph Henry Philadelphia, June 25th, 1836
>
> Boulton Works near Nazareth
>
> Northampton County, Pennsylvania
>
> Dear Sir,
>
> Your always acceptable letter came early to hand and should have met an immediate reply, but I have been very busy out of town. We commenced moving to a larger farm, and were compelled to keep at it notwithstanding the almost incessant rain for the past week.
>
> You said you wish to draw on me for ten or fifteen hundred dollars as our accommodation. Do so and welcome. As regards on the visit you recommend, I fear it cannot be done this season. I commenced building several houses, ect., on the farm

Figure 35. New English pattern rifle. Courtesy of the Jacobsburg Historical Society.

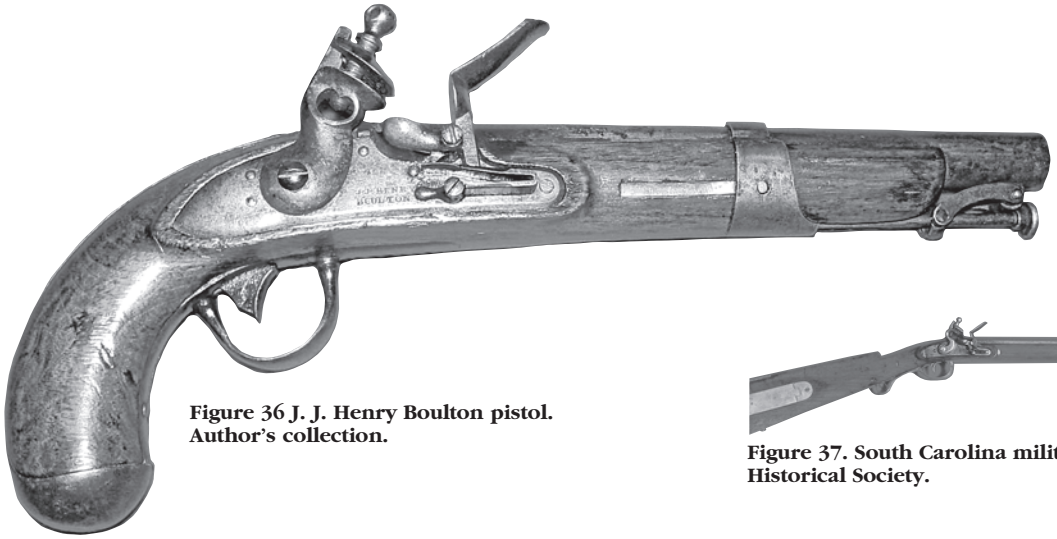


Figure 36 J. J. Henry Boulton pistol. Author's collection.

Figure 37. South Carolina militia rifle. Courtesy of the Jacobsburg Historical Society.

Figure 38. South Carolina barrel markings.

Figure 39. Circa 1832 J.J. Henry Kentucky rifle. From the Timothy Lubenesky Collection.

Figure 40. 1830's Henry Swivel Breech (from the Timothy Lubenesky Collection).

and the season has been so very wet, and so much difficulty with the workmen that we make but little headway, and my attention for the balance of the summer will be drawn in that quarter.

As regards the contemplated tour to Europe, it would afford me much pleasure, but the time is yet too distant to determine. We will see each other frequently, I trust, before the time you name.

Now, Sir, as regards *FARMING.* The wet and cold weather appears unfavorable to crops generally; and wheat, corn, and oats look bad. Grass tolerable thick but short. Eggs fair; strawberries, cherries, ect.., *plenty, but not fine*, too short. I expect that *you mechanics* will make more money this year than what *we farmers* will. *We farmers*, however have our consolation. *We* have time for reflection while *you mechanics* think of nothing but making *money*. It is time, however, *you* cannot do without it for you must buy our flour, butter eggs, ect.

I doubt not should you live fifty years longer you may be enabled to take the world *as easily as I do.*

Please tender our joint respects to your --, James and wife.

Yours as ever,

in haste as usual,

George W. Tryon

Unfortunately, John Joseph died December 2, 1836 and the cruise to Europe was never made.

John Joseph Henry had only one child, a son named James Henry. James was more a scholar and teacher, but entered the business in Boulton in 1831. James took over the business in 1836 when John Joseph died. Many arms from this period (1831–1836) are marked "J.J. Henry & Son."

The Henrys continued to prosper under James Henry's leadership as the Boulton factory continued to produce arms for the fur trade as well as numerous arms known as "plains rifles" for the ever-expanding frontier.

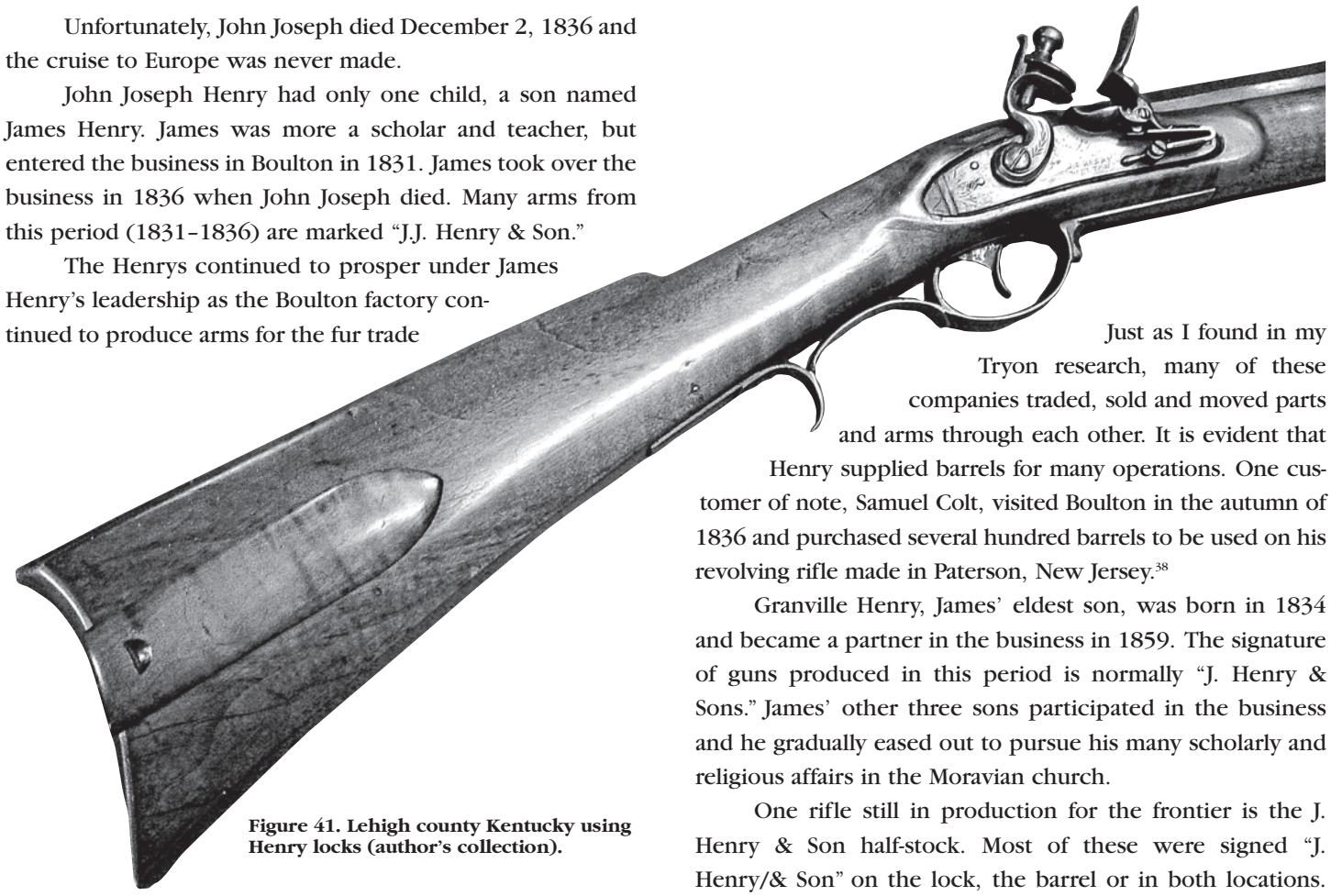


Figure 41. Lehigh county Kentucky using Henry locks (author's collection).

Eastern arms makers such as Henry, Tryon and Lehman were quite successful in this trade. Major dealers that handled Henry arms include H. E. Dimick & Co., Child, Pratt & Co., and Thomas J. Albright. In the eastern cities, Henry arms and parts were sold by Tryon, Justice, Steimnetz and Justice (known as P.S. Justice & Co.) and others.[36]

Always anxious to enter new markets, Henry records also indicate that a number of underhammer arms were produced for a four year period in the late 1830s. Henry underhammer rifles are rare and are not recorded by numbers produced. They are simply categorized as "Rifles." Extrapolating from the number of rifles produced prior to this period would suggest the total number of underhammer rifles produced over a four year period to be less than 100. Only one underhammer rifle to date is known and it is in the Jacobsburg Historical Society Long Rifle Society Museum (Figure 42).

Henry records do tell us that a total of 2300 underhammer pistols were produced over the four-year period. Both J. J. Henry and his son James were involved with the underhammer production.[37]

These arms were manufactured in different grades (1–4) depending on the level of quality desired. One signed fancy pistol is shown in Figure 43.

Just as I found in my Tryon research, many of these companies traded, sold and moved parts and arms through each other. It is evident that Henry supplied barrels for many operations. One customer of note, Samuel Colt, visited Boulton in the autumn of 1836 and purchased several hundred barrels to be used on his revolving rifle made in Paterson, New Jersey.[38]

Granville Henry, James' eldest son, was born in 1834 and became a partner in the business in 1859. The signature of guns produced in this period is normally "J. Henry & Sons." James' other three sons participated in the business and he gradually eased out to pursue his many scholarly and religious affairs in the Moravian church.

One rifle still in production for the frontier is the J. Henry & Son half-stock. Most of these were signed "J. Henry/& Son" on the lock, the barrel or in both locations. They came in numerous calibers and sizes. They also produced different grades of these half-stocks. Many of the half-stocks utilized Henry barrels, but I have one with the barrel marked "KRICK" on the underside. Krick was a Wyomissing, Pennsylvania barrel maker (Figure 44).[39]

The Boulton Firm was active during the Civil War. While the firm continued to produce its own line of arms, much of the production was directed to a joint effort between Henry and P. S. Justice. Henry helped Justice with the conversion of the 1816 musket, which was not well received by the troops. If you look at the "J. Henry & Sons rifle beside the Justice arm made up of U. S. military parts, you can see the Henry influence.

The later P. S. Justice rifles and the Henry rifles are almost identical.

Henry produced many .58 caliber rifles during the Civil War. These rifles continued with the style of the Justice rifle. The rifles were fitted with saber bayonets or with turned down barrels for the socket bayonet and signed "J. Henry & Son" behind the hammer. Many were issued to local militias in areas such as Bethlehem and Catasauqua in eastern Pennsylvania.

Once the Civil War was over and the demand for arms had eased, the arms business throughout the country had a large ability to supply, but little demand. Gun makers such as

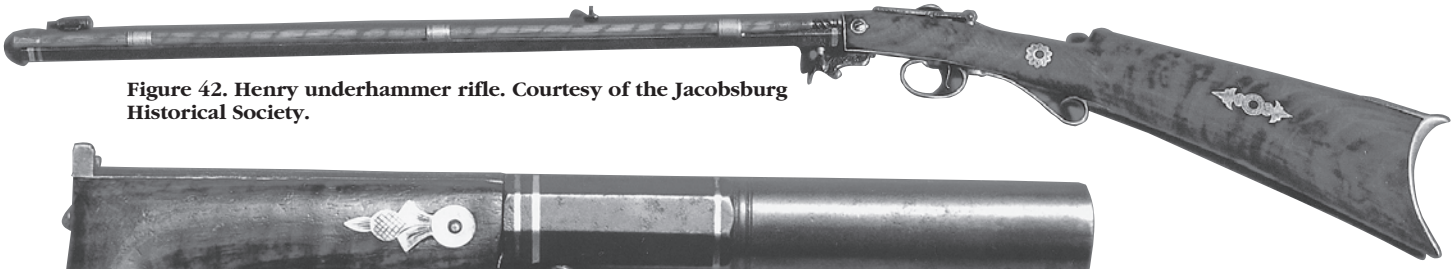


Figure 42. Henry underhammer rifle. Courtesy of the Jacobsburg Historical Society.

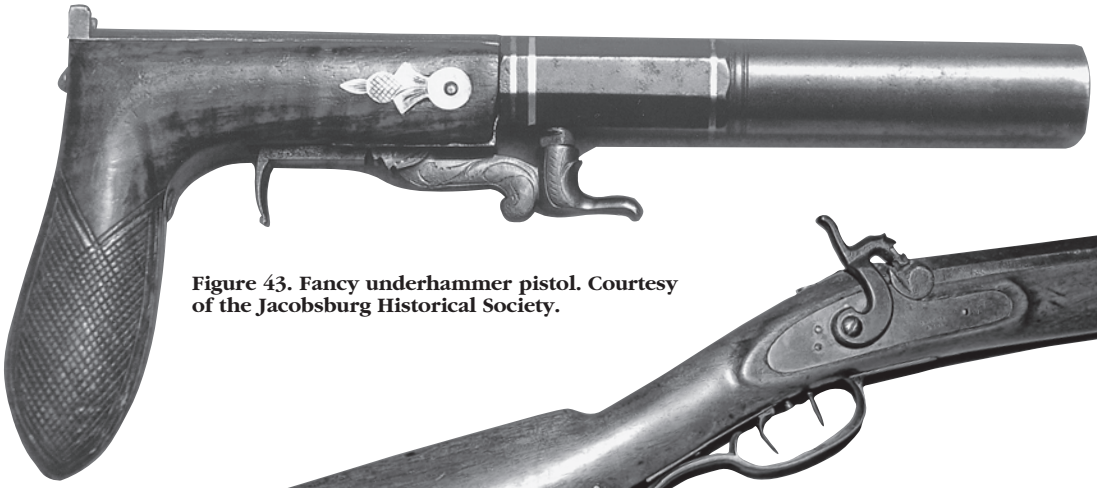


Figure 43. Fancy underhammer pistol. Courtesy of the Jacobsburg Historical Society.

Figure 44. J. Henry & Sons half-stock rifle. Author's collection.

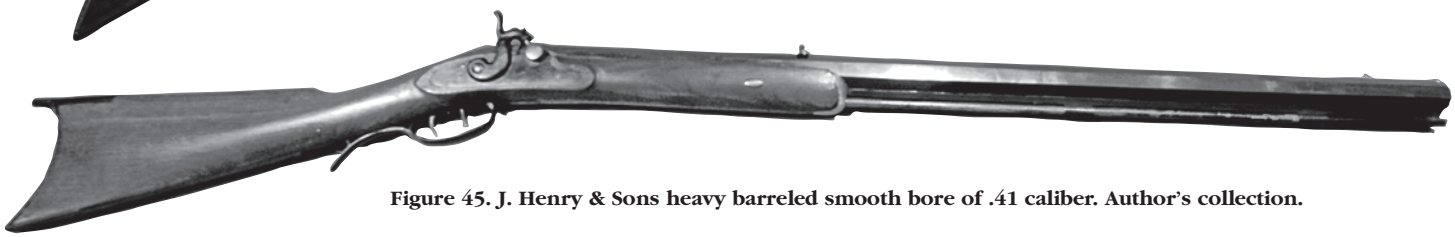


Figure 45. J. Henry & Sons heavy barreled smooth bore of .41 caliber. Author's collection.

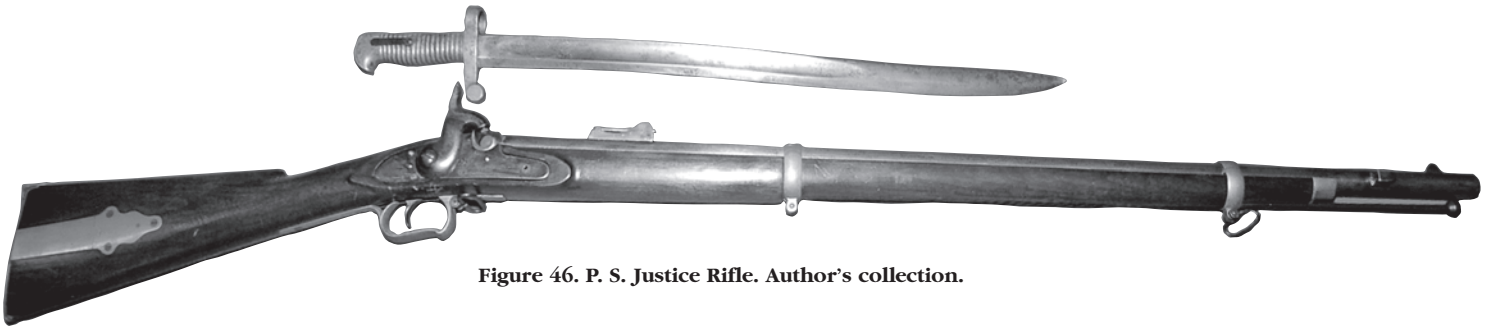


Figure 46. P. S. Justice Rifle. Author's collection.

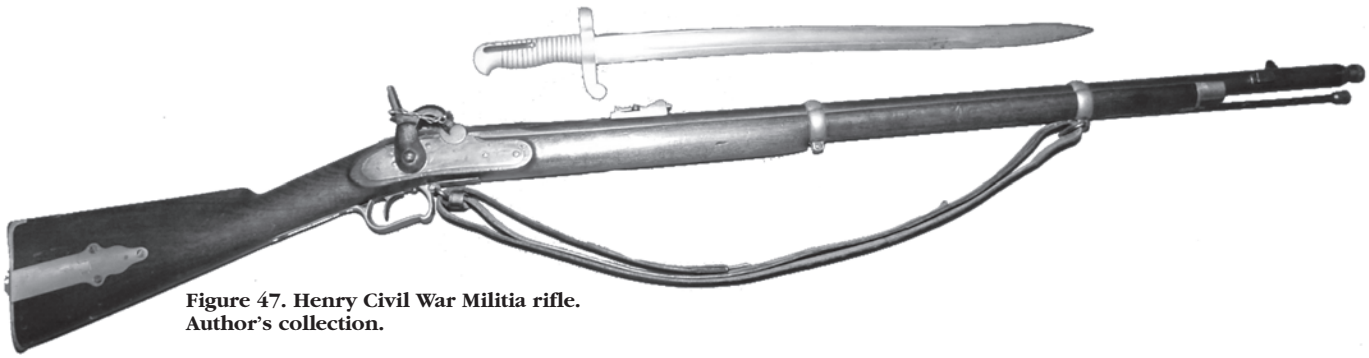


Figure 47. Henry Civil War Militia rifle. Author's collection.

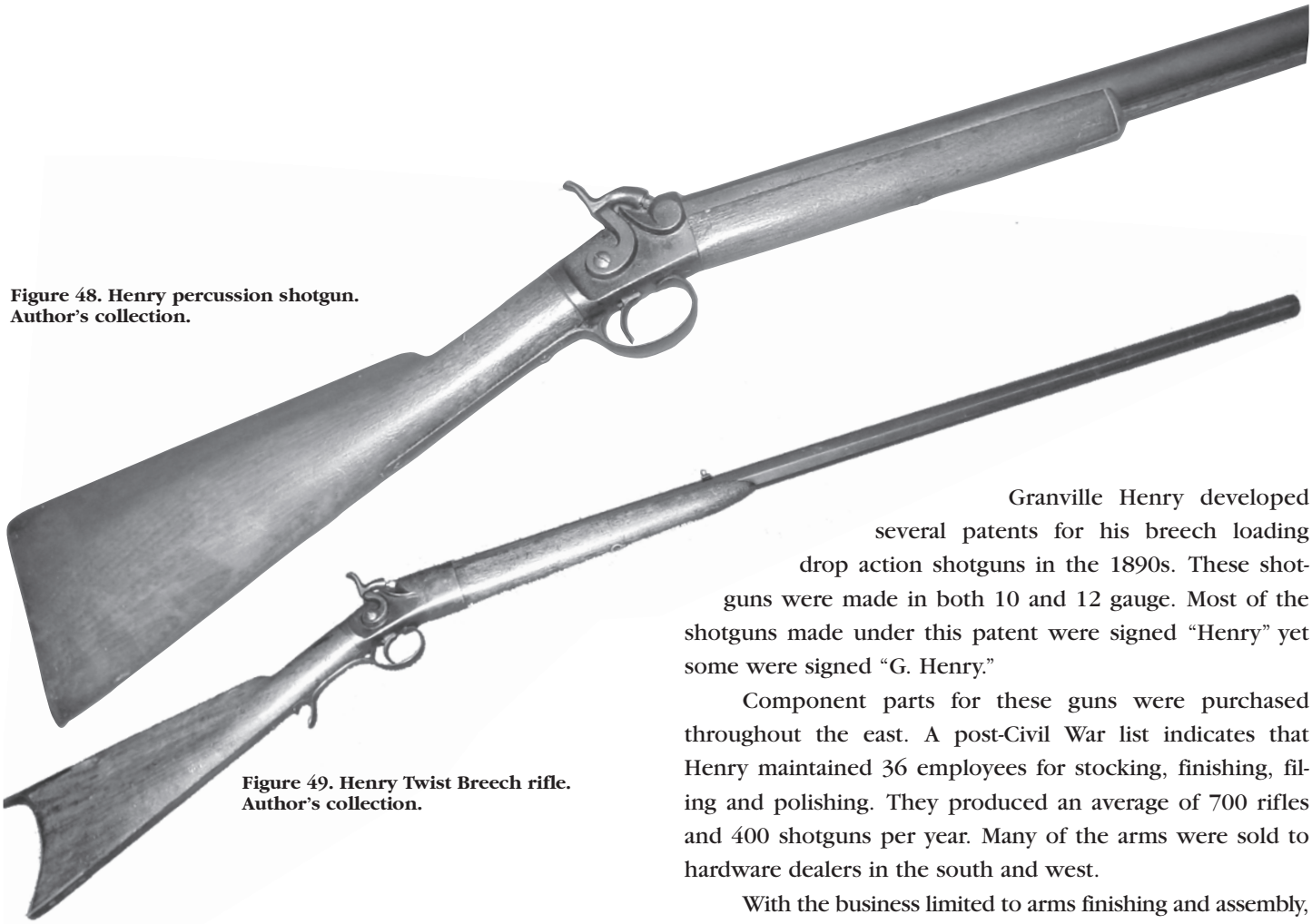


Figure 48. Henry percussion shotgun. Author's collection.

Figure 49. Henry Twist Breech rifle. Author's collection.

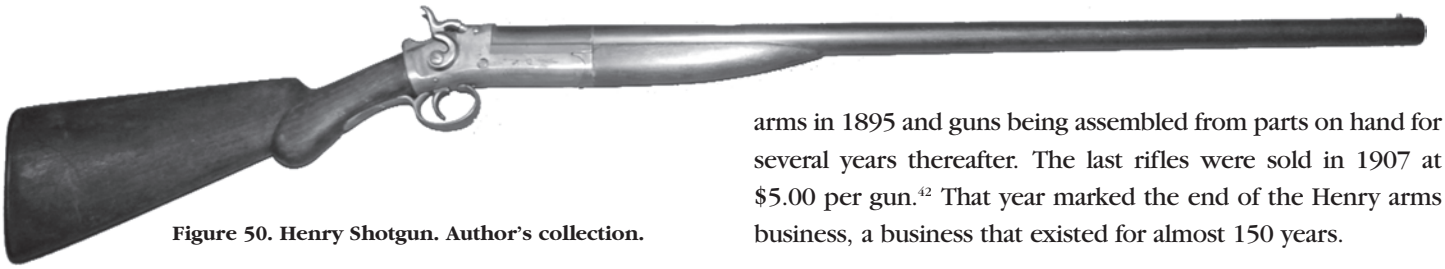


Figure 50. Henry Shotgun. Author's collection.

the Henrys suffered as they had never developed the automation of firms like Winchester, Remington, and Smith & Wesson. The Henry Gun Works continued to make civilian rifles and shotguns as they took advantage of the surplus market, buying European military barrels by the thousands and converting them to percussion shotguns and rifles, selling them to such businesses as Tryon in Philadelphia for $4.00 per gun. These guns are not marked Henry but have some Henry characteristics.[40]

Later the firm produced breech loading rifles and shotguns. The rifles were in .22 and .32 caliber rimfire with a twist breech. They were usually unmarked and relatively scattered throughout the United States.[41] Figure 49 is a .32 twist breech loading rifle circa 1888.

Granville Henry developed several patents for his breech loading drop action shotguns in the 1890s. These shotguns were made in both 10 and 12 gauge. Most of the shotguns made under this patent were signed "Henry" yet some were signed "G. Henry."

Component parts for these guns were purchased throughout the east. A post-Civil War list indicates that Henry maintained 36 employees for stocking, finishing, filing and polishing. They produced an average of 700 rifles and 400 shotguns per year. Many of the arms were sold to hardware dealers in the south and west.

With the business limited to arms finishing and assembly, the die was cast. The Boulton factory ceased manufacturing arms in 1895 and guns being assembled from parts on hand for several years thereafter. The last rifles were sold in 1907 at $5.00 per gun.[42] That year marked the end of the Henry arms business, a business that existed for almost 150 years.

END NOTES

[1]Henry Papers, Jacobsburg.

[2]Henry Papers.

[3]George D. Moller. *American Military Shoulder Arms*. (Niwot, Colorado: University Press of Colorado, 1993), I, 143.

[4]*Ibid.* I, 134.

[5]Henry Papers.

[6]Moller, I, 146.

[7]George Deck, Bob Newell and James Wright, *Henry of Boulton: A Pennsylvania Gunmaking Family and Its Firearms,* (Nazareth, Pennsylvania: Jacobsburg Historical Society, 1988) 4.

[8]Moller, I, 350.

[9]Moller, I, 350.

[10]Henry Papers.

[11]William Henry II, draft letter to protest pricing and inspection procedures, circa 1813, Appendix A.

[12]*Ibid.*

[13]Edward K. Tryon, *One Hundredth Anniversary–1811–1911*, (Philadelphia, Edward K. Tryon Company, 1911) 9.

[14]*Willam Henry II, drafts* Moller, II, 190.

[15]Henry Papers.

[16]Henry Papers.

[17]Moller,. II, 190.

[18]Moller, II, 349.

[19]Peter A. Schmidt, *U.S. Military Flintlock Muskets and Their Bayonets* (Woonsocket, Rhode Island: Mobray Publishing, 2006) I, 195.

[20]William Henry II, drafts.

[21]Schmidt I, 191.

[22]William Henry II, drafts.

[23]Deck, Newell, & Wright, 14.

[24]Jacobsburg.

[25]Schmidt, I, 345.

[26]Schmidt, I, 351.

[27]Deck, Newell & Wright, 20.

[28]Moller, II, 184.

[29]Deck, Newell & Wright, 14.

[30]Moller, II, 212–217.

[31]Jacque Andrews, *Philadelphia Gunmakers and the evolution of the Maryland Sword* (American Society of Arms Collectors, Bulletin 89) 10–17.

[32]Deck, Newell & Wright, 20.

[33]The Jacobsburg Record, Volume 33, Issue 2.

[34] Deck, Newell & Wright, 23.

[35]Henry Papers.

[36]Deck, Newell & Wright, 26.

[37]Henry Papers.

[38] Deck Newell & Wright, 23.

[39]Frank M. Sellers, *Early American Gunsmiths*, (Highland Park, New Jersey, The Gun Room Press, 1983) 175.

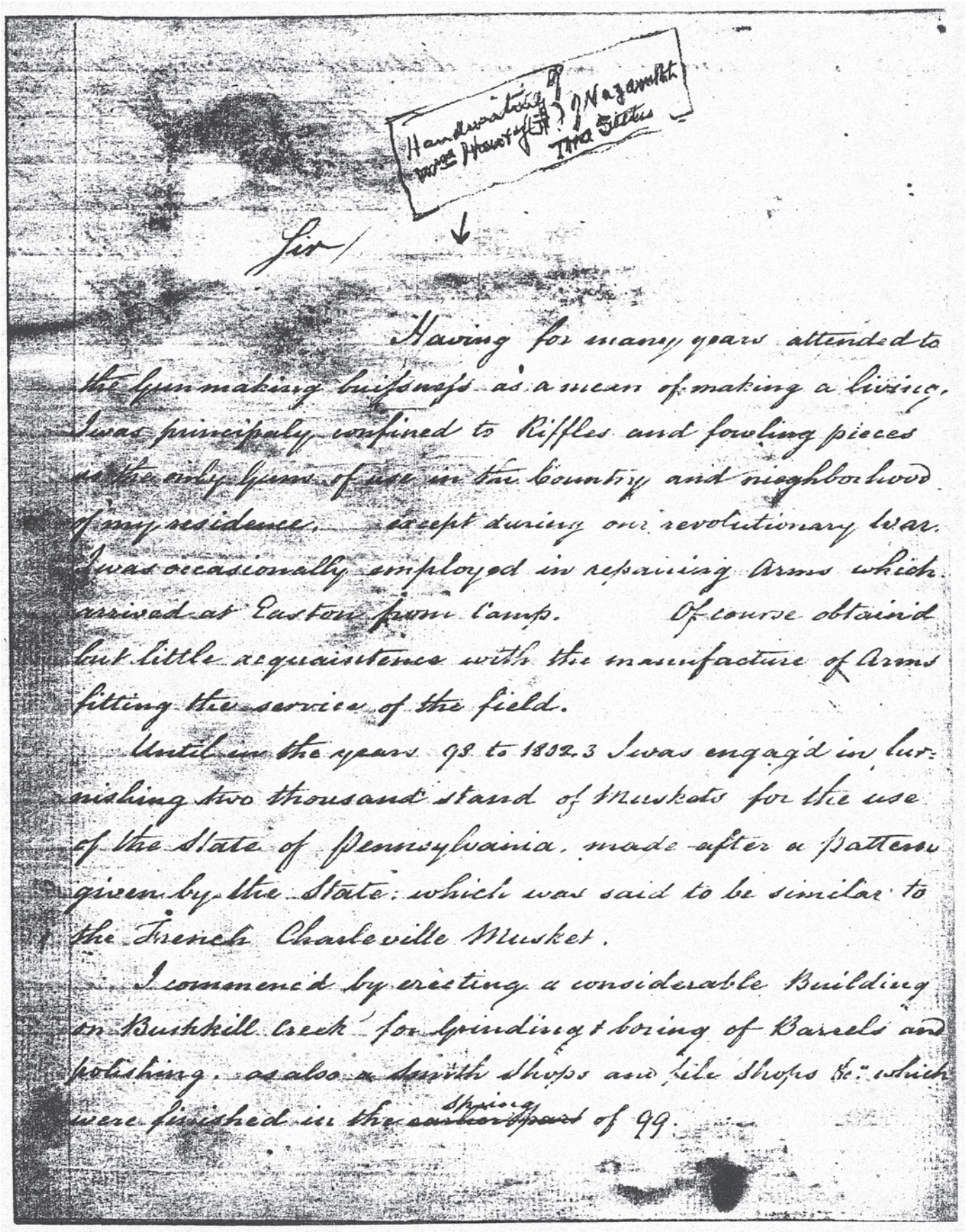
[40]Ibid. 39.

[41]Ibid. 39.

[42]Ibid. 40.

APPENDIX A
WILLIAM HENRY II DRAFT LETTERS

From microfilm at Jacobsburg Historical Society



Handwriting of Wm. Henry (?) Nazareth Pa.

Sir /

Having for many years attended to the Gun making business as a mean of making a living, I was principaly confined to Rifles and fowling pieces as the only Guns of use in the Country and neighborhood of my residence. except during our revolutionary war. I was occasionally employed in repairing Arms which arrived at Easton from Camps. Of course obtaind but little acquaintence with the manufacture of Arms fitting the service of the field.

Until in the years 98 to 1802.3 I was engag'd in furnishing two thousand stand of Muskets for the use of the State of Pennsylvania, made after a Pattern given by the State: which was said to be similar to the French Charleville Musket.

I commenc'd by erecting a considerable Building on Bushkill Creek for Grinding & boring of Barrels and polishing. as also a Smith Shops and File Shops &c. which were finished in the Spring of 99.

I was compelld to accept of almost any common laboring man I met with, who was willing to be instructed in the buisness of Gunmaking, and pay them the ordinary monthly wages the same as if they had obtained a tolerable proficiency in the branch to which they were put. A Young blacksmith just out of his apprentice ship. (Mr. Steinman) I put to lock forging. I directed him in making the plate swage to form the plate & pan out of a solid piece ~~of~~ they had at Lancaster & some other places fitted in the pan into the plate / as being most substantial. and many a bushel of coal and pound of Iron was lost before he brought the work to any tolerable degree of perfection. and such was my situation with all the Smiths, filers and stockers during the first two or three years; that my workmen themselves as well as acquaintences despaired of my being able to effect the execution of my contract.

Especially as we were extremely unfortunate in the barrels. in the first proofs of the loss was from 30 to 60 p^r^ Cent. which principally arose from the badness of the Iron. the Iron of a proper quality could not be procured I frequently offered the Iron masters of Oley and the neighborhood of Reading extra pay if they would manufacture a proper quality of Iron but it was

in vain. I of course suffered great loss.

The Young men I employ'd in the buisness were such as had serv'd apprenticeships to other professions and who in expectation of better wages consented to go into the Gun making buisness. One was a Tanner (Ed. Warner) who turn'd out in the end an excellent lock filer, another had received some instruction in Rifle making. (Jn° Ehrenhard) acquired a knowledge of lock fileing with me. Another a Taylor. (Jn° Nischmass) became a lock filer, in short all of the hands were almost totally ignorant of the buisness.

However by dint of perseverance although at a considerable loss I effected the completion of my contract in August 1803 and received the balance of my pay from Gov^r M^c Kean in September following.—

During the time I was executing the contract with the State I also furnished to the United States Five hundred stand of the like Arms, which were paid for at the same rate viz thirteen dollars and thirty three cents each.

In the execution of contracts with Public Bodies much depends upon the Officers appointed by them to inspect and receive the work. when they are men who are really masters of the subject there is no question

the work will be well executed. — Otherwise it becomes a matter of extreme difficulty and indeed almost impracticable for the undertaker to enforce a proper execution of the work among the subordinate branches of the business.

During the time the above work was performing it frequently occurrd to me to notice the want of system in the inspectors, as an Inspector would at one time approve of the execution of a part of the gun which at another time he would condemn, and much more so would one inspector vary from another yet none could ~~develope~~ a set of Rules which would enable themselves or the workmen to give uniformity to the work, ~~either~~ as to Mechanical correctness ~~or~~ goodness of workmanship. And often did I wish to see something like sound standard Rules laid down, by which proper corrections could be made and with this view and in certain expectations that some thing of the kind must be found have made enquiries of the best workmen and searched books on this subject but never yet have I found any thing to serve me as a guide.

above entry is in handwriting of William Henry Jr of Nazareth Pa
by HA Stiles 5/16/1952

Written about 1813

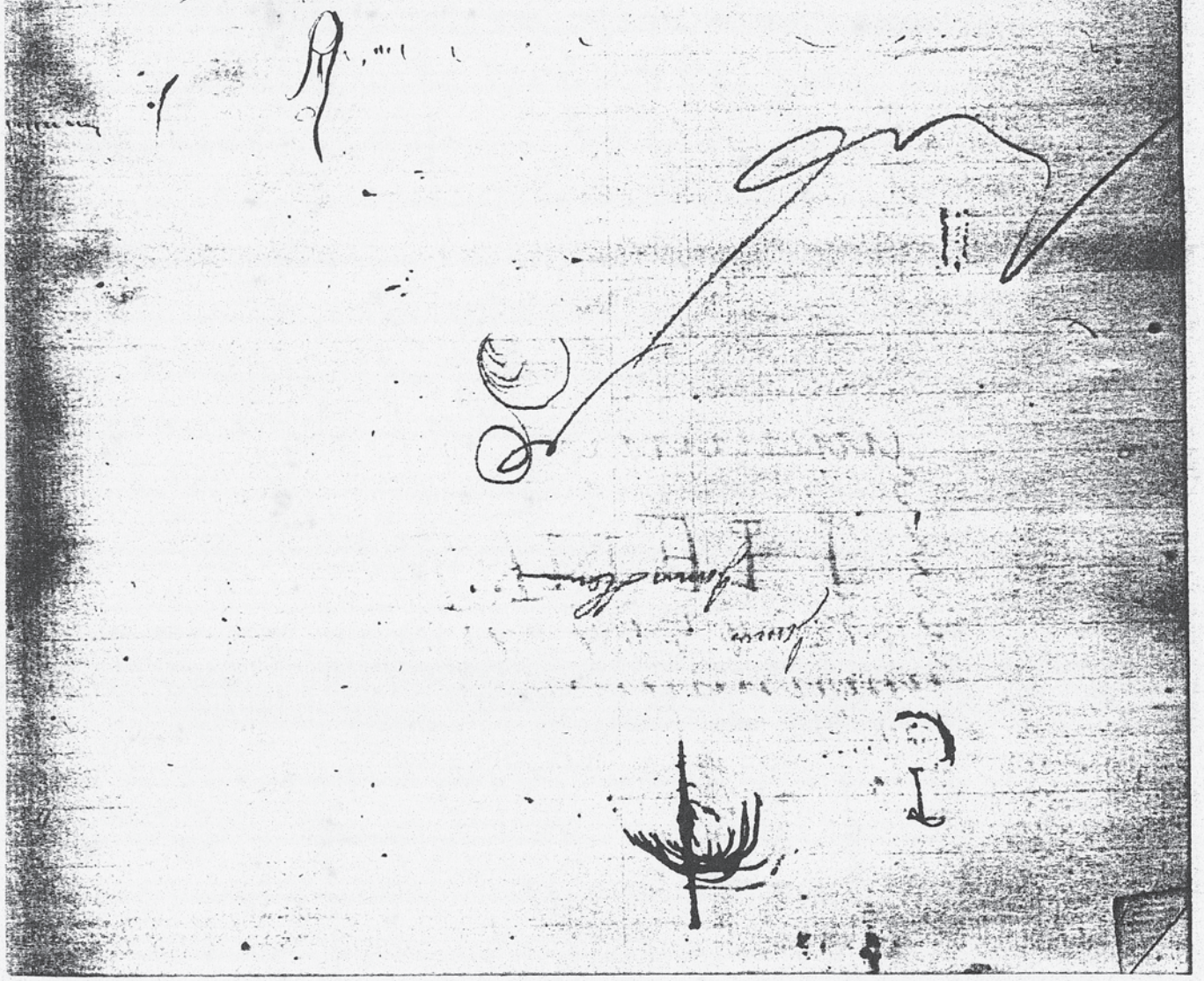
Sir

It is almost five years ago, in 1808. that my Bro.r J. Joseph, and myself again entered into Contract with the United States, to furnish Ten Thousand stand of Arms to be made after a pattern to be furnished by the United States from one of their factories or Mr Whitney's factory and several months after the contract was entered into we were furnished with the pattern Guns.

In pursuance of this contract we proceeded in the usual manner seperated the parts of the Gun and gave our workmen the proper directions for the correct imitation of the several parts, and, immeadiately upon the first delivery made to the Inspector. (Chas. Williams) this want of System in the Inspector became ~~apparent~~ not only apparent but was the cause of much injury in several of the branches.

Boulton Febuary 23 1846

Dear Grandmother I have an intention
to write you a small letter, as it
is the first one I ever wrote tho't you
I will just mention that we received
the presents you sent us at Christmas
and we were happy to find Alice
at Uncle Nichles



APPENDIX B

TEXT OF AGREEMENT BETWEEN HENRY, TRYON AND THE U.S. NAVY INCLUDING ARMS DESCRIPTIONS

From microfilm at Jacobsburg Historical Society

02-03-1911

TO GRANVILLE HENRY
FROM HENRY J. F. REUSSWIG

re: Government contract
with John Joseph Henry
and George Tryon

Nazareth Hall Military Academy
Nazareth, Pennsylvania, February 3, 1911

My dear Mr. Henry:-

Enclosed please find the copies of the notes you asked me to typewrite. I trust that you will find them correct in every detail, but should there be any mistakes or any corrections that you might wish to make, I shall deem it a great pleasure if you will inform of the same and I shall be very happy to rewrite them for you.

Thanking you for the privilege of being of some service to you and with kind regards to Mrs. Henry and yourself,

I am,
Very respectfully,
Henry J. F. Reusswig

02-16-1814

Philadelphia, Pennsylvania

Be it remembered that on the Sixteenth day of February, A.D. 1814. It is agreed between George Harrison, Esquire, Navy Agent of the United States in behalf of the United States, and George W. Tryon and J. Joseph Henry of the city and county of Philadelphia in manner and form following, viz.:

The said George W. Tryon and J. Joseph Henry do agree to make in a complete workmanlike manner, twenty swivels according to the description mentioned in the annexed memorandum, furnished by Joseph G. Chambers, Esq., and also two hundred muskets of description as particularised in the aforesaid memorandum annexed, at the rate of one hundred dollars for the swivels each, and at the rate of Twenty-Three Dollars for the muskets, when completed and finished as aforesaid, and to fabricate and make the same of the best materials, and that same shall correspond with the pattern to be furnished and according to the instructions hereto annexed as aforesaid, and deliver the whole of the swivels and muskets within three months from the date of this agreement, and in case a part should be finished at intervals between the dates and time limited for their delivery as aforesaid, then to furnish the same.

And further they agree to use all due diligence to complete and deliver one half of the aforesaid muskets and swivels in sixty days after the date hereof.

In consideration whereof the said Harrison, Agent aforesaid, agrees to pay to the said George W. Tryon and J. Joseph Henry six thousand six hundred dollars upon the due performance and completion of the aforesaid contract according to the stipulations therein and in the annexed description contained.

In witness whereof we have hereunto set our hand and seal the date and year above written.

Description of Arms To Be Fabricated By Messrs. Henry & Tryon

Repeating Muskets

The muskets are to be furnished with good and sufficient brass mounting of style and quality at least equal to the British Marine. The barrels of the American Calibre and somewhat stronger forward than ordinary so as to give one eight of an inch external diameter at the foremost touch hole, ten inches from the bottom or inside.

They are to be furnished with brass sights at the muzzle and iron back sights truly ranged, and the bores sufficiently straightened so as to have the most competent accuracy and effect in firing, etc.

The locks are to be fitted with the holes adapted to the fixture of safe guard and teller previous to being hardened and in general everything arranged so as best to accommodate the objects of the repeating fire according to the best specimen already constructed by Henry.

Repeating Swivels

The swivels are to be accurately constructed by laying and securing the barrels sufficiently parallel of form and plan according to the best specimens now exhibited, with such correcting as may be agreed on, etc. The standard size shall be barrels of British Marine Calibre (supposed 3 quarters of an inch) properly straightened as the muskets, four feet in length from the inside breech to muzzle. Touch-hole precisely twenty inches, -- external diameter of barrels five quarters of an inch making the thickness of Metal equal to 1/3 the diameter of the bore.

The breech plates half inch in thickness, stems 7/8 of an inch; and handles fitted with the proper screwdriver. Knob of sound blackened wood, etc. Swivels adapted so as to balance when all is together, -- the crotches, keep and sockets all uniform so that wherever a socket is fixed any swivel can be mounted on it; locks duly secured with strong work so as not to be materially inferior to those of Cranny &Monitza and in general every detail so uniformly fashioned by determined patterns as may best accomplish the objects of the public service etc., as shall be mutually agreed.

Philadelphia, Feb. 16, 1814 (Signed) Joseph G. Chambers