



ROBERTS' CONVERSION MUSKETS, RIFLES, AND CARBINES

by Edward Hull

The firearms inventions of Benjamin Stone Roberts (Plate 1) have often been overlooked by military arms collectors, even though in their time these guns were made in significant numbers. Perhaps this is because the successes had by Roberts and his Roberts Breech Loading Arms Company had been primarily in the sale of musket conversions to countries other than the U.S. This is the story of Roberts' successes and failures, to include a description of the various conversion muskets, rifles, and carbines produced under his patents.

Roberts was a West Point graduate, Class of 1835, and he was at first posted to the 1st Dragoons. In the Mexican War he joined the Regiment of Mounted Riflemen, which became the 3rd Cavalry in 1861. During the Civil War he rose to the rank of Brigadier General of Volunteers, and among his assignments he served as the Chief of Cavalry of the Department of the Gulf in 1863-64. After the war he rejoined his regiment, and then was posted to Yale University as a military arts instructor. He resigned from the Army in 1870. He died in 1875.

As early as 1860, Roberts had started developing ideas for breechloaders. As an Army officer in a cavalry regiment he had seen the many breechloaders with which the Army experimented in the late 1850s. With the advent of the Civil War, Roberts' military duties required his focus on combat leadership roles, but as the war progressed and his rising rank saw him delegated increasingly to administrative duties, his interest in firearms innovations was rekindled. The post-war era saw him achieve some success with his "tipping-block" design.

The Short Frame Tipping-block Design

Roberts was ready with several sample firearms when the Secretary of War ordered an Ordnance Board convened at the Washington Arsenal, D.C., in 1866. The Ordnance Board's stated objectives were to identify the best new-made rifle and carbine design as well as the best design for converting muzzle-loaders to breechloader. This board, called the Hancock Board after its presiding officer, Maj. Gen. Winfield S. Hancock, first met on March 10 and concluded its work on June 4. During the intervening 12

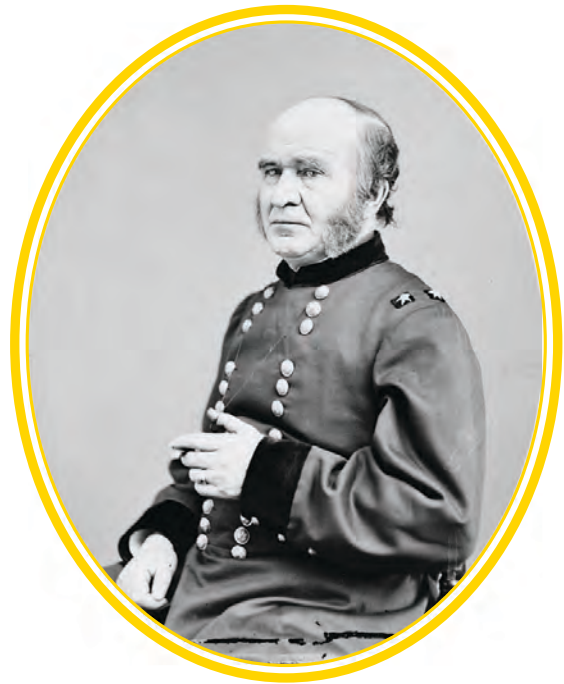


Plate 1. Bvt. Maj. Gen. Benjamin S. Roberts
(In author's collection)

weeks, the board examined and tested 74 different breech-loader samples. The main focus of the Ordnance Department was finding an efficient but inexpensive method of converting now obsolete muzzle-loading rifle muskets into effective infantry breechloaders.

Roberts personally submitted four sample arms to the board on April 9, all of them muzzle-loaders converted to breechloading and all of them an early trapdoor design. These included a carbine, a rifled musket, and two smooth bore muskets.

The board test fired a Roberts' carbine and also a musket, which was disabled by the large proof charge in a test of its strength. In the end, the Ordnance Board rejected Roberts' trapdoor design. With lack of success with his trapdoor, Roberts developed a completely new idea: a top lever tipping-block design (Plate 2). We choose to call it the Short Frame type to differentiate it from the next variation, which we call the Long Frame type (described below).

Roberts had not fully developed his new idea for a tip-

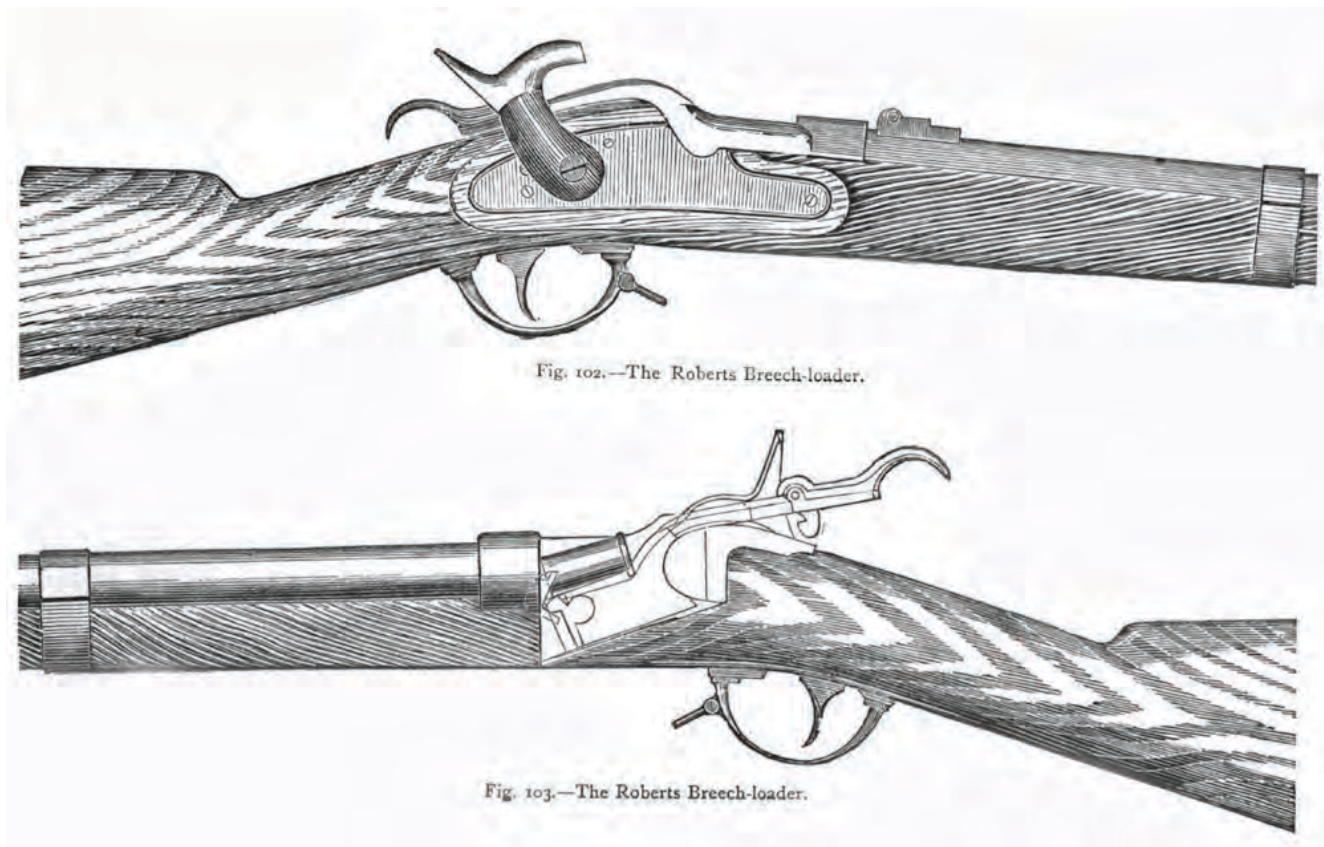


Plate 2. Drawing illustrating Roberts' tipping-block breechloading design.
(from Greener, "Modern Breech-Loaders: Sporting & Military")



Plate 3. Prototype Roberts breechloader made for the 1866 Ordnance Board.
The breechblock is set directly into a slot in the barrel. (Author's collection and photograph)

ping-block breechloader and did not have a sample rifle musket ready for the Hancock Board when it convened on March 10, 1866. He submitted a sample of his new design on May 9, which the board in its report called “Roberts’ arm, No. 5, second plan for modification of Springfield musket” (Plate 3).

The Ordnance Board members obviously found favor with Roberts’ new design: the rifle musket was tested immediately by firing it 100 rounds, achieving an “average, 13 (shots) per minute” rate of fire. The next day the board entered it into an advanced trial: the “test for strength of construction.” The musket was first loaded with a charge of 65 grains of rifle powder and two balls (500 grains each). With this test’s success, another charge of 70 grains and three balls was tried...unsuccessfully. The board reported that the “escape of gas through cut for breech-piece broke the stock, and the shell so wedged that the breech-piece could not be moved nor the chamber opened; arm disabled.” From this comment we get one key clue in identifying the arm’s design: the mention of a cut through the breech end of the barrel that contained the breechblock.

Roberts also provided the Ordnance Board with a written description of what he called his “Second Plan for changing muzzle-loading into breech-loading arms.” He says:

This plan consists in cutting through the barrel, directly in front of the breech-pin, an opening the width of the flange of the cartridge, and the length of the length of the cartridge when the bullet is inserted. A circle is then turned from the center of the old breech pin, on which is fitted a breech-plug with sufficient motion around that circle to drop the top of the front end of this plug, to the bottom of the cartridge chamber....

With this descriptive text and the corresponding description in Roberts’ later patent text, we can see that “Roberts’ arm, No. 5” is made on Roberts’ tipping-block design. The design is also illustrated in his later 1867 patent drawing. Note that in production arms a receiver is used rather than cutting directly through — and weakening — the barrel as in the “Roberts’ arm, No. 5” test sample.

After Roberts’ rifle musket had been disabled by the testing, he retrieved it, had it repaired and improved, and on May 16 he resubmitted it. Roberts explained that the failure had been caused “by the bursting of the head of

the metallic cartridge,” not by any defect in the breech design, and that he had improved the design of the breech piece to avoid future problems. He asked that the arm be tested again, but there is no evidence that the Ordnance Board did so. By this time the Ordnance Board had settled on the trapdoor design of Hiram Berdan as the best idea for conversions to breechloader and on June 4 the board made that recommendation final.

When the Chief of Ordnance, Brig. Gen. Alexander B. Dyer, received the Ordnance Board’s recommendation he was not persuaded that the government should put all its faith in Berdan’s design based on this one limited trial. He overrode the Ordnance Board’s recommendation with one of his own on June 26, recommending “...that as many as many as fifty of each of these arms of .50” caliber be prepared at the Springfield Armory, at the expense of the United States, and so issued to troops that an equal number of each kind will be in the same company...” He was referring to the Allin, Yates, Remington trapdoor, Roberts, and Berdan designs.

The army commander, Lieut. Gen. Ulysses S. Grant, approved this recommendation, as did the Secretary of War. However, because of the immediate need for breechloaders with which to arm the soldiers fighting Indians on the western frontier, Allin’s trapdoor conversion plan, the Model 1866 Springfield Rifle Musket (which had much similarity to the Berdan design), was adopted. Nevertheless, Gen. Dyer’s endorsement of Roberts’ design proved useful in subsequent sales of muskets.

Muskets to Brazil

Roberts did see some commercial success with his Short Frame type tipping block design. A Brazilian government armaments commission was visiting the U.S. in 1866 and observed the aforementioned arms trials at the Washington Arsenal, D.C. It recommended the Roberts design to its government. Brazil was at that time in a war with Paraguay, in the War of the Triple Alliance, 1864 to 1870.

On December 20, 1866, the Brazilian government ordered 1,000 Roberts rifles and 800,000 cartridges as a test lot. By this time Roberts’ design had evolved to include a separate breech frame — a sturdier design than that of the slot cut into the barrel (Plate 4). This small order was apparently sufficient to justify the start of manufacture by the newly formed Roberts Breech Loading Arms Company. However, before any deliveries were made, on June



Plate 4. Comparison of the 1866 prototype (top) and a production Short Frame type (center & bottom), showing the incorporation of a frame for the breech. The frame is 3-1/2 inches long, not including the tang. (Author's collection and photograph)

3, 1867, Brazil canceled this order and replaced it with a second contract calling for the delivery of 5,000 Roberts rifles.

The Roberts rifle muskets were not quickly delivered. The first lot of 1,000 Roberts muskets left the U.S. on November 25, 1867, and was delivered to Brazil on the steamer South America in December. There was yet another delivery on June 1, 1868, of 1,000 arms, of which only 892 passed inspection. For an unknown reason, only 4,000 of the Roberts rifle muskets passed inspection in Brazil; the defective muskets were replaced by new ones.

Only 855 Roberts rifle muskets were ever sent to the field for testing in the hands of soldiers. Problems with their cartridges, which the Brazilians loaded in their own arsenal, caused misfires and the Roberts muskets to be unreliable; none were ever issued to Brazilian troops in combat. A Brazilian Artillery (Ordnance) officer, Major Ayres de Moraes Ancora, wrote on April 14, 1868, "I conclude... that the Roberts system...[is] not suitable for our infantry."

After the war, Brazil sold most of the Roberts rifle muskets to Argentina and Uruguay. Two sales to Argentina of 1,000 each are documented on January 10 and 16, 1871. Later Argentine arsenal records show Roberts rifle muskets in inventory. The total number sold to Uruguay has not been found but one delivery of 800 Roberts rifle muskets is documented on January 2, 1875. The author has personally examined Roberts rifle muskets in Brazil and Argentina, and these are of the Short Frame type made from U.S. Springfield rifle muskets.

Muskets for France

Having succeeded in getting the endorsement of the U.S. Army Chief of Ordnance for his design, Roberts turned to Europe to seek future sales. European countries had been forced to reevaluate their armaments after watching the Prussian army defeat the Austrians in the Seven Weeks War of June - July, 1866. Pundits decided that the breechloading Dryse Rifle (Zundnadelgewehre) of the Prussians played a significant role in their defeat of the Austrians with their muzzle-loaders. Roberts chose this time to journey to the Continent to offer new breechloaders to meet the perceived need. In France, Roberts found some success, albeit fleeting.

The French had established an armaments testing com-

mission in 1866 which resulted in the selection of the Chassepot bolt action needle rifle. Nevertheless, in January of 1867, Roberts submitted a sample of his design to the commission. The report of the success of his design at the trials apparently induced the Minister of War to issue a contract, dated April 26, 1867, for the delivery of 30,000 musket conversions. Roberts returned to the U.S., arriving on May 8.

Roberts apparently had no actual plan in place for the production of so large a number of his conversion muskets, so "as a result of unforeseen circumstances, he could not fulfill the requirement," according to an 1868 advertising pamphlet. In an 1870 pamphlet Roberts blamed his new partner, saying, "The contract was undertaken by the Providence Tool Company...but that company failed in its execution...." Roberts' explanation in these pamphlets, along with documentation in the State of New York and State of South Carolina files (see below), confirms that the Providence Tool Company was the maker of all of the Roberts conversion muskets and carbines.

It is not surprising that the Providence Tool Company did not respond rapidly in 1867 to Roberts' need. The company's priority at that time was the development of its in-house breechloader, the Peabody Patent rifle.

Roberts, however, in returning to the U.S., found new opportunities to sell his design.

Patent

While Roberts was in Europe, he gave power of attorney to manage his arms business to Maj. Gen. Alfred Pleasonton (Plate 5). Pleasonton had been a fellow cavalry officer, serving in the 2nd Dragoons and then the 2nd Cavalry Regiment. Roberts, probably through Pleasonton, set about obtaining a patent on his new design. The application for a patent was submitted on January 4, 1867, but on April 6, it was rejected. An amended application was made on May 15 and the patent was then approved on May 16. The patent was issued, or published, on June 11, 1867. Roberts secured the following two features in the claims section of his patent:

1. In combination with a breech-piece, B, which swings about a curved abutment, c, a rocking block, g, so applied to said breech-piece as to allow of the opening and closing of the breech of the barrel for the insertion of and

New York Trials



Plate 5. Gen. Alfred Pleasonton, President of the Roberts Breech Loading Arms Company 1866-1869.
(Library of Congress)

withdrawal of a cartridge, substantially as described.

2. The lever, B', formed on the rear curved end of the swinging breech-piece B, and adapted to move about the solid abutment c, in combination with a rocking block, g, which will admit of the opening and closing of the breech, substantially as described.

The groove m in the rocking block g, operating on the lever at the shoulder a, so as to extract the cartridge, substantially as described.

By looking at the drawing accompanying the patent text (Plate 6), it is clear that Roberts had obtained a patent on a breechloader using a two-piece, lever-operated tipping-block design. This differs from the similar Peabody top-lever design, which used a one-piece, lever-operated tipping-block. Both the patent drawing and the text show that by late 1866 the Roberts design had evolved into a two-piece barrel/receiver design with a separate breech frame attached to the end of the barrel. Obtaining patent protection for this design was essential if Roberts and Pleasonton were to successfully form a company and garner investors.

Pleasanton, with Roberts still in Europe but with the patent in the process of being approved, now prepared to submit a sample arm to an Ordnance Board that had been established by an October 10, 1866, order of the Adjutant-General of the State of New York.

The State of New York on December 18, 1866, ordered an Ordnance Board to convene “to examine and test the inventions and improvements in breechloading military small arms...” This Ordnance Board met through May 18, 1867, at the state’s arsenal in New York City, testing 17 different designs for converting muzzle loaders to breechloading; it also tested 13 arms designs for “new-” or purpose-made rifles. Pleasanton presented a sample Roberts breechloader to this board as president of the Roberts Breech Loading Arms Company.

The Roberts arm submitted was an “altered Springfield rifle” in caliber .58 rimfire. The description shows that this sample was of Roberts’ Short Frame type. In the test for rapidity of fire, Pleasanton himself achieved 14 shots per minute while a “private soldier” managed only 8 shots per minute. The arm withstood all of the proof tests for strength, as well as tests with cartridges purposely made defective. The Ordnance Board also examined how quickly the various muskets could be disassembled and reassembled: for the Roberts design it took 4 minutes and 3 minutes 45 seconds, respectively, these long times due to the fact that the barrel/receiver assembly had to be dismounted from the stock in order to remove the breech parts.

At the conclusion of the Ordnance Board’s testing it reported the Allin, the Berdan, and the Roberts systems “as superior in all respects to any and all of the others.” In general, however, the board members failed to find a way to definitively select the best system and they recommended further tests. Consequently, the Ordnance Board was reconvened on July 9 in a second session which lasted until January 1868. An improved Roberts rifle design was submitted to this second session; the Long Frame type discussed below.

Roberts Conversions for Mexico

The principal sales agent of the Roberts Breech Loading Arms Company, the New York firm Schuyler, Hartley & Graham, had extensive contacts in Latin America for the sales of armaments. It appears that they made use of their sales network to obtain a contract for Roberts breechloaders from the government of Mexico.

There is only limited documentation on a Mexican purchase of 4,000 Roberts conversions in 1867. A letter from

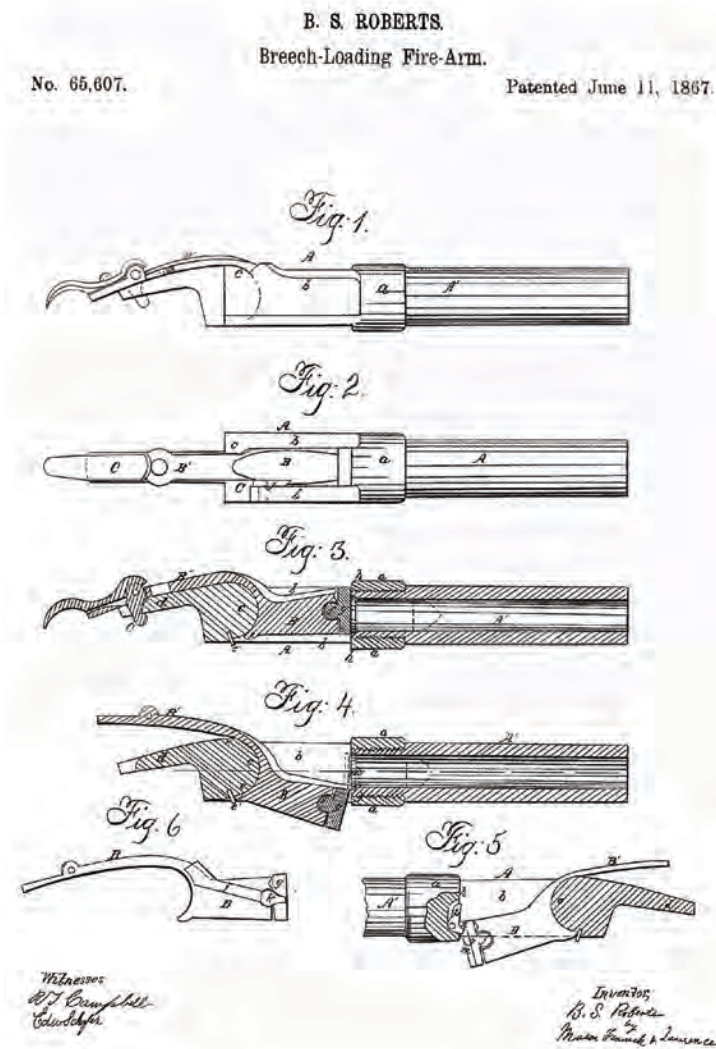


Plate 6. Drawing from Roberts' patent of June 11, 1867. Note that the patent illustrates a Short Frame type breech system, incorporating a frame to hold the breechblock. (U.S.. Patent Office)

the Roberts Breech Loading Arms Company says they had a contract dated July of 1867 "...with the Mexican government...for guns, cartridges and cartridge machinery..." A Schuyler, Hartley & Graham letter of August 6, 1867, says that Roberts conversion tools for centerfire would be completed by September 1 (note that only the Mexican Short Frame type arms are uniquely centerfire). In 1869, a report of the Mexican Secretary of War and Navy states that Roberts infantry rifles had been delivered and were in use. An 1871 government report confirms the initial purchase consisted of 4,000 rifle muskets. The above letter from the Roberts Breech Loading Arms Company also says that by arrangement a U.S. government inspector, A.G. Sinclair, was at work in November 1868 inspecting the Mexican guns.

Mexican inventories of the 1870s list "Roberts comunes" (i.e., common) carbines, apparently to differentiate the Short Frame type from the later purchase of "Roberts reformatas" (i.e., reformatted) arms, or Long Frame type.

Also, it appears that local alteration of some rifle muskets into cavalry carbines was undertaken; one such is shown here and Mexican museums display others (Plate 7).

The story of later Mexican purchases is continued below. The last known sales of Roberts Short Frame type breechloaders were the following shipments from Schuyler, Hartley & Graham:

July 8, 1868 – 20 Roberts rifles (with 60 Gallagher carbines) to Yokohama, Japan.

August 7, 1868 – "815 Roberts breechloading rifles with implements" sold to another arms merchant, Charles H. Pond. (Author Herbert Houze says these were also destined for Japan.)

September 30, 1868 – 40 Roberts breechloading muskets, to Yokohama, Japan.

November, 1870 – about 790 Roberts rifle muskets to France (see below).



Plate 7. An example of a Mexican marked .58 centerfire Roberts carbine, which is actually a rifle musket with its barrel shortened to 22-1/2 inches. The top of the barrel is engraved/ etched with the Mexican “sunburst/liberty cap” (Phrygian Cap) over “RM,” and “GSP” for Gobierno San Luis Potosi. (Author’s collection and photograph)



Plate 8. An example of a Long Frame rifle musket. (Author’s photograph collection)



Plate 9. A close-up of the breech of another Long Frame type. Note the bolt which replaces the front lockplate screw and is screwed into the frame. The frame is 4-1/2 inches long, not including the tang. (Author’s collection and photograph)



Plate 10. Comparison of the Short Frame (bottom) and Long Frame (top) breeches. The frames differ by one inch in length. (Author's collection and photograph)

With these final sales, the story of the Roberts Short Frame type conversion arms ends. The Brazilian, Mexican, Japanese, and French purchases total 10,665 arms. It is likely that the production run totaled up to 11,000 arms. A Schuyler, Hartley & Graham letter dated October 25, 1867, confirms that the Providence Tool Company was converting the rifle muskets for the Roberts Breech Loading Arms Company. The author possesses Short Frame type rifle muskets numbered 77 and 9089 (located on the bottom of the barrel and frame), showing that the number range was likely continuous from "1." Unless some reader reports a higher number, this may indicate the approximate number made.

The Long Frame Tipping-block Design

In 1867 Roberts redesigned his tipping-block breech-loading system (Plates 8, 9, 10), perhaps induced by two factors. The first had to do with its military utility: to clean the breech thoroughly or replace a broken firing pin, removing the breechblock required the barrel/receiver unit to be dismounted from the stock. The second reason was that his conversion manufacturer now had a

similar breech system that was much easier to maintain. By early 1867 Henry Peabody had designed a competing top-lever, tipping-block breech system (Plate 13) which Roberts likely observed at the Providence Tool Company factory. Roberts, or a mechanic at the Providence Tool Company, redesigned the Roberts system to reverse the convex/concave surfaces at the rear of the breech, making breechblock removal simple and efficient (Plates 11, 12). We will hereafter call this the Long Frame type design; the company made no such original distinction.

A comparison of the Roberts and Peabody similarities is pictured here (Plate 13). Because this redesign merely changed the relative position of the concave/convex surfaces in the breech, the text in the June 11, 1867, patent covered the new design as well and no additional patent coverage was needed. However, Roberts did later patent the feature of the "cam key pin" which holds the breechblock in the frame (patent number 90,024).

During the period 1867 to 1870 the Roberts Breech Loading Arms Company experienced turnover in the office of the president. It is not clear just when the management



Plate 11. Comparison of the Short Frame (top) and Long Frame (bottom) breechblocks.
(Author's collection and photograph)

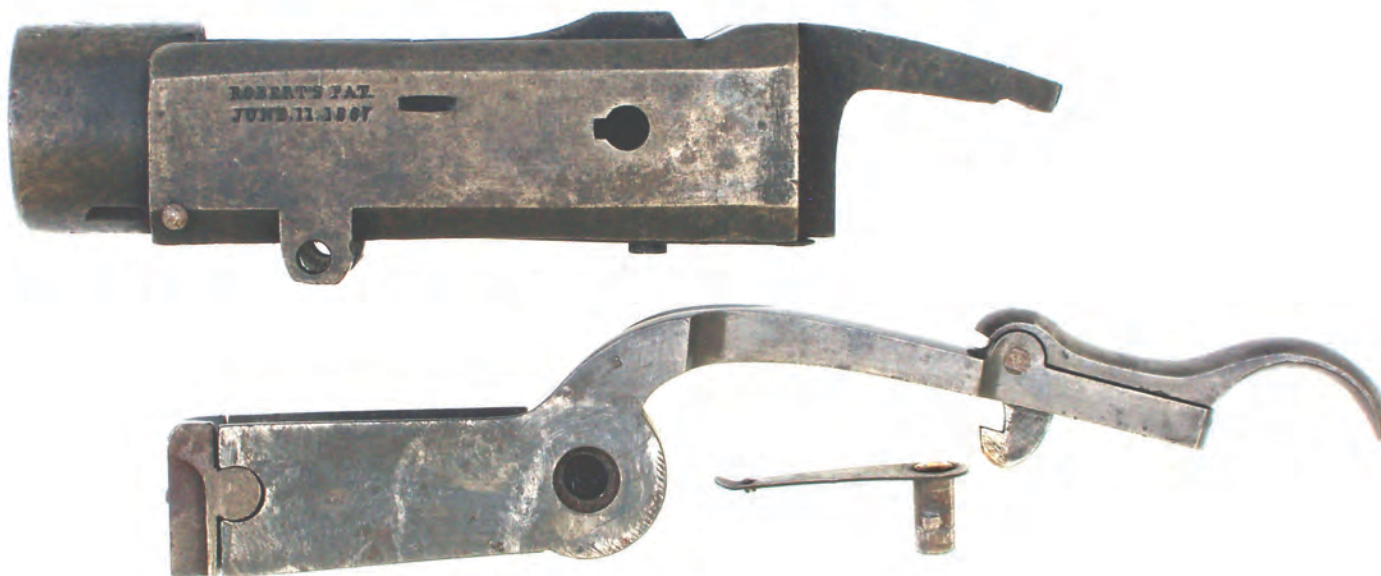


Plate 12. In the Long Frame type the breechblock is retained in the frame by a keyed pin. With the pin removed the breechblock is readily lifted out of the frame for cleaning or repair.
(Author's collection and photograph)



Plate 13. Comparison of the Roberts Long Frame (top) and Peabody Patent (bottom) breeches. Both are .58 caliber centerfire. (Author's collection and photograph)

of the company changed hands, but Gen. Pleasonton as president wrote a letter to the Ordnance Department in May, 1868. Pleasonton was replaced by May 1869 by A.B. Steinberger acting as “managing director”; he signed the contract with South Carolina in August 1869. By December of 1869 company correspondence shows “W.H. Jackson” as company president. Likewise, the office address in New York changed often. It apparently was located at 54 William St. through 1868, then 179 Broadway in 1869, and finally at 39 Broadway (the office of Isaiah Woodbury) in 1870 advertisements.

With the new Long Frame type design in hand, Roberts and the Roberts Breech Loading Arms Company set about finding buyers for more musket conversions.

New York Trials, Part 2

The first opportunity to sell the new, or Long Frame type, breech system came immediately. As described above, the New York State Ordnance Board which had originally recommended the Roberts system (as well as the Berdan and Allin designs) was ordered reconvened in a second session. The Ordnance Board met to begin setting

its agenda June 5, and selected July 9, 1867, at the start of examination and testing. The Roberts Breech Loading Arms Company had a sample Long Frame type ready to submit to this session.

The Roberts rifle musket submitted is described as “...the United States ‘Springfield’ pattern, made by machinery.” However, “the breechloading parts, five in number, were made by hand, and constitute ‘the Roberts breechloading attachment’” (Plate 14). The breech system was made for a caliber .58 centerfire cartridge. The board’s report noted that “the breech-block and appendages are readily removed and replaced without dismounting the entire gun as hitherto.” The trial’s first test was firing 1,000 rounds; this was successfully completed, although the misfire rate was over 4%, significantly more than the Allin or Berdan designs. The board reported that “the gun withstood this test well, no wear or derangement of the mechanism being apparent....” A heavy proof load was next fired “...without affecting the gun.” Lastly, five cartridges with cases purposely made defective were fired “...without in any way affecting the breechblock or deranging the mechanism of the gun.”



**Plate 14. Transition model Roberts Long Frame example, handmade for the 1867 New York States Ordnance Board. The frame is 4-5/16 inches long. The breechblock is retained by a screw-in pin.
(Author's collection and photograph)**

In its final report the Ordnance Board said of the Roberts design:

The strength and safety of this gun, its easy manipulation, and its capabilities for rapid firing, are conceded by the entire Board. The security of the breech-block, as against accident by premature explosion, is indubitable. The ejection of the empty cartridge case is accomplished without springs, as the inclined position of the breech-block facilitates the ejection...."

Generally, it may be expressed that guns of this class, from the peculiar system of the breech, are eminently safe and durable, capable of sufficient rapidity of fire....

The final choice of a recommended design then came down to cost. The board solicited sealed proposals for the conversion of from 10,000 to 40,000 rifle muskets. The Roberts Breech Loading Arms Company submitted the second lowest cost: from \$6 per gun for 10,000 to \$5.50 per gun for 40,000. Only the firm of The Wind-

sor Manufacturing Company offered a lower cost, but the Ordnance Board had found fault with their Lamson trapdoor design. Consequently, on January 30, 1868, the board reported "...that after careful and long-continued examination and experiment, and in consideration of the combined qualities of strength, durability, safety, efficiency and economy, this Board [recommends] the Roberts system of conversion...."

The New York Commissary-General of Ordnance, George W. Palmer, eventually issued a contract to the Roberts Breech Loading Arms Company for the conversion of 10,000 Springfield rifle muskets. The contract, which had the approval of the governor of New York, is dated September 14, 1868. The contract called for:

..Roberts' system...with certain improvements, according to new model, as follows: With the receiver lengthened and the shoulder on the breech plug reversed and working on a center, confined by a pin, which admits of removing, and replacing, the breech plug, and exposing the breech without dismounting the gun, as hitherto...

The contract required converted arms to be returned to the state by May 1, 1869, or alternatively no more than 3 months after any delivery by the state of muzzle loading muskets to the company. The state first delivered 2,020 Springfield rifle muskets, which the company forwarded to the Providence Tool Company for the conversion work.

This optimistic start soon came to failure. A newly elected administration took over the governorship in January, 1869 (Democrat John T. Hoffman replaced Republican Reuben E. Fenton). When the incoming Adjutant-General learned of the contract made by his predecessor, he claimed that no law had been passed to authorize this contract and he so informed Gov. Hoffman. At the governor's direction on January 25, 1869, the Adjutant-General issued a stop work order to the Roberts Breech Loading Arms Company. The governor also directed the state's Inspector-General, James McQuade, to proceed to the factory to personally stop the work. McQuade found no arms at the address of the Roberts Breech Loading Arms Company.

McQuade found the 2,020 arms actually located at the factory of the Providence Tool Company and on February 1, he reported:

The arms in question are now in the workshops of the Providence Tool Company, which company has been employed by the Roberts Breech-Loading Arms Company to change them into breech-loaders. They are in the following condition: The barrels have been removed from the stock, and cut off about one inch in front of the cone, preparatory to their insertion in the breech-frames of the 'Roberts breechloading attachment.' Nothing else has been done to the arms. I ascertained, however, that the Providence Tool Company is now engaged in forging breech-frames for the 10,000 muskets mentioned in the contract; and I was informed, at the workshops, that some part have been completed for that number, and that materials have been provided sufficient to complete the whole work...

In their present condition...these muskets are worthless.

From this we can see that the Robert Breech Loading Arms Company had again subcontracted with the Providence Tool Company for the conversion of 10,000 Long Frame type rifle muskets. It is evident that no conversion arms of the Long Frame type had yet been made by the Providence Tool Company, as they were then at work on the initial lot. The description of the "lengthened" receiver and the pin to retain the breechblock matches the characteristics of the Long Frame type.

It is not clear how the state and the Roberts Breech Loading Arms Company resolved this impasse. Legislative reports show that the state Senate continued to investigate the contract through May 1869 but there is no recorded resolution. We can speculate that the number of arms at issue, and thus the potential cost, was not sufficiently large to warrant legal proceedings.

On the other hand, what was the Roberts Breech Loading Arms Company going to do with its contract with the Providence Tool Company for 10,000 conversions? Foruitously, other sales opportunities appeared.

South Carolina

In South Carolina, the state purchased 5,000 Roberts Long Frame type musket conversions. This was accomplished by the Reconstruction government of the state, and resulted in a scandal over the costs invested and the funds skimmed. The investigations of this purchase in 1871 and again in 1877 give us significant insight into what transpired with this contract.

In the summer of 1869 the "carpetbagger" administration began preparations for the election campaign in 1870. In the words of the Adjutant and Inspector General, F.J. Moses, The militia was "...organized and armed for political purposes by the advice and consent of Governor Scott..." Other testimony said:

The entire militia, as organized and armed, was composed of colored men, with the exception of a few white officers...The real object of the enrollment was to give employment to the different local leaders while they were, in reality, organizing the party for the coming campaign.

Moses later testified about his involvement in the arms contracts in mid-1869:

I was commissioned by Governor Scott to proceed to Washington and secure all the arms... from the United States government and at the same time purchase ammunition and make the contract referred to....

I entered into a contract...with the Roberts Breech-Loading Company to change five thousand muskets to breech-loaders of the Roberts pattern, and to pay them \$8.85 for each gun so changed." For each arm changed and altered I was to receive one dollar as a royalty....



Plate 15. Drawing of what a South Carolina militiaman might have looked like, with his Roberts conversion rifle musket. (Commissioned by author)

reason was authorized to act as intermediary for the actual transaction. Subsequent testimony shows that the funds to pay for the converted arms were controlled by Pond. He paid the Roberts company only 50 cents per gun, "which they had to take or get nothing." He paid directly to the Providence Tool Company \$6 per gun for the conversion work. Pond kept the remaining \$2.35 each for himself: \$11,750.

The 5,000 converted Long Frame type Roberts rifle mus-

kets were, in fact, delivered as contracted, along with 5,000 Remington conversion rifle muskets. While some of the Remington conversions have been noted with an "S.C." stamp on the buttplate tang, no Roberts conversion so marked has been noted. All 10,000 muskets were chambered for the Roberts .58 centerfire cartridge; Moses had also contracted with the American Ammunition Company for 1 million copper Roberts cartridges. By October 31, 1870, a total of 6,973 converted rifle muskets had been issued to the 1st through 13th Regiments, National Guard of South Carolina (Plate 15).

The Roberts muskets remained in the hands of the militia for over a decade. Then, in an 1879 report the Adjutant General said, "The Roberts rifle, having demonstrated its utter worthlessness as a weapon of offense or defense, has been abandoned and withdrawn from the troops as far as it was practicable to do so." Nevertheless, Roberts muskets remained in the hands of some colored troops through the 1880s.

The Adjutant General tried to dispose of 1,524 recalled Roberts muskets by finding a buyer for them. The muskets were shipped to arms dealer Herman Boker & Company in New York, but that company offered little in return for them. Finally, in 1880 Boker traded 100 Sharps carbines for the entire lot of Roberts arms. In 1876, the state had likewise traded 668,000 caliber .58 Roberts cartridges to Schuyler, Hartley & Graham in return for 350 Peabody carbines.

Certainly, an Army officer such as Roberts would have been dismayed to have had his name connected in any way to this sordid tale of greed in South Carolina politics.

Further, the Roberts Breech Loading Arms Company still had 5,000 of the original 10,000 Roberts conversion muskets to sell. Another European war solved this problem.

French Purchase

The Franco-Prussian War began on August 2, 1870. Provoked by Prussia, France invaded. The Prussians and their allies responded by attacking into France. The Imperial Government collapsed on September 2, and by September 20 Paris had been encircled. A new French Government of National Defense was established and it took on the task of continuing the war. A supply of weapons from the U.S. was essential to the continued fighting because so many French weapons were captured during the Prussian

invasion. Among the hundreds of thousands of American small arms which went to France were Roberts conversion rifle muskets. Once again, this tale involved scandal.

The purchase of the Roberts rifle muskets was effected by the French Consul General in New York City, Victor Place. He had been empowered by his government to make one purchase of Spencer carbines on his own authority, and he was also given control of the funds with which to pay for the large arms purchases that Samuel Remington, of E. Remington & Sons, was making on behalf of the French government. Later testimony would show that he had his own interest in mind as well as that of his country: he levied a "commission" on Remington's purchases of arms and ammunition which funneled thousands of dollars into his pockets.

Place also bought arms that he was not authorized to buy. One such purchase was for Roberts conversion rifle muskets. In mid-November 1870, Place bought 5,790 Roberts muskets from Schuyler, Hartley & Graham (which firm was once again the go-between for the Roberts Breech Loading Arms Company). Place paid \$19 each but then invoiced the purchase to the government at \$22. Place shipped these on the steamship Erie on November 28, which ship arrived at Brest on December 16. At least 1,365 of these Roberts muskets were delivered to the French training encampment of the Army of Brittany at Camp Conlie. However, they were delivered without any cartridges. Place also had purchased 125,000 cartridges of the unique caliber required, far too few a number for so many rifles if they were to be used in combat (the French typically bought 400 cartridges per arm, equating to over 2.3 million Roberts cartridges). Place apparently did not even ship the cartridges on the same steamer with the rifles. Consequently, the Roberts rifles were relegated to use only for drill purposes with the recruits of the Army of Brittany.

Also, documentation shows that two different types of Roberts muskets were received in France. Thus, it appears that not only the available 5,000 Long Frame rifle muskets were shipped but also perhaps 790 of the Short Frame type. (It is also possible that this reference to two different types merely differentiated Springfield versus Enfield type converted rifle muskets, both of which were available.) Further details of this transaction have not been found, but this sale certainly cleared out the store-room of the Roberts Breech Loading Arms Company and saved it from serious financial losses on the Long Frame type venture.

Afterwards, in 1872, Victor Place was prosecuted by his government for fraud in his arms purchases. In testimony he justified his purchase of Roberts rifle muskets by saying that the French government itself had contracted for 30,000 such arms in 1867. However, his profiteering was too egregious and he was convicted and imprisoned.

Mexico Again

The Mexican army was satisfied with the Roberts rifle muskets, as well as the cartridge-making machinery, which it received in 1868-9. Thus, in 1871 the Mexican Secretary of War and Navy reported to the Congress that the army needed, "...eleven to twelve thousand more, being also necessary to provide rifles to the cavalry, and although it would not be possible to make this expenditure in the next fiscal year...you will want to [be] attending to this urgent need." By the time funds became available in 1872, the army officers had seen the Remington rolling block rifle, which they considered a much better arm. While another 2,000 Roberts arms were purchased, the remainder of purchases was Remingtons.

Mexican inventories of the 1870s list Roberts rifle muskets as well as both "Roberts comunes" (i.e., common) and "Roberts reformatas" (i.e., reformatted) carbines.

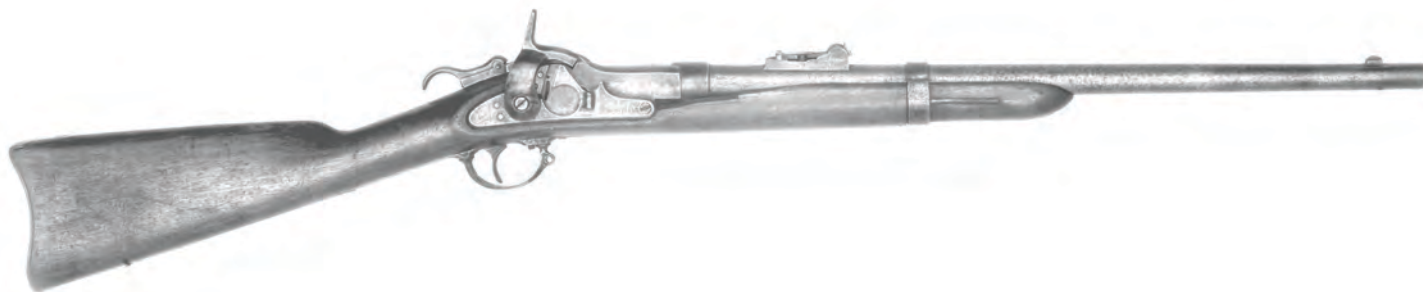


Plate 16. This example Roberts Long Frame carbine is illustrative of what such a Mexican issue carbine looked like. This one has no Mexican markings. (Nunnemacher Collection, Courtesy Milwaukee Public Library)



Plate 17. Another example of the Roberts Long Frame rifle, this one in caliber .50-70. The Roberts Breech Loading Arms Company gave this to the Ordnance Office as a sample on Dec. 14, 1869. (Smithsonian Inst., photos by Jaclyn Nash, NMAH)

Mexican museums have samples of Short Frame type and Long Frame type carbines in their collections. Thus, it appears that in this second purchase of 2,000 Roberts conversion arms Mexico received the Long Frame type “reformata” version (Plate 16). Since the few Long Frame type arms observed in these museums are carbines, perhaps this order for 2,000 arms specified carbines only.

Additional Breechloader Trials

While sales efforts for the Long Frame type conversion had limited success with states and foreign countries, the Roberts Breech Loading Arms Company was not successful in garnering any orders from the U.S. Army or Navy. This was not for lack of trying (Plate 17).

The next opportunity for the Roberts design to be offered to a U.S. government trial came in 1869, when the Navy convened a board to select a replacement breechloader for the Model 1867 Remington Carbine. On March 24, 1869, Rear Admiral John A. Dahlgren, Chief of the Navy Ordnance Bureau, convened a board at the Washington Navy Yard to test the latest breechloader designs. The board members tested 17 different breechloader types and models over the course of the next 4 months, issuing its final report on August 2, 1869, which recommended that the Remington rolling block rifle be adopted.

At the board’s early request, the Springfield Armory sent a sample “Roberts breechloader” to the board. Roberts himself submitted a sample of his design, listed in the

report as “Roberts’ Breechloading Rifle Musket, cal. .50 Springfield Barrel.” It appears to have been a Long Frame type rifle, based on the description he furnished to the board. Roberts apparently test fired the sample .58 caliber rifle musket sent by Springfield as well as his .50 caliber rifle; the discussion of firing both calibers does not provide details on these events.

Also, the secretary of the Roberts Breech Loading Arms Company, C.F. Manson, submitted “Roberts Breechloading rifle #2, Springfield barrel cal. .50” (Plates 18, 19). This latter rifle is described as differing from the earlier .50 caliber test model by “...having a spring catch in the rear of lever catch & by a change in the form of end of the main lever plug and by a corresponding alteration of the lever to suit.” Clearly this describes the Long Frame type receiver design. At the time this rifle was submitted the board had “...already decided against the lever & sliding breechblock system for Naval use, and [it] was not subjected to any tests.”

By mid-1869, however, Roberts had developed his “New Rifle” (a new-made tipping-block design), a sample of which he later exhibited to the Navy board. It did not fare any better in the view of the Navy board.

The failure of the Roberts design to gain any recognition at the Navy trials did not yet stop the company from further pursuing sales. On August 6, 1869, the Adjutant-General of the Army directed that a board of officers convene to “...examine and report on the best small-arms



Plate 18. This fully tinned Roberts Long Frame rifle in caliber .50-70 has a barrel 32-1/2 inches long. Overall it emulates the Springfield Model 1868 rifle. Serial numbered “2,” this is likely Roberts gun #2 of the U.S. Navy trials. (Author’s collection and photograph)



Plate 19. Two views of the rifle in Plate 18. (Author’s collection and photograph)

and accouterments for the use of the Army of the United States.” The board members had chosen the Saint Louis Arsenal as the site of testing, and thereafter the board was known as the “St. Louis Board.” This board, an Army rather than Ordnance Department Board, actually convened on March 2, 1870, and conducted its experiments from March 11 to May 23.

Seven Roberts arms of five different types were submitted to this board.

- 2 Roberts (Springfield) rifles, caliber .50”
- 1 Roberts (Springfield) rifle, caliber .50” No. 4

- 1 Roberts (Jackson’s improvement) rifle, caliber .50”
- 1 Roberts (Starr’s improvement) rifle, caliber .50”
- 1 Roberts center lock rifle, caliber .50”
- 1 Roberts center lock carbine

Unfortunately, the above descriptions are the only ones found for the Roberts arms that were submitted. The records of this Army board have not been located and only the published report is available (Ordnance Memorandum 11). What “Jackson’s improvement” and “Starr’s improvement” are has not been discovered, but they do not appear to encompass any patented design. It is obvious,

however, that the first four types of rifles are of Roberts Long Frame type system, because the “New Rifle,” or center lock type is clearly differentiated.

The results of the trials of Roberts’ arms are also not known, except that none were recommended for adoption. This Army board recommended the Remington system for adoption. As with the 1866 Ordnance Board, however, Gen. Dyer did not concur and recommended that the top three ranked designs be fabricated for field trials: the Remington, Springfield (Allin), and Sharps. (Later, the Ward-Burton bolt action was added.) The Secretary of War concurred with Gen. Dyer, leading to the fabrication of about 1,000 rifles and 300 carbines of each type at the Springfield Armory.

The Roberts Long Frame type design was not yet dead. Roberts himself submitted both “Roberts (transformed)” and “Roberts (new)” rifles to a New York State Ordnance Board convened in June of 1871. The board adopted a test agenda, “...substantially in accordance with the formula of the St. Louis Board...” The Ordnance Board used the facilities of the Springfield Armory for their testing.

Before even beginning the test of arms, the Ordnance Board asked for proposals on the cost of the offered arms. Roberts did not submit a proposal, so it appears that his design was not seriously considered. Also, only Roberts’ “new,” or center lock, rifle design was tested. The Remington “locking system” rifle was ultimately recommended (and adopted) as both the cheapest and best performer.

With this final failure, the Long Frame type design was terminated after the last 2,000 were delivered to Mexico. The Roberts Breech Loading Arms Company then closed its doors.

The purchases of South Carolina, France, and Mexico totaled about 12,790 Roberts Long Frame type conversion arms, with some number of the Mexican purchases of a

carbine configuration. We assume that the original 1868 contract between the Roberts Breech Loading Arms Company and the Providence Tool Company called for 10,000 conversions. The Mexican order for the additional 2,000 arms certainly caused the Providence Tool Company to restart fabrication in 1872. In summary, the number of Long Frame type arms only slightly exceeds the number of Short Frame type arms known to have been made.

Conclusion

Brig. Gen. Benjamin S. Roberts tenaciously pursued his arms inventions from 1860 until his death in 1875. Overall it appears that he had only moderate commercial success compared to the amount of time and effort he expended. In round numbers, about 11,000 of the Short Frame type and 12,000 of the Long Frame type Roberts conversions were fabricated.

What Roberts received personally as royalties on these sales is not known. A royalty of from 50 cents to \$1 per arm was common, so perhaps Roberts received between \$11,500 and \$23,000 for his conversion muskets. His royalties on cartridges were likely smaller, perhaps 25 cents per thousand, which adds up to over \$1,000 on over 4 million cartridges. In total, this was a large sum in those days, but after his expenses perhaps he profited little. It is likely a good thing that he “kept his day job” as an Army officer (who received the pay of his general’s rank during the Civil War) to assure his and his family’s security.

Author’s end note: This is an abbreviated excerpt from the forthcoming book, ROBERTS BREECHLOADING FIREARMS: RIFLES, CARBINES AND CONVERSION MUSKETS, 1859 - 1875. The book contains an extensive bibliography of original sources supporting the above story, to which the reader can refer. It will be available at wwwcreatespace.com on the “store” page.