

AN OUTLINE OF WILLIAM JENKS AND THE CHICOPEE FALLS COMPANY FIREARMS

by Ralph Spears

William Jenks invented a remarkable breechloader. From the time he introduced his new firearm and for almost two decades after, this gun might have been the best military gun in America. It was certainly one of the most powerful.¹

The Jenks was a breechloader, mass produced, and one of the first breechloaders that provided an effective gas seal. When Jenks invented his gun, the U.S. Army had already purchased thousands of breechloaders based on the patent of John H. Hall. Hall rifles and carbines had been issued to the regular Army and to State Militias and had been in service for almost twenty years. The rifles had seen action with the 6th Regiment in Florida and the carbines had been used by the 1st Regiment of Dragoons on the western plains and the 2nd Regiment of Dragoons in Florida. Hall patent arms however were criticized because of a lack of an effective gas seal.

Because of its effective gas seal, the Jenks was powerful. Army tests of bullet penetrations showed this conclusively. Bullet penetrations well exceeded the contemporary Hall breechloaders, and, also, of the service muzzleloading muskets and rifles.² Because the gas seal was so effective, virtually all the force of expanding gases propelled the bullet.

Despite its power, the Army ultimately rejected the Jenks. The Jenks was consistently rated higher than other contemporary breechloading arms at Army trials held during the late 1830s and early 1840s but during the period of these trials, Army officers, in

general, saw no real advantage with breechloading, and despite some experience with Hall designed arms, much preferred muzzleloading rifles and carbines. In field trials, officers seemed to invent reasons to reject them. In these trials, troops were issued Jenks with incorrect ammunition and no or poor instructions. The response of soldiers was predictably negative.

The U.S. Navy and the Revenue Marine Services, however, did purchase Jenks breechloaders. These were the most common small arms carried on Navy warships and Revenue Marine Service cutters from the mid-1840s until the Civil War. They were the primary small arms on warships and cutters that blockaded or captured every major Mexican port on both the Gulf of Mexico and Pacific coasts during the Mexican-American War. They also armed the sailors on Naval exploratory expeditions around the globe including to the Pacific on Perry's ships that opened trading with Japan in 1853-54.

The Jenks Breechloader

The Jenks breechloader operated by using a lever that slid an articulated slide into the breech (Figure 1). At the end of the slide was a plug that passed beyond a circular loading aperture. The plug drove the powder and ball into the breech and formed a tight seal. After firing, the loading lever was raised to withdraw the plug and slide to allow reloading. The loading aperture was circular and only permitted loading of the ball and powder separately. A paper or linen cartridge could not be loaded. Powder could only

The Jenks Breechloader (Patent 747)

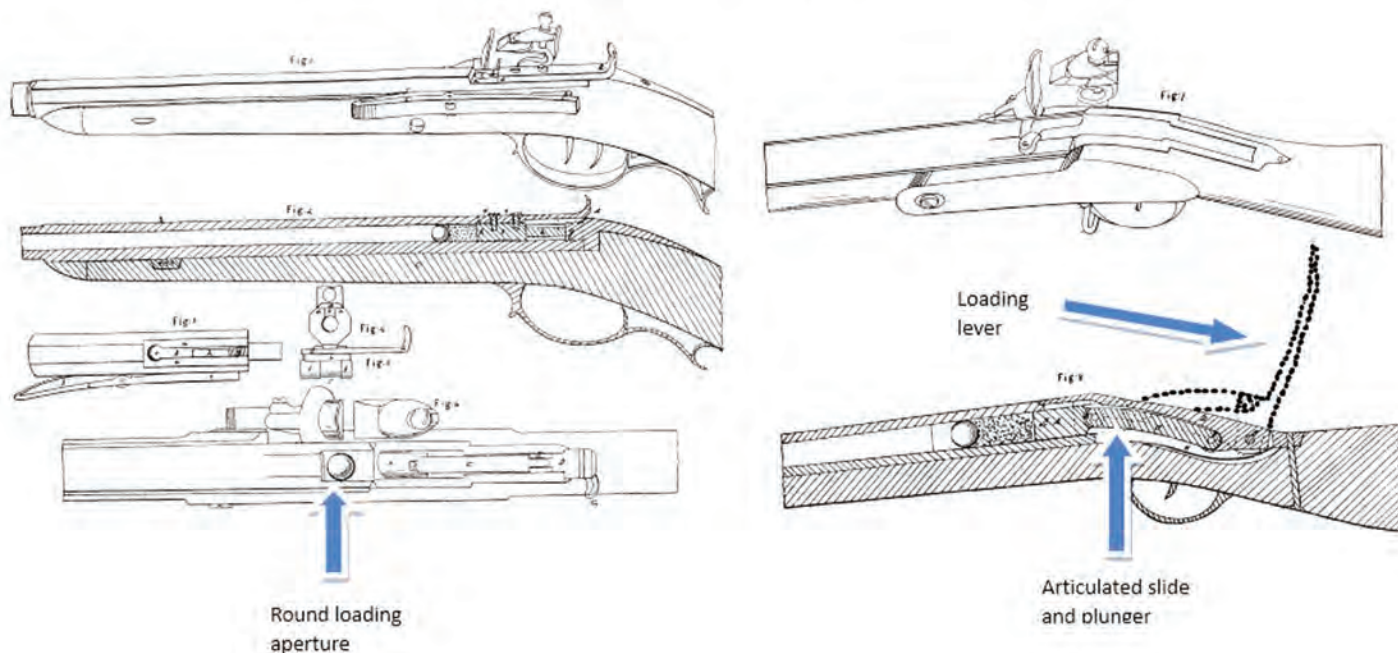


Figure 1. The Jenks breechloader patent drawing.

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be loaded using either a powder horn or flask. In fact, the Navy designed and purchased a special powder flask to use with the Jenks breechloaders.

William Jenks



Figure 2. William Jenks c. 1847.

The Jenks family in America has been well researched. William's (Figure 2) ancestors have been traced by William B. Browne who published a detailed history of the family, *The Jenks in America*³ in 1952. Jenks is a common name in New England. When William Jenks was born, ancestors of his had lived in New England for almost 200 years. He was the seventh generation. The earliest account of the Jenks family in America begins with the arrival in 1643 of the middle-aged widower, Joseph Jenckes (born 1602), from England. Joseph was a skilled cutler and had been employed by the famous royal sword maker, Benjamin Stone in his factory in Hounslow. Stone had made swords for King Charles I, but at the beginning of the English Civil War in 1643, Charles I had to flee London. Without royal protection, Stone had been forced to close his factory. This probably influenced Joseph to immigrate to Massachusetts. After arriving in Massachusetts, Joseph soon found work at the Saugus Iron Works near the future city of Lynn. By all accounts, Joseph possessed considerable inventive genius. He has achieved some celebrity in the history of Massachusetts.

The history of the Saugus Iron Works is quite interesting. Not many years after the pilgrims had landed at Plymouth in 1620, bog iron had been discovered in the swamp meadows along the Saugus River. The bog iron discovery was significant and economically important. Having a local source of iron meant that it would not have to be imported into the new colony. Not only did Joseph find work at the iron works on the Saugus River, but within a couple of years after he arrived in Massachusetts Colony, Joseph began construction of his own foundry and forge. The foundry was in

operation by 1647. We know that because in that year, he received what is recognized as the first machine patent awarded in America. He received a 14-year patent for his design of a water-driven machine to shape scythes, sawmill blades and other edged tools. His design of scythes became the standard used thereafter throughout North America.

Today the workplace of Joseph Jenckes and his fellow iron workers is preserved as the Saugus Iron Works National Historic Site. In 1898 the Lynn Historical Society erected a historical marker near the site with the inscription: "The first successful iron works in this country were established here in 1643. Joseph Jenckes built a forge here in 1647 and in 1652 made the dies for the first silver money coined in New England. In 1654 he made the first fire engine in America."

Joseph's son, Joseph Jr. had not immigrated to America with his father but did, join him later in 1648. Joseph Jr. was then about sixteen. Joseph Jr's claim to fame was his founding the city of Pawtucket, Rhode Island in 1671. The third generation of the Jenks family in America was also notable. It included Joseph Jenckes III (born 1656), who served as the Governor of Rhode Island. During the fifth and sixth generations, William's grandfather, and father, both named Zachariah, simplified the spelling of the family name from "Jenckes" to "Jencks." By William's generation the family name was further simplified to "Jenks."

By the time William's father, Zachariah, had been born, this branch of the Jenks family was no longer in Lynn but had moved to Lyme, New Hampshire. William Jenks was born there in 1805 and grew up as part of Zachariah's very large family. His father may have owned a forge there. He was a Revolutionary War veteran who married twice, fathered a total of 25 children, and lived to be 73 years old, dying in 1827 when William was 22. William was the tenth child by Zachariah's second wife, Sarah. Like his father, William had trained as a mechanic. He worked in his father's forge and his knowledge of machinery would prove important. Figure 3 shows the timeline of the life of William Jenks.

Still as a young man in his 20s, and soon after his marriage in 1832 to Elizabeth Beach, also of Lyme, William Jenks moved from Lyme to South Carolina. We know the reason for his move. He was offered a job as the superintendent of the new Saluda Textile Mills, near Columbia in South Carolina.⁴ He was employed by the Saluda Manufacturing Company by 1834.

The company was formed that year, organized by 30 investors from the local area. The company immediately began construction of a textile mill on the Saluda River, one of the first in the South. Even before the mill was completed and began operation in 1835, William was already tinkering. He and Charles Beck, one of the primary investors of the company, are both recorded as living in Columbia on a patent for a cotton seed hulling machine they were awarded in December 1834.⁵ The machine extracted cotton seed oil. William was still employed at Saluda as the mill's superintendent in 1838 when he invented and patented his breechloading rifle. He probably made his first rifle in the Saluda Mills machine shop.

In April 1838, he demonstrated his new breechloader to Pierce Butler, the governor of South Carolina at the capitol in Columbia.⁶ After receiving a most favorable review at the South Carolina demonstration, the details of the demonstration were published in the *Army & Navy Chronicle*.⁷ The *Chronical* was widely read by

William Jenks Timeline

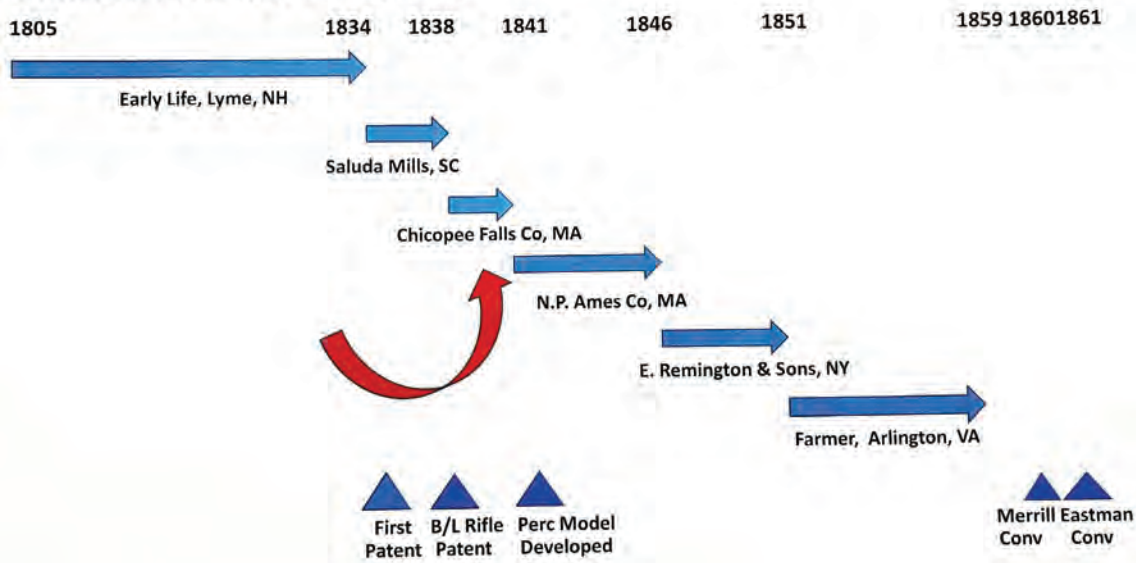


Figure 3. Time line of the life of William Jenks.

senior Army and Navy officers and William soon secured an opportunity to demonstrate his breechloader to a Board of Officers at Watervliet Arsenal. The Board was convened in July 1838 and William personally demonstrated his gun in November. The officers on the Board, however, remained critical of his gun. In general, Army officers at this time saw no advantage for breechloading arms. Despite the Board's criticism, but before the Board issued their final report in January 1839, Army Ordnance had not waited and had issued a purchase order for 100 breechloading musketoons by December 1838.⁸ The Army purchased the limited quantity for the guns to be used in field trials with troops. Several competitions in 1839, most notably at the Franklin Institute in Philadelphia in February,⁹ resulted in additional favorable reports and supported the Army's purchase.

With this first contract in hand and prospects for additional military contracts, William needed a factory to make his patent firearms. He found one in Springfield, Massachusetts. His new occupation as a arms maker was opportune. William's job at the Saluda Mill was ending. The investors of the mill were unable to secure additional financing as profits for the mill were meager. The owners actually put the mill up for sale in September 1838¹⁰ and the mill's assets were auctioned the following year.¹¹ William moved his family to Springfield in late 1838.

The first factory to manufacture his patent guns in quantity was the Chicopee Falls Company. That company made guns for the first Army contract for Jenks breechloaders and another, larger one, awarded by the Republic of Texas in June 1839. A lack of capital mostly due to the collapse of the national economy following the Panic of 1837¹² and failure to secure contracts after 1839, caused the company to fail in 1840. Even after the Chicopee Falls Company failed, William remained living with his family in Springfield because he was able to secure a major contract with the Navy in 1841 and he contracted with the nearby Nathan P. Ames Manufacturing Company to make his patent arms. The N.P. Ames Company, already well established as a contractor to the Army for swords and cannon, did not make firearms before 1841. When the Chicopee Falls Company was failing, Nathan Ames was being pressured by his major investors, Edmund Dwight and James K. Mills,¹³ to enter the market to manufacture small arms for the military. They saw it as an opportunity to expand the Ames Com-

pany. At the bankruptcy sale of the Chicopee Falls Company in 1841, Ames purchased the facilities and all the machinery. The Nathan P. Ames Company then greatly expanded these facilities over the next two years and manufactured Jenks breechloaders for four Navy contracts, making over 5,200 Jenks patent arms for the Navy and at least two hundred more for smaller contracts with the Army and the Revenue Marine Service.

William Jenks remained in Springfield until the last of his carbines manufactured by the N.P. Ames Company was delivered to the Navy. The Navy wanted to award another contract to Jenks in 1846 but they wanted a different carbine. The Navy wanted carbines fitted with a new automatic priming system invented by Doctor Edward Maynard. Nathan Ames could not agree an acceptable price for these carbines and William had to find another factory. With the award of the fifth contract for the Navy in 1846, William and his family moved to German Flats, New York. German Flats was a small municipality next to the Village of Herkimer and next to the factory of E. Remington & Sons. The carbines of the fifth contract with the Navy and a second contract for the Revenue Marine Services were made by E. Remington & Sons.

The 1850 census shows William Jenks and his family still living in German Flats. However, he was no longer involved with making guns for the Navy and the census lists his profession as "government agent" for the "federal public administration industry".¹⁴ It is unclear the meaning of the census description, or what William was still doing in New York as Remington had completed and finished deliveries of all of the guns for the Navy and Revenue Marine Services contracts in 1848. All we know is that after the completion of those contracts, while still living in German Flats, William still sought additional government contracts. He submitted a petition in 1849 to Congress, seeking the government to purchase additional Jenks firearms to issue to the state militias. The petition was unsuccessful and no further contracts for Jenks breechloaders resulted.

With no further work in New York, William and Elizabeth and their family moved and purchased a farm in Arlington, Virginia in 1851. He became a farmer and the local Postmaster¹⁵ He was active in the Agricultural Society of Alexandria County and, still tinkered. He patented a corn planter for which he was awarded another patent in March 1856.¹⁷

Figure 4. Image of the Works of the Chicopee Falls Company from the company's trade card about 1838 (Photograph by Peter Buxton). The buildings shown, from the left are the saw house, the gun shop, the forge and the furnace. The foundry is to the right and on the near side of the canal shown running in front of these buildings (not shown).



William died from an accident on his farm on 8 July 1859 at age 54, described in the *Washington Star*: “*The day before yesterday, William Jenks, a resident of Alexandria County...was engaged in loading hay on a hay cart in his field when he stepped too far over the edge of the mow, and fell over the horses, injuring his spine in such a manner that he remained paralyzed until this morning, when, we regret to learn, he died.*” Elizabeth continued to live on the farm but died four years later, in 1863. William and Elizabeth share a grave in Rock Creek Cemetery in Washington D.C.

Firearms of the Chicopee Falls Company

According to the Chicopee Falls Company's publicity, the company manufactured “guns and hardware.” The company manufactured at least five models of firearms between 1837 and 1840. The company was organized in Springfield, Massachusetts in 1836 by several local businessmen. The president was Timothy Carter, who would later be the principal agent for the later and more successful Massachusetts Arms Company, Nathan P. Ames, who owned a successful foundry then making swords and cannon for the U.S. Army, and who would later make Jenks firearms in his own company, Benjamin B. Belcher, David M. Bryant, an important merchant in Springfield, T.W. Buckland and John Chase, the manager of the Springfield Canal Company.¹⁸

Although the company was not large and had limited manufacturing capabilities (Figure 4), the company was well positioned and did have state of the art machinery to manufacture firearms. The Chicopee River at the Falls dropped about 50 feet at this location and provided year-round power to run all the machinery. The company was unable to attract sufficient business after two major contracts awarded in 1838 and 1839, and because the company was unable to secure additional capital in the tight credit economy following the Panic of 1837, the company failed. Nevertheless, the company for a time did attract several contracts of modest size and manufactured several important models of Jenks breechloaders.

The Chicopee Falls Rifle

The first known firearm made by the Chicopee Falls Company was a rifle for the U.S. Army. Although, modern sources by Reilly, Flayderman, Moller and others refer to this rifle as a Jenks rifle, the rifle had nothing to do with Jenks. The rifle was a muzzleloader, not a Jenks patent breechloader. They were contracted

for and most likely manufactured before Jenks arrived at the Chicopee Falls Company to manufacture his patent guns. The Army contracted for these rifles most likely in 1837 or, possibly, early in 1838. No actual documentation has been located. The Army bought only a small number of these rifles. The reason for the Army's purchase of these rifles has not been discovered. They were possibly made as part of the process to develop a new design for a rifle to replace the service rifle, the Model 1817, that had been in service since 1819. Production of the Model 1817 had ceased in 1829, about nine years before. (Note new contracts would be awarded for the Model 1817 rifle in 1840 but that was after this new model rifle by the Chicopee Falls Company had been delivered and evaluated by the Army).

The rifle, (Figure 5), is flintlock in .54 caliber with a 35¼ inch barrel. Note the back-action lock (Figure 5, upper left second row from top). Back action locks where the lock mainspring is behind the hammer, had become popular in the 1830s. Many Pennsylvanian and Kentucky rifle makers had adopted the design. The back-action was believed to have a faster action than conventional actions. In Britain, George Lovell, working at the Tower developing new arms for the British Army, adopted back action locks for the first models of Brunswick rifles and Victoria carbines introduced in the mid-1830s.

The back action lock was a characteristic of all Chicopee Falls Company arms. This is obviously the reason this rifle has been associated with Jenks. All later Jenks breechloaders will have this type lock as well. The rifle is equipped with a 34⅞ inch steel buttonhead ramrod. The rod has a wider diameter about 3½ inches from the tip. A spring ramrod catch engages the edge of this wider part to secure the rod (Figure 5 lower right). Unfortunately, on most surviving rifles the spring steel ramrod catch is missing. All rifles identify the manufacturer on the lockplate. As can be seen in Figure 5, lockplates are stamped “CHICOPEE FALLS CO. / MS.” In two lines. All rifles were inspected. Surviving rifles show barrel proving witnessed by either Nathan W. Patch or Joseph Hannis; as can be seen in Figure 5, the top of barrels are stamped either ‘NWP’ or ‘JH’, respectively. A ‘P’ within a rosette is also stamped. Stocks have cartouches of either Elizur Bates or Joseph Hannis, ‘EB’ or ‘JH’ on the left side wrist, and all rifles have the cartouche of Major Mann P. Lomax on the top of the stock just forward of the buttplate tang (Figure 5 lower left). Major Lomax

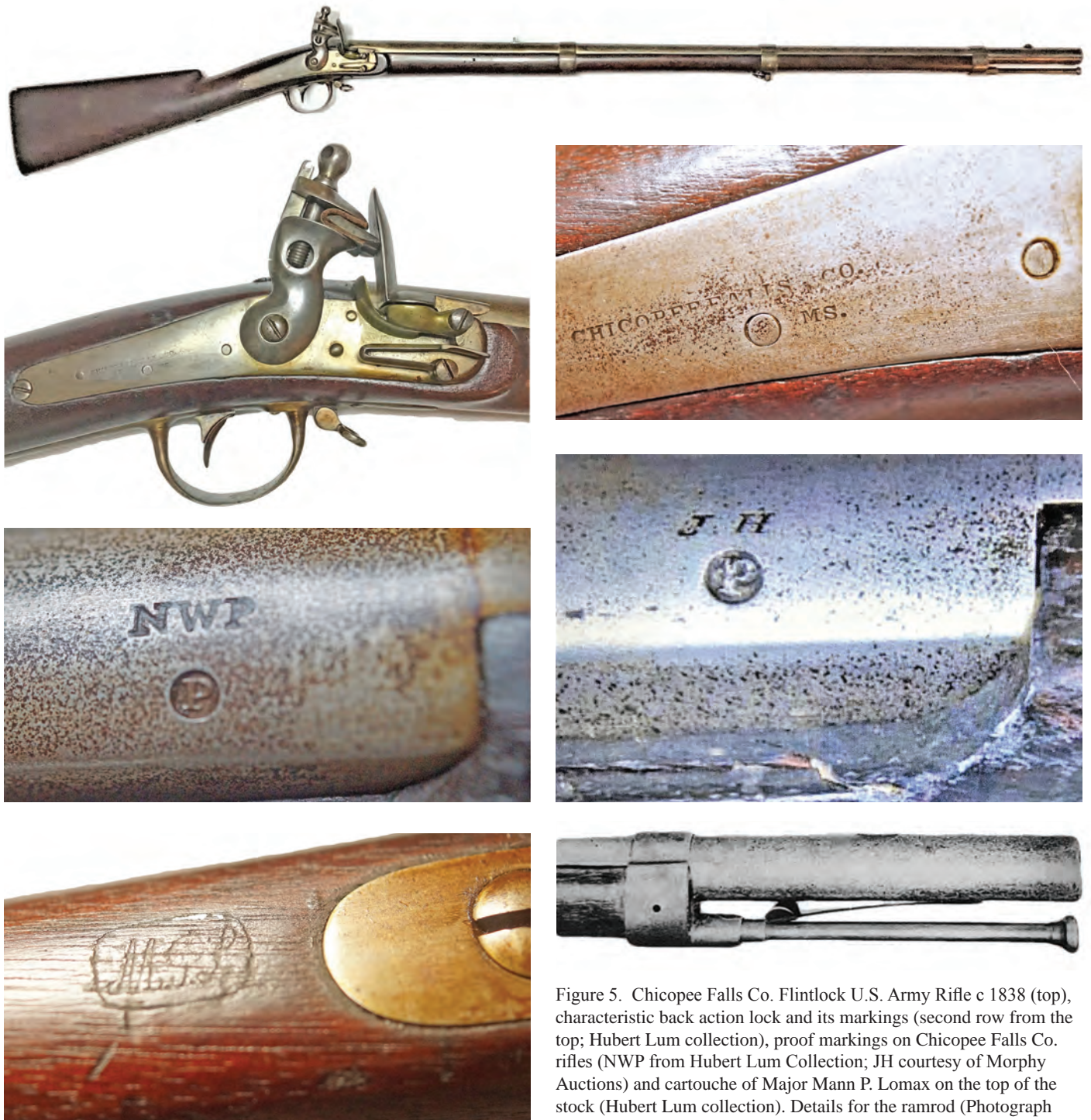


Figure 5. Chicopee Falls Co. Flintlock U.S. Army Rifle c 1838 (top), characteristic back action lock and its markings (second row from the top; Hubert Lum collection), proof markings on Chicopee Falls Co. rifles (NWP from Hubert Lum Collection; JH courtesy of Morphy Auctions) and cartouche of Major Mann P. Lomax on the top of the stock (Hubert Lum collection). Details for the ramrod (Photograph courtesy of Rock Island Auctions)

was then the chief of contract inspectors. Few survivors of these rifles are known; I only know of four.

The Army Jenks Musketoon, Model 1839

The second firearm made by the Chicopee Falls Company was one associated with William Jenks (Figure 6). In December 1838, the Army ordered 100 flintlock breechloading musketoons from William Jenks. These .64 caliber smoothbore arms had a 26 11/16 inch barrel, a length midway between a carbine and a rifle barrel. These musketoons are the earliest of Jenks patent firearms made in any quantity. The only earlier known Jenks firearm is the patent model made by Jenks in South Carolina.

These musketoons are Jenks breechloaders and have the articu-

lated slide and plunger operated by a lever. (Figure 6, second row from top, left); loading is through a slightly oval loading aperture (second row, right). The back action locks of these Army musketoons clearly resemble the actions for the previous flintlock rifles made at Chicopee Falls. Undoubtedly, the design of these musketoons copied the design of the earlier rifles. Note that although these are breechloaders, and a ramrod is unnecessary for loading, these musketoons have a ramrod held in a channel under the forestock. The ramrods are retained by friction with the channel and without a special catch. Two versions of the ramrod have been observed. The ramrod shown in Figure 6 has a button head but other surviving examples of this musketoon have a ramrod with a trumpet head. Markings on the top of the breech indicate that these are Jenks patent arms and were manufactured in 1839 (Figure 6, third



Figure 6. US Army Jenks Musketoon c 1839 (Photograph by Michael Fullana for the Institute of Military Technology)(top), lockplate and raised Loading Lever (Photograph courtesy of Michael Fullana for the Institute of Military Technology) (second row from top, left); showing the loading aperture (right, second row from the top; Hubert Lum collection); lockplate markings (Hubert Lum collection); breech markings (Photograph courtesy of Michael Fullana for the Institute of Military Technology); cartouche of Nathan W. Patch (Hubert Lum collection); Major Mann P. Lomax cartouche (Hubert Lum collection).



row from top, right). Musketoons are serial numbered and numbers are stamped on the top of the plunger. The lock plate markings, are virtually identical to the earlier rifles, as well. All rifles were inspected. Surviving rifles show barrel proving witnessed by either Nathan W. Patch or Elizur Bates. Barrels are stamped with a "P" and the initials either 'NWP' or 'EB'. Figure 6 (right, third

row from top) shows the proof stamp of Elizur Bates on the breech markings. Stocks have cartouches of Nathan W. Patch, 'NWP' on the left side forward of the lock and the cartouche of Major Mann P. Lomax on the comb of the stock (Figure 6, bottom row).

Fifty Army musketoons were issued for field-tests to the 1st and 2nd Dragoons in 1840. Twenty-five were issued to each regiment.

The 2nd Dragoons refused to issue them and soon returned their twenty-five to Springfield. Captain Sumner, commanding the detachment of the 1st Dragoons at Carlisle Barracks, did test the muskets issued to that regiment and reported them better than either the Hall or Colt Paterson carbines¹⁹ but repeated the prejudice of Army officers of the period against any breechloaders.²⁰ No additional contracts were awarded.

These muskets remained in storage at Springfield. New percussion locks were purchased in 1842 from William Jenks for the Army to convert the muskets from flintlock to percussion.²¹ Nevertheless, no actual conversions were ever made. The extra locks were still reported as being in storage at the Springfield Ar-

mory during the 1850s.²² Survivors of these muskets are rare, I know of only eight. One other may exist; Moller reported a musketoon with brass hardware but I have not seen it.²³

The Texas Jenks Musket

The largest contract received by William Jenks for guns made at the Chicopee Falls Company was made for the Republic of Texas. In 1839, the Republic of Texas had a new president, Mirabeau B. Lamar. Lamar very much disagreed with the policies of the first president, Sam Houston, who had tried to maintain friendly relations with Indians and had not wished to provoke Mexico further. In sharp contrast, Lamar's policies were much more aggressive. Lamar wanted to expand the borders of the new Republic, expel



Figure 7. Republic of Texas Jenks musket c 1840 (top, Old Sturbridge Village collection), lockplate markings and loading lever raised (row second from the top); loading aperture and Texas Star stamping on the top of the barrel (row second from the bottom); and ramrod (bottom); (photographs by the author)

the Indians, and punish the Mexicans. As a result, Lamar needed a much larger Texas Army. To equip new regiments, he needed guns and military supplies. Lamar's chief of ordnance for the Republic was Colonel George W. Hockley. Hockley had the task to provide the arms and equipment. He sent his agent, William Dangerfield, to the United States in 1839 to purchase the needed guns and supplies. Numerous purchases were made, including one for 250 Jenks patent muskets.²⁴

These .54 caliber breechloading, smoothbore arms had a 33¼ inch barrel (Figure 7). Very unusual for military arms, the hardware is silvered. The musket has the same Jenks patent breech mechanism and back-action lock very similar to the earlier Army's breechloading musketoons. The loading aperture, however, is circular more like the original patent rather than oblong like it was on the Army musketoon (Figure 7). The musket also has a slotted trumpet head ramrod. The slotted head clearly suggests that the rod was used for cleaning the barrel, as it was obviously not needed for breechloading. The lock plate remains the characteristic back action and the lockplate is stamped the same as on the earlier Chicopee Falls guns with "CHICOPEE FALLS CO / MS". The musket has no inspection markings but does have a "star" within a circle stamped on the top of the barrel forward of the rear sight. These muskets were completed by August 1840 and shipped to New Orleans.²⁵ William Jenks awaited payment. Texas finally paid for the muskets in August 1841 and they were then shipped to Galveston. They saw hard service in Texas and only one of these guns seems to have survived.

The Jenks Percussion Rifle

The Texas contract was the last major contract for guns made at the Chicopee Falls Company. The company was starved for capital as credit was very tight in the severe economic depression following the Panic of 1837. The delay in payment for the Texas contracted muskets was probably also a contributor. The company, underfunded, and with no access to credit, failed by late 1840. Before the failure however, the company made a few more guns.

One was a sporting rifle. Unlike all previous Chicopee Falls Company firearms, that had been flintlock, this rifle was made with percussion ignition. By 1840, percussion arms had been recognized as superior firearms. Percussion arms had been introduced into the U.S. Army as early as 1833 and in the British and European armies they were generally introduced between 1836 and 1840. In the next year, 1841, the U.S. Army would finally adopt percussion ignition as standard for all its service arms. This rifle is the first Jenks breechloader made with percussion ignition. It is certainly the first Jenks breechloader made in the United States with percussion ignition and pre-dates the percussion carbines made by N.P. Ames beginning in 1841.

This handsome rifle is a Jenks breechloader of .36 caliber (Figure 8). The barrel is 36 inches. The first nine inches of the barrel is octagonal with the remainder round. Hardware is silver and engraved. Note that the percussion hammer (Figure 9) is a conventional one that strikes a percussion cap placed on a cone nipple that is attached to the side of the barrel with a bolster. The musket has the same Jenks patent breech mechanism (Figure 26) and back-action lock very similar to the earlier flintlock rifles and



Figure 8 Chicopee Falls Co Jenks percussion sporting rifle c. 1840 (Authors collection).



Figure 9. Chicopee Falls Co Jenks percussion sporting rifle c. 1840. Lock details with loading lever raised (left) and details of breechloading action and loading aperture (Authors collection)



Figure 10 Chicopee Falls Co. presentation rifle to Wm. Jenks (top); lock details (second row from top) showing name of master gunsmith Cyrus B. Allen (right); detail of engraving on the buttplate and silver medallion insert into stock cheek shows the Seal of South Carolina (bottom row); presentation markings on the top of barrel (bottom right) (Don Dietrich collection).

muskets made by the Chicopee Falla Company. The loading aperture is circular. The rifle has a wooden ramrod held in a channel under the forestock, but the ramrod has no metal tip. The ramrod was unnecessary for a breechloader. Except for floral engraving, the rifle is unmarked. Based on similarities with the next rifle to be described made about the same time, this rifle was made by the master gunsmith employed by the company, Cyrus B. Allen.

William Jenks Presentation Rifle

One of the last firearms made at the Chicopee Falls Company associated with William Jenks was not a Jenks breechloader. It was a conventional muzzleloading rifle, but like the percussion sporting rifle, it was one of the very few made by the company with percussion ignition. The rifle was made as a presentation from the Chicopee Falls Company to William Jenks in appreciation for his getting contracts from the Army and Republic of Texas for his

patent breechloaders. The .42 caliber rifle is muzzleloading with a part octagon, part round barrel, 31 inches long (Figure 10). The lockplate remains the characteristically back-action. Hardware is silver. The rifle has a brass tipped wooden ramrod held within a channel inserted into the forestock and by two iron thimbles on the underside of the barrel. The top of the barrel is engraved with the inscription “Jenks PATENT Columbia SC Chicopee Falls Comp Mass”, (Figure 10, lower right). The rifle is nicely engraved, particularly with the Seal of South Carolina on a silver medallion inlet into the cheek of the stock (Figure 30). The buttplate has a finely engraved eagle above the globe. Iron parts and other silver hardware of the rifle are also engraved. The rifle was made by Cyrus B. Allen²⁶ and his name is engraved on the lockplate.

Conclusions

The first government contract Jenks breechloaders were all made by the Chicopee Falls Company, but no additional contracts were awarded after 1839 and the company failed the next year in the tight economy following the Panic of 1837. Although the company failed, the facilities were still available. One of the original partners in the company, Nathan P. Ames, was pressured by his major investors to expand his business and secure additional government contracts. Ames was already considered a reliable supplier by the Army and Navy of swords and brass cannon. Ames' major investors wanted Ames to expand into the small arms business as well. In 1841, the opportunity was available. When Jenks got his first Navy contract in September 1841, the N.P. Ames Company was already involved. Nathan Ames' brother, James, and a

master gunsmith, Albert Eames, employed by Ames, helped Jenks redesign his breechloader as a mule ear side hammer percussion gun. Ames also made model carbines of the new design to demonstrate to both the Army and Navy. This design so impressed the U.S. Navy, they awarded a contract based solely on published reports and a demonstration Jenks made in Washington. The Army, more cautious, organized a Board of Officers to be assembled at Fort Adams in Rhode Island to further test the gun. By the time Jenks signed the Navy contract, Nathan Ames had agreed to make the guns and had purchased the Chicopee Falls Company facilities and machinery. These facilities and machinery were then expanded and used to manufacture over 5,400 of the mule ear percussion carbines and muskets known by collectors today.²⁷

ENDNOTES

- ¹ Report on the Jenks Trials at Fort Adams, published in the *Army Navy Chronicle of 21 May 1842*
- ² Experiments were made at West Point in 1837 to measure the penetration into seasoned white oak planks of balls fired from the standard U.S. musket, M1816 (.69 caliber with 144 grains of powder), the Common Rifle, M1817 (.54 caliber with 100 grains of powder, the Hall (breechloading) rifle, M1819 (.54 caliber with 100 grains of powder) and the results showed a penetration of 1.43 inches at a range of 50 yards for the standard U.S. musket, 1.43 inches also for the Common Rifle and 0.63 inches for the Hall rifle. The penetration reported for the .52 caliber Jenks from the trials at Fort Adams was 1¾ inches at 50 yards with only 50 grains of powder. (*Army and Navy Chronical Vol 13, No 18 dated 21 May 1842* also provided a summary of the results from the West Point tests when it reported on the results of the Fort Adams tests)
- ³ Browne, William B., *Genealogy of the Jenks Family of America*, Rumford Press, 1952, supplemented by Colket, Meredith B., *The Jenks Family of England*, 1956.
- ⁴ *The Charleston Mercury on 8 December 1837* specifically identifies William Jenks as superintendent of the Saluda Manufactory.
- ⁵ Beck, Charles & William Jenks. 1835. 'Specification of a Patent for a Machine for Hulling and Breaking Cotton Seed, Preparatory to the Expressing of Oil. Granted to Charles Beck, and William Jenks, Columbia, South Carolina, December 17th, 1834'. *Journal of the Franklin Institute*. Vol. 16, No. 1 (1 July 1835), 41–42.
- ⁶ *Charleston Courier* on 24 April 1838. Pierce M. Butler was elected governor by the state legislature in 1836. He had been in the Army between 1819 and 1829 when he resigned his commission as a captain to return to South Carolina. He served in the Army briefly again in 1835-36 as the lieutenant colonel of the South Carolina Mounted Rifles mobilized and sent to Florida for the Second Seminole War. He was however, soon discharged for medical reasons. He would again receive a commission of the Palmetto Regiment for the Mexican War in 1846. He was killed at Churubusco in 1847 while leading his regiment. In 1830 he became the president of the Columbia branch of the Bank of South Carolina. In this position he was a financial advisor to investors of the Saluda Manufacturing Company. William Jenks probably met him while he was working as the mill superintendent. When Butler became governor, William Jenks found a good supporter. Soon after he was elected, Butler had pledged to revitalize the state's militia system. He remained very interested in military developments such as Jenks' breechloader while he was in office. (Richards, Miles S., *Butler, Pierce Mason, April 11, 1798 – August 20, 1847*, published in *South Carolina Encyclopedia* by University of South Carolina, Institute for Southern Studies, 2016)
- ⁷ *Army and Navy Chronicle of 10 May 1838*.
- ⁸ The actual date of purchase remains unknown. No records have been located.
- ⁹ The report issued by William Hamilton for the Committee on Science and the Arts of the Franklin Institute of the State of Pennsylvania on 13 December 1838 was also copied in the *Army and Navy Chronicle of 10 February 1842*. This ensured wide distribution among senior officers in the Army and Navy.
- ¹⁰ The initial investment seems to have been heavily undercapitalized. Also plaguing the factory was the poor transportation network in the South, in general, and this part of South Carolina, particularly. With no railroads and poor roads, the cost of getting raw materials to, and finished products shipped from, severely narrowed profits.
- ¹¹ This would be the first sale of the mill's assets. They would be sold on several other occasions in later years but the mill would survive until Sherman destroyed it in 1865. For more information on the Saluda Mills refer to *The Saluda Factory: Forgotten History of the Riverbanks Botanical Park*, published by Chicora Foundation, Inc., 1996.

- ¹² The Panic of 1837 and resulting severe economic national depression, blamed on the policies of Andrew Jackson (U.S. President from 1829–1837) that had greatly increased speculation during the rapid expansion in the West and the “do-nothing” policies of Martin Van Buren (U.S. President from 1837–1841) that anticipated the similar policies of Herbert Hoover (U.S. President from 1929–1933) some 90 plus years later, curtailed businesses and made securing financing almost impossible. Refer to Roberts, Aisdair, *America's First Great Depression: Economic Crisis and Political Disorder after the Panic of 1837*, published by Cornell University Press, 2012, for more information on the economic depression caused by the Panic.
- Roberts, 2013 for more detail on the Panic of 1837.
- ¹³ Edmund Dwight and James K. Mills owned textile mills in Springfield. A chance encounter between Dwight and Nathan Ames had led to Dwight offering a site and financing for Nathan's father to relocate his iron works to Springfield from Chelmsford, Massachusetts. Dwight needed ironworks to make and repair machinery parts to support his mills. By 1829, the Ames had moved the family's ironworks operation to Cabotville (a suburb of Springfield on the Chicopee River). Nathan's father died in 1832 and Nathan and his brother, James, with the support of Dwight and Mills, established the N.P. Ames Company. Edmund Dwight and James K. Mills would continue to provide financial support to the Ames brothers and their expanding company through the Civil War. (Hamilton, John D., *The Ames Sword Company 1829-1935*, published by Mowbray Company, Providence, RI, 1983
- ¹⁴ Census information provided by the Herkimer County Historical Society
- ¹⁵ *The Alexandria Gazette* of 18 March 1851 reported William Jenks was appointed as the Postmaster at Jenksville in Alexandria County. “*The office is four miles north-east from Washington, and two-and-a-half miles from Fall's Church, on or near the route from Alexandria to Dranesville.*”
- ¹⁶ *The Alexandria Gazette* of 6 November 1851 reported that William Jenks was appointed to a committee to examine and report on a draft constitution of the Agricultural Society of Alexandria County.
- ¹⁷ US patent 14,505, awarded on 25 March 1856
- ¹⁸ Szetela, Thaddeus M., *History of Chicopee*. Chicopee Falls, MA: Szetka & Rich Pub. Co., 1948, p. 70
- ¹⁹ Captain Sumner reported he was able to demonstrate that twelve rounds could be discharged with the Jenks within 2 minutes. He reported that the Colt took 2½ minutes and the Hall, 5 minutes. (Lustyik, “The Jenks Carbine Part I”, July 1964, pp 6-15).
- ²⁰ Ibid.
- ²¹ Lustyik, “The Jenks Carbine Part Four”, *Gun Report*, October 1964, pp 13-18.
- ²² Ibid.
- ²³ Moller, George, D., *American Military Shoulder Arms, Volume II*, University of New Mexico Press, 2011, p 483
- ²⁴ Letter 4 January 1841, Hockley to Burnet (Texas State Archives 401-1227/5)
- ²⁵ Ibid.
- ²⁶ Cyrus Allen of Springfield Massachusetts is primarily known for making the Elgin Cutlass Pistols in 1837. Of these pistols, 150 were manufactured for the U.S. Navy to arm the crews of the Navy's South Seas Exploring Expedition of that year. For these guns: Allen made the pistol and N.P. Ames made the cutlass. The Elgin Cutlass Pistol was the first percussion ignition firearm ever purchased by the U.S. Navy. (Hamilton, 1983, pp. 71–73). Allen also made the rare Cochran “turret” revolvers between 1836 and 1840. (Hamilton, 1983, pp. 86–87).
- ²⁷ This site on the Chicopee River and these facilities would continue to be used even after the end of Jenks production by the N.P. Ames Company. Nathan Ames died in 1847 and the company was then led by his brother James, with the continued support of Edmund Dwight and James K. Mills. In 1849, James decided to dispose of the site and concentrate his cutlery, tools and cannon making to the original Ames site. The Massachusetts Arms Company was incorporated 5 March 1850 and purchased the site and facilities. This was an important arms making company that would continue to make arms until the 1930s. T.W. Carter, president of the original Chicopee Falls Company returned to join this new company and again became president. James Ames invested as well as did John Chase, local businessman, Thomas Warner, master armorer and previously superintendent of the Whitneyville Armory, Chester W. Chapin, president of the Connecticut River Railroad, and R.W. Chapman, local businessman. Thomas Warner, who had been a master armorer at Springfield and previously had been the superintendent of the Whitneyville Armory when Sam Colt began making Walker revolvers, hired some of the most famous arms makers in America: Daniel Wesson, Horace Smith, Joshua Stevens, and William H. Miller. It was an ‘all star’ cast. During the 1850s, the Massachusetts Arms company made Wesson-Leavitt revolvers, Adams revolvers, , some of Christian Sharps' Model 1850 rifles, Greene carbines, early Maynard and Gilbert Smith rifles and carbines. During the Civil War, Massachusetts Arms manufactured almost 50,000 improved Smith and Maynard breechloading carbines for Federal cavalry.

