

SMITH CARBINES OF THE CIVIL WAR, PART 2

by Ralph Spears

While there is much we do not know about the Gilbert Smith firearms manufactured before the Civil War, and much of what we think we know is speculation, information about the Smith firearms manufactured during the Civil War is much better documented. The carbines manufactured based on the patents of Gilbert Smith of Buttermilk Falls, New York were some of the most commonly used by Federal cavalry during the Civil War and existing correspondence and contractual information is substantial. Smith carbines actually rank fourth in the number of carbines purchased for Federal cavalry behind only Spencer, Sharps and Burnside carbines. Over 31,500 were purchased during the War to arm Federal cavalry. The Smith breech-loading design and his patented design for a cartridge with the case made from India rubber was successfully demonstrated to the Army before the Civil War but none had actually been supplied to arm Federal cavalry. As the Army expanded for the Civil War, they soon purchased large numbers of these patent carbines.

The First Contract

Gilbert Smith had invented a breech-loading firearm and secured three U.S. patents for the design of his breech-loading firearm. His patents were described in Part I of this series.¹ They are dated 1855, 1856 and 1857 and each introduced design innovations for a breech-loading firearm and, importantly, covered the design of a cartridge with the case made of a flexible material such as India rubber or gutta-percha. Cartridge cases made from these flexible materials provided an excellent gas seal when the breech-loading arm was fired. All of Smith's U.S. patent design features both for the firearm and for the cartridge had actually finally been combined into a single British patent in 1859, No 372 of that year. Thomas Poultney, an entrepreneur from Baltimore, Maryland had secured the rights to the firearms patents of Gilbert Smith in 1857. He and his partner, David Trimble, also of Baltimore, had started the firm of Poultney & Trimble in 1859. It was this firm that obtained the contracts with the Army and arranged for the manufacture of all the Smith patent carbines delivered during the Civil War.

The Gilbert Smith breech-loading design and cartridge had been successfully demonstrated at several U.S. Army and Navy trials conducted between 1857 and 1860 but no government contracts had immediately resulted. Despite the lack of a government contract, during that same period, Gilbert Smith continued to improve his design. Aided by Thomas Poultney, by 1859, Smith had perfected both his breech-loading firearm and cartridge designs. Earlier that year, Poultney & Trimble opened a store selling firearms and sporting equipment; from this store, they also began marketing Smith patent firearms.²

In February 1860, after a very positive testimony by Lieutenant Colonel Joseph E. Johnston of the 1st U.S. Cavalry, who had carried a prototype carbine on his trip to Mexico³ the previous year accompanying his brother-in-law, Robert Milligan McLane, the US minister to Mexico, the Army finally purchased 300 carbines to be issued to Federal cavalry for field tests. Before this contract

only a few Smith patent firearms had been manufactured but afterwards Poultney & Trimble needed to contract with a firm to manufacture larger numbers of firearms. A month after the award of the Army contract, Poultney & Trimble contracted with the Massachusetts Arms Company of Chicopee Falls, Massachusetts.⁴ By the end of the year 1860, it is most likely that several hundred military carbines of a model first introduced in 1859 and fully tested by the Army in early 1860 at the Washington Arsenal were manufactured. However, none of these carbines were actually delivered to the Army. Instead, they probably went south. There is good evidence that Poultney & Trimble sold at least 350 carbines manufactured during 1860 to Alabama and South Carolina.¹

The Massachusetts Arms Company was slow to begin the manufacture of military carbines based on Gilbert Smith's patent. This limited the number of firearms manufactured. Moreover, a fire on 18 January 1861 severely damaged the company's facilities⁵ and delayed production and deliveries. Before the fire, the slow production was most likely because the Massachusetts Arms Company was already very busy. When they accepted the contract with Poultney & Trimble for Smith carbines, the company were already making Maynard patent firearms and Adams patent revolvers; contracts for these had been awarded earlier. The contract with Maynard, particularly, had proved to be very successful and, for the Massachusetts Arms Company, had the higher priority. The contract with Poultney & Trimble was for several hundreds of firearms, the contract with the Maynard Arms Company was for thousands.⁶

By far, the major market for both the Maynard and Smith patent firearms during the year of 1860 was in southern states. However, in January 1861, the Federal Government introduced embargos on shipments of arms to the southern states that had seceded. With the embargo, purchases and production of the Maynards by the Massachusetts Arms Company soon ceased. The loss of market also coincided with the major fire at the Massachusetts Arms Company facilities.

Until the fire and the loss of markets in the south for the Smith carbine, the military Smith carbine had been in limited production during most of 1860. During 1860, Gilbert Smith and Thomas Poultney had continued to improve the design and introduced for sales a new model Smith as "sporting" guns. By September 1860, the manufacture of these "sporting" guns competed with the production of the military model carbines. These "sporting" firearms were sold from the Poultney & Trimble shop in Baltimore.⁷ Over a hundred of these Smith patent "sporting" guns were manufactured⁸ before production would finally cease and production once again be directed at military sales.

Troops from South Carolina began the bombardment of Fort Sumter on 12 April 1861 and President Abraham Lincoln immediately called out 75,000 men to suppress the insurrection. The defeat of the Federal Army at Bull Run on 21 July 1861 showed that an Army of only 75,000 would not be enough. More arms

of every type were needed to arm the greatly expanding Federal armies. The increasing demands for arms also offered increasing business opportunities. As it was with many others, Poultney & Trimble recognized these opportunities. In early August, shortly after the Federal defeat at Bull Run, Thomas Poultney offered Brigadier General James W. Ripley, chief of ordnance at the War Department, 25,000 Smith patent breech-loading carbines. He offered them at the same price agreed for Poultney's previous 1860 contract, \$35.00 each.⁹

Despite the great need for arms, Ripley was at first, unimpressed and quickly explained in an endorsement of Poultney's offer to the secretary of war his rejection on 15 August 1861.

Respectfully returned. This carbine has never been adopted for United States service. There were 300 ordered in 1860, for trial in the field to test their merits, but none have been delivered. This proposition is objectionable on account of its introducing an arm untried in the field – of its requiring a special cartridge, and of the price charged. The best of Sharpe's [sic] carbines cost \$30 each, including appendages.

*The orders in this division are, to arm the cavalry with sabres and pistols only.*¹⁰

This note highlights several interesting issues confronted by General Ripley. First, he was having to greatly expand the procurement of arms, even arms not yet tested and proven in service. Before the War, the Army had purchased several types of patent carbines and issued them in limited numbers for field tests. These included patent arms by Sharps, Burnside and Joslyn. As a result of reports from the field tests, design issues had been fixed and contracts awarded for carbines with improved designs. Ripley was, however, forced to purchase a number of other types of patent breech-loading carbines without field tests before the end of 1861, including the percussion arms of Smith, Gallagher, Merrill, Lindner Cosmopolitan and cartridge arms of Spencer and Sharps & Hankins. Second, there was no standardization of caliber and several other new patent arms being offered, like the Smith patent carbine, required special ammunition. The supply of many types of ammunition was recognized and would be a significant challenge for the Ordnance Department of the Army for the remainder of the war. Third, costs and economics were, despite the very real and obvious demand for arms, still an important consideration. Political pressure on the economic procurement of arms actually soon forced the secretary of war to investigate most of the arms contracts awarded in 1861. Fourth, the expanding Army was still struggling with doctrine on the use of mounted troops. The statement "to arm the cavalry with sabres and pistols only" reflected a continuing debate by the Army's senior commanders on how to deploy and use mounted troops.¹¹ While the Army generals discussed doctrine, arms procurement was made more difficult.

General Ripley's initial rejection of the Smith proved to be short-lived. Thomas Poultney seems to have had an ally with the secretary of war, or, at least someone in his office. After receiving his initial rejection of his offer, Poultney immediately appealed this rejection to Edwin M. Stanton, the secretary of war. Stanton, through his assistant secretary, Thomas A. Scott, consequently challenged Ripley's rejection. Unfortunately, the letter to Ripley is now lost but the letter General Ripley wrote in response to Scott does survive. Ripley responded just two days later, on 17 August.

Sir, I have carefully considered the proposition of Mr. T. Poultney to furnish 10,000 of Smith's patent breech-loading carbines at \$35 each. I would gladly avail myself of any opportunity of obtaining at this time, at any price not beyond reason, such arms as are required for the troops called into the service. The carbine is only, however, a cavalry arm; it is used only by dragoons when dismounted and fighting on foot, and the orders in the division of the Potomac are to arm cavalry with pistols and sabres only. There have been arrangements made already for procuring seventeen thousand carbines, which number will be sufficient to arm all the troops for which such an arm properly pertains. I do not think, therefore, that there is an exigency existing for arrangements to secure a larger supply, deliverable as Mr. Poultney proposes. The price I consider too high, and the fact that \$35 each was agreed to be paid for a small parcel of 300 does not apply to an order for large quantities.

*In view of all these circumstances, it is submitted whether it will be advisable to accept a proposition involving so large an expenditure (\$350,000) as that of Mr. Poultney does. I respectfully request instructions on the subject.*¹²

The issue on price was evidently shared with Poultney who promptly offered a reduced price.¹³ On 26 August, Scott replied to General Ripley with his instructions.

*"The Secretary directs me to say that a contract be made with Mr. Poultney – Massachusetts Arms Company – for 10,000 carbines, Smith patent, at the reduced price of \$32.50 per gun and fixtures, provided the deliveries are made as promptly as stated in his proposition."*¹⁴

The promise of quick delivery of arms was undoubtedly appealing. Immediately following Mr. Scott's instructions to General Ripley, Poultney also sent a new proposal to General Ripley dated the very next day. The new proposal offered to sell 10,000 Smith carbines at the agreed reduced price of \$32.50 each. The proposal also included the promise to make the delivery of the first 1,000 within a month, by the end of September, and to continue deliveries at a rate of 1,000 per month until all 10,000 were completed.¹⁵ The same day, 27 August, that Poultney had offered the revised proposal, General Ripley formally made the government's offer of a contract for the 10,000 carbines at the revised price and based on the delivery schedule included in the proposal.¹⁶

The speed of these communications seems remarkable. We can envision Mr. Poultney running from office to office across Washington. He responded immediately on 28 August, writing to General Ripley: "*Your letter of the 27th August, ordering ten thousand Smith's patent breech-loading carbines, at thirty-two and a half dollars, is received. I accept the offer, and shall proceed at once to execute the order.*"¹⁷

This proposal strongly suggests that Poultney & Trimble and the Massachusetts Arms Company had completed the new design of the carbines to be sold and were actually in production of the same. That apparently proved not to be true. Deliveries of Smith carbines did not begin in September 1861 as promised. In fact, the first deliveries were not made until 23 January 1862 and the number delivered even then fell far short of the 1,000 promised. Only 400 carbines were delivered.¹⁸

Why were deliveries delayed? The Massachusetts Arms Company was no longer manufacturing Maynard firearms and so the

Maynards were no longer competing for the use of the Company's facilities. That was not a valid excuse. In fact, the contract for Smith carbines was by far the Company's largest ever and should have been the priority of efforts by the Company. When asked later in 1862 to explain the delay of deliveries to the commissioners appointed to investigate arms and military equipment contractors, like Poultney & Trimble, who had failed to meet promised deliveries on contracts awarded in 1861,¹⁹ even when Federal armies were so desperate to receive arms, Poultney listed two reasons. He blamed the delays on the fire at the Massachusetts Arms Company²⁰ and on constraints in obtaining labor and required machinery due to the heavy demands of the rapidly expanding war economy.²¹

Certainly, these reasons have validity but probably they are not the only ones. When Thomas Poultney had promised his ambitious delivery schedule, he probably thought that it could be met, or close to it. He already had the Massachusetts Arms Company on contract and Smith patent firearms had been in production for over a year. The fire at the Massachusetts Arms Company facilities had been devastating but the fire had occurred in January, six months before Poultney had offered to supply carbines to the War Department. The Springfield Republican newspaper had actually even reported in the 29 May 1861 edition that the factory had mostly been repaired. The paper reported that the "Company are nearly ready to resume operations, a new building having been erected on the site of the one destroyed by fire." Poultney must have believed that by August, the damage to the factory had been repaired and had machinery and labor in place.

We will probably never know all of the reasons for slow deliveries but most likely, a major reason was that Gilbert Smith and Thomas Poultney were still tinkering with and improving the design. The carbine that was to be made for this contract was different from the carbine tested by the Army the previous year and that had been manufactured for southern states in 1860. The new design must have taken some time to finalize and the Massachusetts Arms Company would have needed to re-tool its machinery for it.

Model of 1861

The new design carbines delivered for this Army contract had many similarities to both the earlier military Model 1859 carbines and the "sporting" firearms Model 1860 made before the Civil War. Both of the early models of Smith patent firearms designed to use the rubber cartridge case invented by Gilbert Smith had already been put into production at the Massachusetts Arms Company. The earliest, the Model 1859, a .50 caliber military carbine with a 21 $\frac{5}{8}$ inch barrel, had been first manufactured in that year and then several of them had been tested at the Washington Arsenal in early 1860. The Army had actually ordered 300 of this model, intended to be issued for field tests. None of the carbines ordered by the Army had been delivered but there is good evidence that they had been manufactured. At least several hundred had been sold to southern states. Deliveries to Alabama and South Carolina may have been completed by January 1861²² but after a fire that month at the Massachusetts Arms Company that heavily damaged the factory facilities, probably no more were made. A second model, clearly made for commercial sales as "sporting" guns and introduced about September 1860 and, for this paper, designated as the Model 1860, was in production. Poultney & Trimble had marketed both carbines and rifles of that model

as sporting guns beginning at least from October 1860. Both of these two earlier models of Smith patent firearms had been manufactured throughout 1860 but, after the fire, probably only limited production of the Model 1860 "sporting" guns had resumed before the summer of 1861.



Figure 1 Progression of Smith receiver design; top early military carbine; middle commercial "sportsman" carbine; bottom CW Production carbine (Authors collection).

This new, Model 1861, was a military carbine and incorporated features of both of these previous models. It was .50 caliber half stocked carbine with a half octagon-half round 21 $\frac{5}{8}$ inch blued barrel. The rifled barrel, like both previous models has six grooves. The forestock was similar but a little shorter than either of the earlier models, now nine inches. The receiver was hinged like the previous models but was now curved toward the wrist of the stock more like the receiver on the Model 1860 "sporting" model. The receiver also had the same decided narrowing just above the

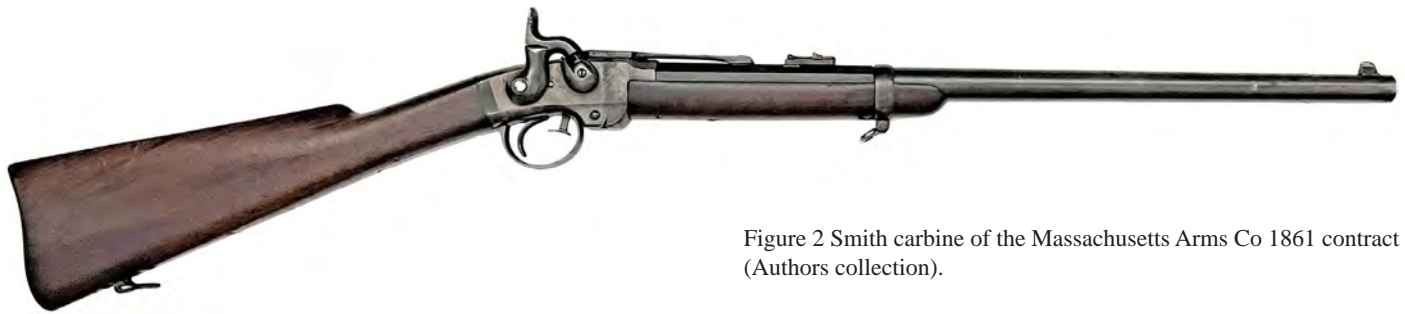


Figure 2 Smith carbine of the Massachusetts Arms Co 1861 contract (Authors collection).

hinge as had been introduced on the Model 1860. The new model however differed in that the receiver had an even more rounded edge. Figure 1 shows the progression of receiver designs. At the top is the receiver of the early Model 1859 military carbine as tested at the Washington Arsenal in early 1860. In the middle is an example of a Model 1860 "sporting" carbine as manufactured through mid-1861 and at the bottom is the new design military carbine as manufactured for the August 1861 Army contract. Note the differences in receiver design as it became more curved and more rounded.

The dimensions of the chambers do vary. All of the carbines shown are .50 caliber but the chambers of the earlier model military and sporting carbines are slightly larger than on the new military carbine manufactured for the Army 1861 contract. The chamber of all three models extends 1/2 inch into the rear face of the receiver but the chamber extends 1 1/8 inch into the barrel side on the two earlier models but only 1 inch on the new design military carbine. This suggests that ammunition manufactured for the early carbines was slightly longer than the rubber cartridges manufactured for these new military carbines. That is not necessarily so. All observed India rubber cartridges manufactured before and during the Civil War have casings that measure 1 1/2 inch in length. That is exactly the length required for these new carbines. The shorter chamber however improves the reliability of firing. The base of the cartridge is right against the base of the receiver and there is no gap to dissipate the priming flame.

Other differences that can be seen in Figure 1 are the design of the trigger guards, the design of the cone nipple bolster, the design of the hinge pins and the design of the hammers. The new military model carbines all have clean-out screws on the cone nipple bolster. This was only an option of the Model 1860 firearms sold commercially. The new model carbine is shown in Figure 2. The carbine had sling swivels mounted on the bottom of the stock and on the blued barrel band as had the earlier military model but now the sling swivel on the underside of the stock are only about 2 1/4 inches from the butt and not 3 1/2 inches as on the earlier carbines (Figure 3). The sling swivel is located closer to the butt plate on the new contract carbines.



Figure 3 Comparison of the location of the rear sling swivels; top shows placement on the Civil War production Model 1861 carbine and bottom shows placement on early Model 1859 military carbine (Authors collection).



Figure 4 Comparison of rear sight on military carbines. The Civil War production carbine Model 1861 sight is shown on the left and the Lawrence patent rear sight mounted on the early Model 1859 military carbines is on the right (Authors collection).

The rear sights on the new carbines are also different than used on the earlier carbines. On the earlier carbines, the rear sight was most commonly a Lawrence patent sight.²³ On these new carbines, the rear sight has a completely new design.²⁴ It is a single leaf folding sight with a sliding “V” notch bar to adjust for range elevations. However, the folding leaf is unmarked without range graduations. Figure 4 shows both sights.

These carbines are marked on the left side of the receiver. The markings include the same stampings as had been stamped on earlier Gilbert Smith patent firearms manufactured before the Civil War. Figure 5 shows these markings which are common to all carbines manufactured for this contract.²⁵

Opposite the hammer the markings included:

ADDRESS
POULTNEY & TRIMBLE
BALTIMORE, U.S.A.

In three lines over:

SMITH'S PATENT
JUNE 23, 1857

At the front of the receiver, for the first time, the manufacturer of the carbines was identified in three lines:

MANUFACTURED BY
MASS ARMS CO.
CHICOPEE FALLS

Carbines of this model were serial numbered with a new numbering series starting with 1 marked on the bottom of the receiver on the collar holding the hinge pin and, on the barrel extension at the hinge. Figure 6 shows the placement of the serial numbers. Model 1861 carbines have been observed with serial numbers between 1 and about 11,250, indicating that many were manufactured. Ultimately 11,000 were purchased by the Army. The remaining 250 or so were used as models during manufacturing, given as presentations or sold on commercial markets.

Previous published literature has referred to these new design carbines sold to the Army for the 28 August 1861 contract as the ‘Artillery’ model. The most noticeable characteristic of these new Smith patent carbines that differentiate them from the later carbines is the presence of sling swivels installed on the bottom of the stock near the butt and under the barrel band. These sling swivels are very similar to the swivels installed on the earlier military carbines. This ‘Artillery’ designation provided a way to distinguish these carbines from Smith carbines made for later contracts that were manufactured without sling swivels but with a sling bar and ring attached to the left side of the receiver.²⁶ Nevertheless, this is very much an incorrect designation as there is no evidence that any of these carbines were ever issued to any Federal artillery unit. Although many would be captured and placed later into Confederate service, these carbines were initially issued only to Federal cavalry or mounted infantry units. All contemporary documents do not differentiate this model from any previous or later models. Another designation, in use in other current literature, is a Type 1.²⁷ However, since this model was obviously designed and first manufactured in 1861, it can also be referred to as a Model 1861.

The late deliveries of these new design carbines to the Army eventually caused Poultney & Trimble much trouble and a very serious threat of cancellation of the contract. Poultney & Trimble were not alone. The Army had awarded several hundred contracts for arms and equipment during the early months of the Civil War. Many of the contracts were awarded to opportunist seeking to make a quick profit as middle men and who had no actual capability to supply arms or military equipment. The Army, desperate to arm the rapidly expanding Federal armies, and willing to pay almost any price for quick deliveries, had also agreed in a number of contracts to grossly inflated prices. With promised deliveries of arms lagging for many of these contracts, the Lincoln administration and Congress demanded an investigation. A total of one hundred and seven contracts were identified by the secretary of war with deliveries seriously in arrears and on 17 March 1862, Edwin Stanton, the secretary of war, established a commission to investigate these problem contracts. He appointed two commis-



Figure 5. Stamping on the left side of the receiver.

sioners, Joseph Holt and Robert Dale Owen to lead the investigation. The Ordnance Department also assigned Major P.V. Hagner²⁸ as liaison to the commission. Stanton charged the commissioners to investigate each of the identified contracts and provide recommendations for either cancelling or rewriting them.²⁹ The contract with Poultney & Trimble was one of the contracts investigated.



Figure 6 Serial number “6650” stamping on the bottom of the receiver of a Model 1861 Civil War production Smith carbine (Author’s collection).

No carbines had been delivered as promised in September 1861 nor any before January 1862. When the Commission began their investigations in March 1862,³⁰ Poultney & Trimble had only delivered 900 carbines, 400 in January and 500 more in February 1862.

Poultney & Trimble had been paid the original contract price, \$32.50 for these 900 but Holt and Owen quickly determined that the original contract price was too high and unacceptable. They determined the price must be reduced for any allowed further deliveries. They found that the original price had been originally allowed only because of the promised quick deliveries. As the deliveries did not meet the contract’s terms, the price was obviously higher *“than ought to be paid”*.³¹ The commissioners initially recommended in a letter to Brigadier General J.W. Ripley, chief of ordnance, on 28 March 1862 that the contract be forfeit due to the failed deliveries.³¹ The commissioners, however, did allow in the same letter, that 600 carbines that were nearly complete and eventually delivered on 4 April 1862, could be accepted but only at a lower price of \$30 for each. Otherwise, the commissioners found the Poultney & Trimble contract in default because of the slow rate of deliveries. They recommended that, if the contract was to be continued, it should be done at an even lower carbine price, \$27 for each carbine with appendages. A very real threat that the contract would be cancelled and a likely result of financial ruin, forced Poultney & Trimble to accept the new price demanded by Holt and Owen. In his letter to Edwin Stanton on 24 May 1862, Thomas Poultney wrote: *“to relieve myself from embarrassment I was compelled to accept \$27 from the Ordnance Department for 700 carbines, and have also offered an additional 800 at the same price.”*³² These two lots of carbines, totaling 1,500 more carbines, were delivered on 9 June 1862.³¹ With this delivery, 3,000 of the original 10,000 ordered had been delivered.

In a 26 June 1862 letter to Brigadier General Ripley from Holt and Owen, the commissioners allowed for the further deliveries of 4,000 more carbines, provided they *“shall be accepted and paid for at the rate of \$27 each, provided they be delivered at the rate of not less than 1,000 per month, commencing in the month of July 1862”*.³³ By July 1862, the Massachusetts Arms Company was in full

production and almost capable of meeting this delivery schedule. They did not meet the promised deliveries in July but 1,080 carbines were delivered in August and the entire total 4,000 were delivered by 16 December 1862.³¹ This was the last order associated with the original August 1861 contract. A total of 7,000 carbines had ultimately been delivered against the original contract although at an extended schedule and at lower prices.

Reports from the field for the Smith were generally favorable and the Army offered three more contracts for carbines in 1863. Poultney & Trimble offered to sell additional carbines at the further reduced price of \$25 each with appendages. The first of these additional contracts was awarded on 6 February 1863 for 2,000 carbines.³¹ The Massachusetts Arms Company never slowed production after the final delivery on the original contract so was able to make almost immediate deliveries for these 2,000 carbines. 800 were delivered on 17 February and the remaining 1,200 on 28 February.³¹ A number of the carbines of this last delivery had been found during inspection to be substandard. Mr. Timothy W. Carter, president of the Massachusetts Arms Company offered to sell 150 to 200 of these second quality carbines at \$2 off the contract price, or \$23 for each carbine.³⁴ The Army obviously found deficiencies not severe and accepted 100 of these carbines at this price. These were included in the delivery of 1,200 carbines on 28 February.

Another contract would be offered by General Ripley on 24 March 1863 for 1,000 more carbines. These were delivered in two lots.: 850 were delivered on 16 April and the final 150 on 29 May.³¹ The price remained unchanged at \$25 for each carbine. The final contract for this model carbine was awarded on 29 June 1863. One thousand carbines, already completed were inspected and delivered at the same \$25 price on 8 July.³¹ With this delivery, a total of 11,000 of these Model 1861 carbines had been purchased by the Army from Poultney & Trimble.

While the first Civil War contract was still being investigated by Holt and Owen, Major Hagner on 23 April 1862 reported that *“by some accident it seems that the guard has been broken on one of the carbines delivered by Poultney.”*³⁵ The iron used on several of the parts of the first 1,500 carbines delivered proved to be too brittle. Poultney & Trimble agreed to correct the defect by replacing all parts made from malleable iron with parts made of wrought iron.³⁶ Materials were quickly upgraded on carbines in future deliveries. It is presumed that the 1,500 carbines delivered by 4 April 1862 had been manufactured with the brittle iron materials. Few of these earliest carbines survive and it is difficult to determine if parts have been replaced.

Despite the very great pressure to meet the delivery schedule of the first Army contract, it is surprising that some of the first of the Model 1861 carbines were not manufactured for the Army contract. A few were made as obvious presentation pieces. The carbine in a cased set with serial number 5 is an outstanding example and was sold at a Rock Island Auction in 2018 (Figure 7). Unfortunately, we do not know who Poultney & Trimble intended to receive this set. The carbine has a beautiful burlled and highly varnished walnut stock with its unmarked silver oval presentation plaque. The carbine is extensively engraved. The engraving is of such quality that it has been attributed as work by the master engraver, Gustave Young. The engraving includes floral scrolls over the entire receiver. The standard Massachusetts Arms Company,



Figure 7. Smith presentation carbine with case and accessories and close up of the engraved scene on the trigger guard (Photograph courtesy of Rock Island Auction Company).



patent and Poultney & Trimble markings on the left side of the receiver are engraved within engraved banners. The hammer, trigger guard, lower tang, barrel collar, barrel latch and buttplate tang are engraved with similar scrollwork. The barrel band has a simple scallop border engraving but the engravings on the trigger guard and on the top of the receiver are truly exceptional. These surfaces display detailed Civil War battle scenes such as the one shown on the trigger guard. There are a few other early Smith carbines with engraving known, including a similar cased set including the carbine with serial number 7 sold in 2005 at a Greg Martin Auction. Very few of these presentation Smith carbines are known.

None of the lowest serial numbered carbines of this model show military inspection stampings. Nevertheless, inspections were completed before the carbines were accepted. Joseph Hannis,³⁷ a very experienced and highly regarded inspector was ordered to proceed to the Massachusetts Arms Company at Chicopee Falls on 11 January 1862. He was instructed to “assist in the inspection of Smith Carbines now being made at that establishment... You will consult with Mr. Whiting and get out the 400 now in hand as soon as possible.”³⁸ The 400 carbines now in hand referred to the first lot of the carbines actually delivered on 23 January 1862. The identity of Mr. Whiting is so far unknown. He may or may not have been a government inspector. According to Daum and Pate the only known inspector named Whiting was Nathaniel Whiting and he is not known to have ever inspected Smith carbines.³⁹

Joseph Hannis or any other inspector would not apply inspection marks on carbines until after the first three deliveries, totaling

1,500 carbines. The first 400 were delivered 23 January 1862, 500 more were delivered on 28 February and 600 more on 4 April. Military inspection markings are not found on any of these. The first inspection markings are observed on carbines delivered in the next lot of 1,500 carbines on 9 June 1862. The only inspection marking observed on these is the cartouche of Joseph Hannis, “JH”, stamped on the left wrist of the stock (Figure 8).



Figure 8 “JH” Cartouche of Joseph Hannis, serial number 4580 (Photograph courtesy of Don Dietrich).

The inspection cartouche of Joseph Hannis is also the most common observed on the 4,000 carbines delivered for the 30 June 1862 contract. A few carbines of this contract have additional cartouches. The “WHB” of William H. Barber and “AJN” of Augustus J. Nobel have also been observed as additional to the “JH”

of Hannis. Barber and Nobel were probably assistant inspectors assigned to help Hannis for short periods. These are carbines with serial numbers to about 7000. Carbines delivered for the contracts awarded in 1863 have a cartouche of a different inspector. The Army assigned a new inspector to Chicopee Falls for the final lots of carbines delivered in 1863. Carbines with serial numbers above 7000 usually have the “JM” cartouche, of James Mills.⁴⁰ He often stamped this cartouche twice in the left wrist of the carbines he inspected as shown in Figure 9. A “DAP” cartouche for Dwight A. Perkins has also been found on a few carbines with a serial numbers in the 10000 range.



Figure 9. “JM” cartouche of James Mills, serial number 10,601 (National Firearms Collection).

Barrel proof stampings are found only on carbines delivered between August and December 1862. On these carbines, in addition to the “JM” cartouche on the wrist of the stock, Hannis stamped his “JH” onto the left flat of the barrel just forward of the receiver (Figure 10). Only carbines with serial numbers between about 3000 and 7000 have been observed with barrel proof stamps and only with the “JH” stamp of Joseph Hannis. None of the carbines with serial numbers above about 7000, delivered against the final Army contracts in 1863, have been observed with barrel proof stampings.



Figure 10. Proof stamp of Joseph Hannis on Smith carbine serial number 4580 (Photograph courtesy of Don Dietrich).

The Army purchased a total 11,000 of this model. The highest serial number actually observed on a carbine of this model is 11223. Most of the carbines of this model were sold to the Army but others, probably less than 250, were sold on the commercial market, either from the Poultney & Trimble store in Baltimore or by the New York dealer in military goods, Schuyler, Hartley and Graham. McAulay reported that the Army purchased one carbine from Schuyler, Hartley and Graham on 5 February 1863⁴¹ but the reason for this individual purchase is unknown. The Schuyler, Hartley and Graham catalog as late as 1864 still displayed this

model Smith Carbine with the sling rings and sling.⁴² Presentation carbines, carbines serving as models and carbines sold on commercial markets will not show military inspection markings.

The carbines purchased by the Army were issued almost as quickly as they were delivered. The first carbines delivered were issued to troops in four regiments of the cavalry of the regular U.S. Army, the First, Second, Third and Fourth U.S. Cavalry. McAulay lists a total 168 carbines issued to these four regiments.⁴³ It appears one troop in each regiment received Smith carbines. McAulay reports that he found records that show just under 2,000 Smith carbines were issued to a total of seventeen different Federal cavalry units by the end 1862 and over 5,000 more issued by September 1863.⁴⁴ The volunteer cavalry units receiving large numbers of Smith carbines in 1862 included the First Connecticut, the Seventh and Eleventh Illinois, the First Massachusetts, the Seventh Pennsylvania and the First and Second West Virginia. Single troops of the Ninth New York, Sixth Ohio and Third Wisconsin were also issued Smith carbines in 1862.

Additional Federal cavalry units were issued smaller numbers of Smith carbines of this model in 1863. Cavalry units that were issued sufficient numbers of Smith carbines to arm more than a single troop by September 1863 included the Second, Fourth and Fifth Indiana, the Third Kentucky, the Second Maryland, the First Minnesota, the Tenth New York, the Seventeenth Pennsylvania and Fifth Tennessee. Single troops of the Second and Seventh Kentucky, the First Maryland, the Eighteenth New York and Third West Virginia were issued Smith carbines in 1863. The Eleventh Kentucky Mounted Infantry also was primarily armed with this model Smith carbine in 1863.

The First Alabama (U.S.) was also issued Smith carbines in late 1863. The carbines issued to the regiment was a combination of both the Model 1861 and newer Model 1863 carbines. In total, the regiment turned in the Burnside and Sharps carbines issued to them when the regiment was formed in late 1862 and received 527 carbines in 1863 of which over 60 were of the Model 1861.⁴⁵ Frank Mallory recorded the serial numbers of carbines issued to several of these cavalry units. His list that is now published by Springfield Research Service⁴⁶ lists the serial numbers of 59 of the carbines issued to the First Connecticut, 24 to the First Massachusetts, 61 to the Eleventh Illinois, 86 to the Second West Virginia and, as indicated above, over 60 to the First Alabama (U.S.).

Some of these Model 1861 carbines were modified with sling ring bars were added to the left side of the receiver like those of the next model of Smith carbine. By 1863, the preferred method for cavalrymen to carry their carbines was muzzle down on their right side hooked to a swivel hook attached to a leather shoulder belt. Either standing, walking or mounted on horseback, the cavalry trooper could carry his carbine this way. When mounted, the muzzle was held steady in a leather ring attached to the saddle. The carbine could be easily withdrawn from the ring and brought to the trooper’s shoulder for firing.

One of the regiments armed with Smith carbines in 1862 was the First Connecticut. The First Connecticut Cavalry was assigned to the VIII Army Corps and until mid-1864 was assigned the duty to guard the Baltimore and Ohio Railroad lines between Baltimore, Harpers Ferry and Winchester, Virginia. Regimental headquarters was located in Baltimore. Lieutenant Issacs who was the Ordnance Officer in the VIII Army Corps reported to General

Ramsay on 5 March 1864:

I have the honor to state that 123 of the Smith's carbines now in the command of the 1st Regt Conn Cavalry, are service-able with the exception that they require the Bar and Swivel attached.

Messrs. Poultney & Trimble, the agents at this place will do the work at once.

Please send an order; if the same is to be done, as the Regiment is about to move and the balance of the carbines are slung this way.⁴⁷

General Ramsay did issue a contract for Poultney & Trimble on 9 March to make the modifications. In his letter to the company, Ramsay stated: "*Lieut Issacs, Ord Officer, 8th Army corps, will deliver 123 Smith's carbines, to which you will please have a bar and swivel attached. Your bill for the same will be sent to this office.*"⁴⁸ The addition of a sling bar with ring done by Poultney & Trimble was carefully done but the carbines modified for the First Connecticut Cavalry were not the only carbines modified. Several other surviving carbines show more crude "field" modifications where a ring was attached to the left side of the carbine. Several of these show that they had also been in Confederate service. The sling rings on these were probably added while these carbines were in that service.

Ammunition for the Model 1861

The purchase of ammunition was not mentioned in contracts or correspondence with Poultney & Trimble until December 1861. On 12 December 1861 just before the first carbines were nearing completion and delivery, Poultney wrote to General Ripley with an offer to supply ammunition:

I have on hand 250,000 cartridge cases (India Rubber) which cost \$35 per thousand – each case can be fired at least 50 times. If loaded the cartridges will cost \$45 per thousand.

Please advise me how many you will require and whether they shall be loaded.⁴⁹

General Ripley declined to purchase only the cartridge cases and ordered 150,000 filled cartridges. Sixty thousand complete cartridges loaded with ball and powder were delivered on 4 March and 90,000 on 4 April 1862.⁵⁰ An additional 100,000 cartridges were also purchased from the New York military goods dealer, Schuyler, Hartley and Graham. These were delivered in April 1862. These first purchases of cartridges from both Poultney & Trimble and from Schuyler, Hartley and Graham were purchased at \$45 per thousand. This price was deemed too high and the Army soon sought a lower cost.

In June, the Army purchased 250,000 more cartridges from Schuyler, Hartley and Graham who offered them at the lower cost of \$33.50 per thousand. The Army purchased another 500,000 more in August at the same unit cost. The Army also purchased 350,000 cartridges at the same unit price from the Boston military goods dealer, W.J. Syms. Poultney & Trimble recognized that they were losing business to Schuyler, Hartley and Graham and W.J. Syms and needed to offer cartridges at a lower price. On 12 August 1862, Poultney wrote Edwin Stanton, the secretary of war, with a proposal to sell one million India rubber cartridges at the reduced rate of \$32.50 per thousand. Additionally, Poultney offered to include twelve percussion caps within each package of

ten cartridges.⁵¹ Stanton quickly approved the proposal and forwarded it to General Ripley to issue a contract.⁵¹ All one million cartridges were delivered between 9 September and 18 October. In total, 2,440,000 Smith India rubber cartridges were purchased and delivered during 1862.

Another 2,374,000 cartridges were purchased the next year before the end of August 1863 when the next model of Smith carbine would go into production.⁵³ Most of these cartridges were purchased from Poultney & Trimble, all at an even lower unit cost, \$31.00 per thousand. One million were ordered on 6 February 1863, 200,000 more on 28 February, 300,000 more on 22 May. Captain Crispin, at the New York Arsenal purchased another 50,000 cartridges from Poultney & Trimble on 22 May at this same price. The final order of 500,000 cartridges for the Model 1861 carbines were purchased on 31 August but with a further \$.25 discount in the price per thousand.

All ammunition purchased by the Army for the Model 1861 carbines had casings made from India rubber. All of the ammunition was .50 caliber with a lead conical bullet with a diameter of .52 inches, weighing 350 grams.⁵⁴ The bullet had a flat solid base and one grease ring. Grease or tallow was put into the groove to provide lubrication. The cartridges were loaded with between 50 and 52 grains of black powder. The rubber casings had a length of 1.5 inches. With the conical bullet the overall length of the cartridge was about 2 inches. Figures 11 show two types of .50 rubber cartridges, the image on the left shows a cartridge with a rubber disc base with a small vent hole that allows the priming flame to ignite the main powder charge within the cartridge while on the right is a cartridge with a hard white substance used for the base with a small vent hole.



Figure 11. .50 caliber Smith rubber cartridge with rubber base (left, Authors collection) and with hard white substance base (right, photograph courtesy of Don Dietrich).

Ammunition was packed in cardboard boxes of ten cartridges. One hundred of these packages were packed in a wooden ammunition crate. Ammunition purchased before 12 August 1862 were packaged

without percussion caps. After that date, packages of ten cartridges also included 12 percussion caps. Figure 12 shows a cartridge box purchased after August 1862 with percussion caps. After the Civil War, in October 1870, 1,942,910 (about 35% of the total purchased) rubber cartridges still remained in storage in U.S. Armories.⁵⁵

MANUFACTURED BY
 MASS ARMS CO.
 CHICHOPEE FALLS



Figure 12 Pasteboard package of 10 Smith cartridges after August 1862 (Author's collection).

Appendages for Civil War era firearms usually included a combination tool consisting of a cone nipple wrench and screwdriver and a brush with leather thong used to clean the carbine barrel. Figure 14 shows a combination tool made for the Smith carbine. Although not marked, it is as was manufactured by the Massachusetts Arms Company.⁵⁷ Figure 15 shows an example of a bore brush with leather thong issued with .50 caliber carbines. We cannot be sure that this brush and thong was actually made for a Smith carbine as these brushes were made for most .50 caliber breech-loading carbines purchased by the Army during the Civil War. Surprisingly, neither the combination tool or brush and thong seem to have been included in presentation case sets; see Figure 7. The set only includes the carbine sling and a wooden handled screwdriver.

Model of 1863

The Smith carbine proved to be an effective cavalry arm. A number of other breech-loading arms issued early in the War to Federal cavalry had not proved to be as good. By 1863, the Army Ordnance Department recognized that these less effective arms needed to be replaced with more effective ones and new cavalry regiments being raised during the final two years of the Civil War also required new arms. The Army wanted more carbines and the partnership of Poultney & Trimble wanted more contracts. On 5 September 1863, Poultney & Trimble agreed to its largest contract of the War. On that date, General Ripley signed a contract with Poultney & Trimble to deliver:

all the Smith's patent breech-loading carbines they can deliver within twelve months from date, not exceeding twenty thousand on the following terms and conditions, viz: These carbines are to be furnished with all the regular appendages required for the service of the arm, and are to be fully equal, as regards workmanship, materials, and pattern, to those furnished under previous orders. They are to be subject to inspection by United States inspectors in the same manner that United States arms are inspected...⁵⁸

Appendages for Model 1861

The contracts found for these Smith carbines do not list the appendages supplied with these carbines. Undoubtedly, the appendages included the carbine's leather sling. The practice in most Army contracts was to also require bullet molds supplied at one per each ten carbines supplied. Bullet molds for Smith carbines could be very useful since the cartridges made from India rubber were reusable. Thomas Poultney actually informed General Ripley that "each case can be fired at least 50 times".⁵⁶ There is actually no evidence that cases were regularly saved by soldiers with the purpose of re-loading. Nevertheless, bullet molds were supplied. They were single cavity made from iron with an iron sprue cutter (Figures 13). The molds for these Model 1861 carbines were marked as manufactured by the Massachusetts Arms Company in three lines:



Figure 13. Single cavity bullet mold manufactured by Massachusetts Arms Company for Model 1861 Smith Carbines (Don Dietrich collection).

Figure 14. Smith carbine combination tool (Author's collection).



Figure 15. Carbine bore cleaning brush and thong (Author's collection).



The contract agreed a further reduced price of \$23.50 for each carbine with appendages. The cost of packing boxes would be allowed at an agreed "fair price". Ultimately, 20,000 carbines would be delivered to satisfy this contract. Despite the contract stating that all carbines delivered were to be of the same pattern as those furnished under previous orders, these carbines did differ. By 1863, most carbines purchased by the Army were equipped with a ring on the left side that allowed the carbine to be carried muzzle down on a leather sling worn over the troopers left shoulder.⁵⁹ This was the favored method for cavalrymen to carry their carbines. It was a secure method to carry a carbine when either mounted or dismounted and allowed the carbine to be easily handled into a firing position. The Smith carbine was likewise modified to add a 2½ inch sling bar and ring to the left side of the receiver. The sling swivels of the previous model were omitted. The absence of the sling swivels and addition of the sling bar are the characteristics that designates this model. All other dimensions and finishes are

identical to the previous model. The sling bar and ring can be seen on the left side of the receiver of the Smith carbine of this model in Figure 16.

Because the sling swivels were removed for this new model, there is a small difference noted for the barrel bands. In the earlier carbines, the retaining screw that held the barrel band to the stock entered the band offset from the right. Of course, this was necessary because the sling swivel was attached centrally to the bottom of the barrel band. On the new model carbines, the retaining screw entered the band centrally at the bottom of the band (Figure 17). Some of the bands observed on the earliest made Model 1863 carbines, those with serial numbers in the 11000 range, indicate that remaining bands made for the earlier Model 1861 carbines were used. These still have the retaining screw offset. Undoubtedly, other remaining parts from the production of the earlier were used up in the production of this model.

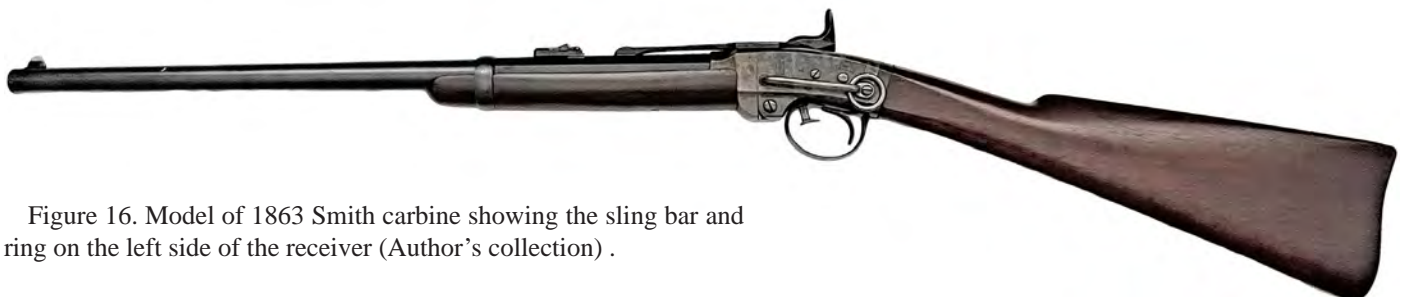


Figure 16. Model of 1863 Smith carbine showing the sling bar and ring on the left side of the receiver (Author's collection) .

This was the most common model of Smith Carbines. Possibly as many as 11,250 of the previous model had been manufactured but over twice that many, about 23,000, of this model were. Of these 20,000 were purchased by the Army under the 5 September 1863 contract, another 500 were purchased by the state of New York for issue to state cavalry,⁶⁰ and 300 more are known to have been purchased by the troopers of the Fifth Missouri Militia Cavalry.⁶¹ A few others were undoubtedly purchased by individual officers and soldiers.⁶² The Army also purchased a single Smith carbine from the military outfitters, Schuyler, Hartley and Graham, on 21 March 1864.⁶³ The purpose of this single carbine purchase is unknown but it was probably purchased as a model possibly supplied to a foreign country. The Argentine Army purchased at least 2,102 after the Civil War.⁶⁴



Figure 17. Barrel bands on Model 1861 and Model 1863 carbines showing offset band retaining screw on the earlier carbine (left) and central position of the screw on the later (right, Author's collection)

Mr. Timothy W. Carter of the Massachusetts Arms Company confirmed that the earlier Model 1861 Smith carbine was manufactured only until July 1863 and the new model after that. *“Carbines manufactured previous to Aug 1863, had instead of Swivel bar & Rings, a stud & swivel on tip band and a swivel and base attached by two wood screws to the stock butt.”*⁶⁵

Two different companies manufactured the carbines of this model, the Massachusetts Arms Company of Chicopee Falls and the American Machine Works of nearby Springfield, Massachusetts. The Massachusetts Arms Company had been making Smith patent arms including all the carbines for the Army since at least April 1860. When the Company had first begun manufacturing Smith patent arms, they already had a major contract with the Maynard Arms Company. This Maynard contract had initially limited the production of Smith patent arms until 1861. Beginning with an Army contract on 28 December 1858 for 400 carbines, ultimately almost 5,000 Maynard patent rifles and carbines were manufactured by the Massachusetts Arms Company between then and April 1861. By April 1861, the Civil War had begun and sales of Maynard arms to the major customers for these arms, the southern states of Georgia, Mississippi and Florida were no longer possible and production had ceased.⁶⁶

No Maynard arms had been manufactured for over two years but

in June 1863, the Army was again interested in Maynard firearms. General Ripley awarded a contract for 20,000 Maynard carbines of a new design to the Massachusetts Arms Company on 8 June.⁶⁷ At the time when this contract was awarded, the Company had no large contracts to continue to make Smith carbines but, as indicated above, Thomas Poultney had continued to seek additional Army contracts for the Smith. Having his new contract in September 1863, Poultney was unhappy with the Maynard contract. He recognized that the Massachusetts Arms Company would probably be unable to meet deliveries for both his 20,000 Smith carbines and the 20,000 Maynard carbines. Additional manufacturing capability was necessary. He sought a contract with the nearby American Machine Works in Springfield. That company had been chartered in Massachusetts on 22 March 1848 with the major stockholders listed as Phyllos B. Tyler, Nelson Tyler and Nahum Dunbar. The company had made machinery including boilers, printing presses and gun-making machinery since it was chartered.⁶⁸ Some of the machinery for making the Smith carbine had actually been purchased from this company but until 1863, the American Machine Works had not made firearms. The advertising flyer of the company illustrates some of the scope of its business before it accepted a contract to manufacture Smith carbines (Figure 18).

ADVERTISEMENT.

American Machine Works,

PHILOS B. TYLER, President,

Is Situated on the Hill, near the U. S. Armory.

STEAM ENGINES,

Of the most approved patterns, and superior workmanship, and adapted to every purpose.

BOILERS

Of Every Description,

Circular Saw Mills; also, Single and Gang Saw Mills; Shingle Machines, Portable Grist Mills, Quartz Crushing Mills, Plaster Mills, and superior Blowing Fans.

GUN MAKING MACHINERY,

Castings and Forgings

Of every description, as well as Machinery generally.

Figure 18. Advertising flyer for the American Machine Works c. 1863.

Despite not having a contract until September, the Massachusetts Arms Company had continued to make Smith carbines through July and August 1863. William McFarland, the manager from the Maynard Arms Company since 1859 and still resident at Chicopee Falls was very active in restarting production of Maynard carbines. He reported to Edward Maynard, then resident in Washington on 1 July that he was “*pushing forward as fast as I can upon the company (Massachusetts Arms Company) for the manufacture*” of the Maynard carbines. In the same note, he reported that “*Mr. Poultney has been here again urging his claim upon the company (Massachusetts Arms Company) of his guns (Smith carbines) and finally the directors (of the Massachusetts Arms Company) have agreed to make 5000 more as soon as possible, but not to interfere with getting out*” the Maynard carbines. He then suggests that the Massachusetts Arms Company may have to have components of the Smith carbines supplied by outside parties.⁶⁹

The first 5,000 carbines of the new model for the Army under the September 1863 contract as well as the 500 carbines sold by Poultney & Trimble to New York in August 1863 were all still manufactured by the Massachusetts Arms Company. Manufacturing of Smith carbines continued while they were retooling and setting up to manufacture the Maynard carbines. The set up for Maynard production took time and the first of the Maynard carbines would not be delivered until June 1864.⁷⁰ The 500 Smith carbines purchased by New York were reported to be ready for delivery on 28 July 1863⁷¹ and were actually delivered 11 August. Deliveries on the 5 September 1863 contract with the Army began almost immediately after contract award. The first delivery of 1,000 was made on 26 September. Deliveries of lots of 1,000 carbines continued on 3 October, 3 November, 31 December 1863 and a lot of 1,000 more was made on 5 February 1864.⁷²

In all, the Massachusetts Arms Company probably manufactured about 10,500 of the Model 1863 Smith carbines with 500 sold to New York and most, if not all of the remainder, delivered to the Army to satisfy the 5 September 1863 contract. The Massachusetts Arms Company continued the serial number series started for the Model 1861 carbines. The highest serial number known for a Model 1861 carbine is 11223.⁷³ The highest serial number known on a surviving Massachusetts Arms Company made Model 1863 is 21748. Although almost all of these carbines were sold to either the Army or to New York state, at least one surviving carbine has inspection stampings that suggests it was not delivered to the Army but was sold on the commercial market. Nevertheless, very few of these would have been available for commercial sales.

Thomas Poultney, keenly aware of the Maynard contract with the Massachusetts Arms Company, realized that he needed additional manufacturing capability and contracted the American Machine Works in nearby Springfield to ensure that all 20,000 of the Smith carbines ordered by the Army could be delivered as required by the contract’s schedule. The *Springfield Daily Republican* reported on 15 October 1863 this additional contract:

The American Machine Works; P.B. Tyler, superintendent, which have been comparatively idle during the past year and a half, are making preparations for more extensive operations than they have ever carried before. Some time ago they obtained in connection with the Massachusetts Arms Company of Chicopee, a contract for manufacturing 5,000 Smith carbines, under patent owned by Poultney & Brown⁷⁴ of

Baltimore, and lately they have obtained another 12,000, all of which latter will be made in this city, as the Massachusetts will hereafter make only the Maynard rifle. The Smith carbine is now the favorite arm in the cavalry service, as is considered by leading military men as the best for this use now made.

This same article also announced the award of a contract to also manufacture 10,000 Plant revolvers (White and Ellis patent) and for major expansions of the American Machine Works facilities.

It is doubtful that the American Machine Works made the 5,000 Smith carbines directly for the Massachusetts Arms company as reported in the newspaper article. Nevertheless, they probably did help. It is almost certain that the Massachusetts Arms Company subcontracted them to make components for carbines being manufactured at Chicopee Falls. The ledgers of the Massachusetts Arms Company record payments to the American Machine Works between February 1864 and April 1865 that total \$26,574.37.⁷⁵ The payment total is too little for the purchase of substantial quantities of complete carbines but probably represents payments for the supply of components. All of the carbines delivered to the Army through February 1864 had most likely been manufactured entirely by the Massachusetts Arms Company. The remaining 5,000 or so carbines marked as manufactured by the Massachusetts Arms Company, however, probably used components made and supplied by the American Machine Works.⁷⁶ The major component supplied by the American Machine Works seems to have been barrels. New variations in the barrel inspection and proving stamps for the last 5,000 carbines delivered by the Massachusetts Arms Company to the Army indicates this. Refer to the discussion on inspector markings below.

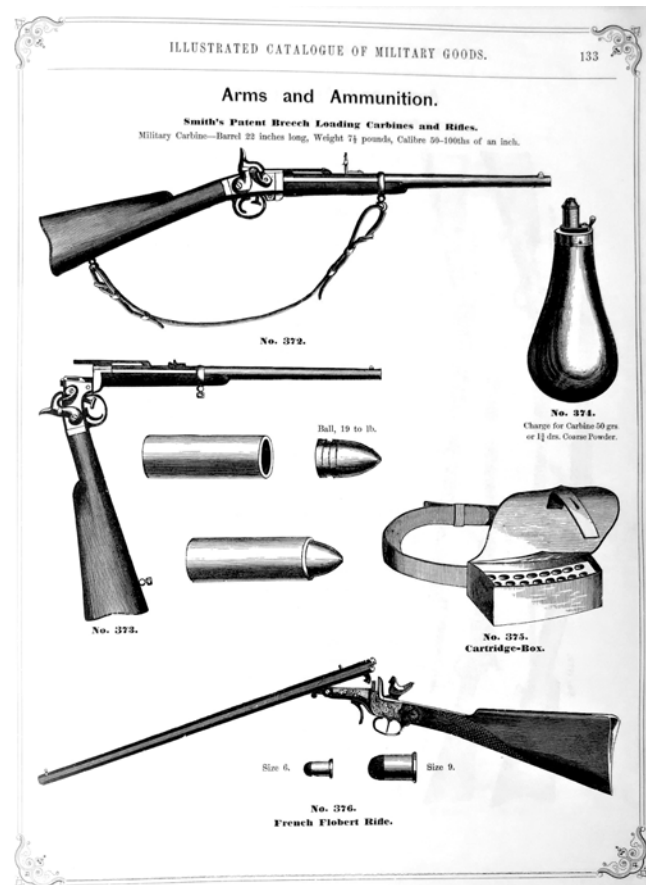


Figure 19. Schuyler, Harley and Graham 1864 catalog showing the Smith carbine and ammunition offered for commercial sales.

Although the newspaper article indicates the American Machine Works received their contract for 12,000 Smith carbines by October 1863, they probably were not able to deliver any before February 1864 and would eventually make about 12,200 carbines in total. American Machine Works carbines were all numbered with a new and separate serial number range beginning number 1. The highest serial number observed on a surviving American Machine Works carbine suggests about 12,200 were made.⁷⁷ About 10,000, possibly a few hundred more, were delivered to the Army to satisfy Poultney & Trimble's September 1863 contract. Deliveries to the Army of carbines made by the American Machine Works began in 1864 and the last delivery of 1,000 carbines was made on 26 June 1865.^{78, 79}

Carbines manufactured by the American Machine Works and not sold to the Army were sold commercially by either Poultney & Trimble from their Baltimore store or by the New York military goods dealer, Schuyler, Hartley and Graham. Schuyler, Hartley and Graham may have sold some of the earlier Model 1861 carbines as well. The drawing in their 1864 catalog shows the earlier model carbine with the sling swivels (Figure 19). If they sold these, it could only have been a few, as all but a few hundred of the total production of the earlier model were known delivered to the Army. More than 2,000 of the production of the later, Model 1863, however, were available for commercial sales. As explained below, markings on American Machine Works carbines indicates that probably at least 2,000, and likely more, of the carbines made by this company were sold commercially, most likely the majority to Argentina.

The markings on the carbines of this model manufactured by the Massachusetts Arms Company are identical to the markings on the earlier, Model 1861. These carbines are marked on the left side of the receiver. Opposite the hammer the markings included:

ADDRESS
POULTNEY & TRIMBLE
BALTIMORE, U.S.A.

In three lines over:

SMITH'S PATENT
JUNE 23, 1857

At the front of the receiver the manufacturer of the carbines was identified in three lines:

MANUFACTURED BY
MASS ARMS CO.
CHICOPEE FALLS

The markings can be seen in Figure 20 showing the left side of the receiver on a Massachusetts Arms Company made carbine.

Carbines manufactured by the American Machine Works are also stamped on the left side of the receiver but the markings differ. All American Machine works made carbines also have three groups of markings similar to the groups on the Massachusetts Arms Company carbines:

ADDRESS
POULTNEY & TRIMBLE
BALTIMORE, U.S.A.

SMITH'S PATENT
JUNE 23, 1857

MANUFACTURED BY
AM'N M'CH WRKS
SPRINGFIELD, MASS.

The location of these groups varies however depending on when these carbines were made. The earliest carbines, having serial numbers below about 2000 were marked with the groups in essentially the same positions as on the Massachusetts Arms Company made carbines. The Poultney & Trimble and Smith Patent groups were opposite the hammer and the American Machine Works stamp was horizontal on the forward portion of the receiver (Figure 21).

The next group of Smith carbines manufactured by the American Machine Works had the stampings in the same relative locations but the manufacturers stamp was positioned vertically rather than horizontally (Figure 22). This configuration of markings is found on carbines with serial numbers between about 2000 and 6480. The carbine with serial number 6479 seems to be where the stamping change occurs. The markings on that carbine are unique. The American Machine Works stamping is actually horizontally opposite the hammer above the sling bar. The Poultney & Trimble stamping is under the sling bar and the Smith Patent stampings is vertically on the forward part of the receiver.



Figure 20. Receiver markings on Smith carbine, serial number 14392, manufactured by Massachusetts Arms Company. The Smith patent markings are obscured by the sling bar (Photograph courtesy of Rock Island Auction Company).

Figure 21. Receiver stampings on earliest Smith carbines manufactured by the American Machine Works, serial number 50. Smith Patent marking is obscured by the sling bar. (Author's collection).



Figure 22. Receiver markings on Smith carbine serial number 3454 manufactured by the American Machine Works. Smith Patent marking is obscured by the sling bar. (Author's collection).



Figure 23. Receiver markings on Smith carbine serial number 11659 manufactured by the American Machine Works. (Photograph courtesy of Rock Island Auction Company).



The stamping arrangements change again on carbines with serial numbers above about 6480. The Poultney & Trimble stamping remains opposite the hammer above the sling bar but the Smith Patent stamping moves to the forward part of the receiver and is stamped vertically. The American Machine Works is again

stamped horizontally but moves to a position on the receiver below the sling bar (Figure 23).

Serial numbers are marked on the bottom of the receiver for both Massachusetts Arms Company and American Machine Works carbines. The location of the serial numbers remains unchanged from

the numbers stamped on the Model 1861 carbines. They were still stamped on the extensions from the receiver holding the hinge pin and on the barrel collar at the hinge. Figure 24 shows the typical placement of the serial numbers.



Figure 24. Placement of serial numbers on Model 1863 Smith carbines (Author's collection).

Most of the last 5,000 carbines manufactured by the Massachusetts Arms Company, serial numbers above 16500, had serial numbers stamped at this location and also had serial numbers stamped on the rear face of the breech. These serial number stampings on the breech have only been observed on carbines with serial numbers above about 16500. One theory for the reason of the additional serial number stampings is that these last 5,000 Massachusetts Arms Company manufactured carbines had components made by the American Machine Works and the additional numbers were needed to fit components manufactured by the different factories. Interestingly, as related below in the discussion of inspections, barrels observed with serial numbers on the rear face of the breech, until the final 200 or so carbines with the highest serial numbers, have proof stampings by inspectors located only at the Massachusetts Arms Company.

Some of the first carbines of this model manufactured by the Massachusetts Arms Company were probably included in the lot of 500 sold to New York. Although none of these carbines have been positively identified, most of these carbines probably have serial numbers below 12000. These carbines most likely were not inspected by Army inspectors and should show no inspection markings. All carbines delivered to satisfy the Army contract of September 1863 however were inspected by inspectors assigned by the Army. The carbine with the lowest serial number of this model observed with Army inspection markings is 12050. The chief inspector assigned to the Massachusetts Army Company when this carbine was made was James Mills.⁸⁰ His "JM" cartouche, as shown in Figure 25, is observed stamped into the wrist of the stock on most surviving carbines with serial numbers between 12000 and 21500. Note in the example shown in Figure 27 that there are two cartouches. This is not uncommon. One of the cartouches probably indicates an inspection of components and the other the carbine's final inspection. Component inspections are often done by a sub-inspector and the final inspection by the lead. Obviously, when the carbine shown in Figure 25 was inspected, James Mills was the only inspector then assigned and no sub-inspector had been assigned to help. His cartouches indicate that he completed both component and final inspections.

While James Mills remained the lead inspector at the Massachusetts Arms Company during 1863 and 1864, he was assisted by other assigned sub-inspectors for short periods beginning in

late 1863.⁸¹ By the early months of 1864, after the Massachusetts Arms Company began producing Maynard carbines, Augustus J. Noble⁸² was also assigned fulltime as a sub-inspector at the Company. His "AJN" cartouche (Figure 26) is often found along with James Mill's "JM" cartouche on the wrist of stocks of Smith carbines with serial numbers between 18000 and 21500 and also on the Maynard carbines when their production began.



Figure 25. Stock component and final inspection cartouches of James Mills on a Smith carbine, serial number 12348 made by the Massachusetts Arms Company (Photograph courtesy of Rock Island Auction Company).



Figure 26. Augustus J. Noble sub-inspection cartouche on Smith carbine Serial Number 19,537 manufactured by the Massachusetts Arms Company (Photograph courtesy of Rock Island Auctions).

Some carbines in the serial number range from about 20800 have "GWS" cartouches of George W. Sherman (Figure 27). Sherman's cartouches are also found on Maynard carbines manufactured during the same period at Massachusetts Arms Company. Obviously, Sherman was available to conduct inspections when James Mills was for some reason unavailable.⁸³



Figure 27. George W. Sherman cartouche on Smith carbine serial number 20800 (Photograph courtesy of Bruneau Auctions).

Surviving examples of carbines with serial numbers above 21500, however, no longer show cartouches by either James Mills or Augustus Noble. When these last 250 or so Smith carbines were finished, Mills and Noble were still assigned to inspection duties at the Massachusetts Arms Company in Chicopee Falls but they must have been fully engaged inspecting only Maynard carbines. Instead, these last Smith carbines manufactured by the Massachusetts Arms Company often show the “JH” cartouche of Joseph Hannis. Hannis, who had inspected the earlier Model 1861 Smith carbines during 1862, had been reassigned by late 1862. He was assigned again to inspect Smith carbines in 1864 and returned to Chicopee Falls and Springfield. His cartouche is the most common found on carbines with serial numbers above 21500. Hannis’ “JH” cartouche is often seen with the “G.K.C” stamping of sub-inspector George K. Charter⁸⁴ on carbines. The “G.K.C” stamping, not a cartouche, is often found atop the stock near the butt plate and on the bottom of the forearm of carbines with serial numbers above 21500 (Figure 28). George Charter must have inspected stocks. It is interesting to note that George Charter’s initials occur on the last 250 or so carbines manufactured by the Massachusetts Arms Company and also on the first 100 or so carbines manufactured by the American Machine Works. This suggests that a lot of stocks was purchased that he inspected that was then divided between the two companies to complete the last of the production for one company, and begin production for the other. This also suggests that the American Machine Works only began manufacturing complete carbines at about the same time as the Massachusetts Arms Company ended production.



Figure 28. George K. Charter sub-inspection stamp on Smith carbine serial number 21685 manufactured by Massachusetts Arms Company (Photograph courtesy College Hill Arsenal).

The carbines inspected at the American Machine Works were mostly inspected by Joseph Hannis as the lead inspector and Lafayette F. Rogers as a sub-inspector. The great majority of Smith carbines manufactured by the American Machine Works and delivered to the Army have the “JH” cartouche of Joseph Hannis and many, but a distinct minority, also have the “LFR” cartouche of Lafayette Rogers.⁸⁵ A few carbines have also been observed with the “HDH” cartouche of Henry D. Hastings.⁸⁶ See Figure 29 showing the cartouches of Lafayette Rodgers and Henry Hastings, respectively, each alongside the cartouche of Joseph Hannis on the left side wrist of the stock.

In addition to cartouches, a few other American Machine Works manufactured carbines are found with stock stampings with the initials of inspectors. Stampings are usually found on the top of the stock near the butt plate and on the bottom of the forearm. As noted above, a few carbines with serial numbers mostly below 100 but some as high as 900, have stocks stamped by George Charter, with “GKC”. James M. White also inspected stocks and a few carbines with serial numbers below 900, are stamped with his initials, “JMW”. A few carbines in higher serial number ranges occasionally are found with an additional stock stamp on the top of the stock forward of the buttplate and on the bottom side of the forearm., either by Joseph Hannis, “JH” or, Henry Hastings, “HDH”. While these stock stampings, different from cartouches, are observed, they are uncommon.

Army inspectors witnessed the proving of barrels and sometimes marked barrels with inspection proof and inspection stamps. Barrels of the first 6,000 Smith carbines of this model manufactured by the Massachusetts Arms Company and delivered to the Army by February 1864 are, however, unmarked. It is only the final 5,000 carbines manufactured by the Massachusetts Arms Company with serial numbers above about 16500 that display barrel proof markings. These markings sometimes display a “P” initial. This stamp may only indicate that the barrel was proved.⁸⁷ The markings also often show either an “M” for James Mills, or an “N” for Augustus Noble, or both. See Figure 30 that shows all of these stamps. The inspection and proof markings on these barrels correspond to the addition of serial numbers stamped on the rear face of the breech of the barrel. This suggests that the barrels and receivers may have been manufactured at different factories. The American Machine Works were perhaps making the barrels but they were proved and witnessed at the Massachusetts Arms Company facilities. Just as was the case for completing final inspections, it seems that James Mills and Augustus Noble were no longer available to witness the proving of barrels at the Massachusetts Arms Company factory near the end of production there. They were undoubtedly fully engaged inspecting Maynard carbines when Smith carbine produc-

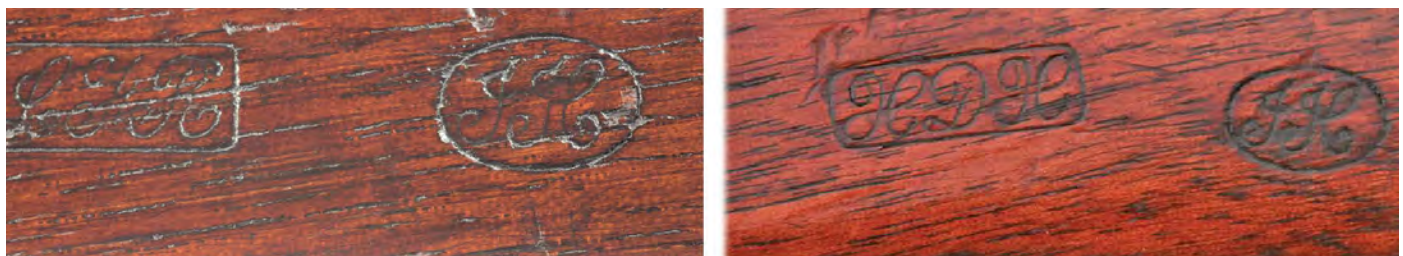


Figure 29. Lafayette Rodgers sub-inspector and Joseph Hannis inspector cartouches on Smith carbine serial number 11376 manufactured by the American Machine Works (left; Photograph courtesy of Rock Island Auctions). Henry Hastings sub-inspector and Joseph Hannis inspector cartouches on Smith carbine serial number 7219 manufactured by the American Machine Works (right; photograph courtesy of Rock Island Auctions).

tion ended. As noted above, Joseph Hannis had been re-assigned to complete the inspections on Smith carbines. Joseph Hannis and George Charter were completing inspections but Hannis also witnessed the proving of the last 100 or so barrels and stamped the barrels of carbines with serial numbers above 21550. He must have had assistance from John White.⁸⁸ White's "J.M.W" stamp is found on a few, including the carbine with serial number 21685, in this last group of carbines.



Figure 30. Barrel proof stampings on Mass Arms Co Smith carbine serial number 19596 (Photograph courtesy of Rock Island Auction Company).

The proof markings found on barrels of carbines manufactured by the American Machine Works are usually those of Lafayette F. Rogers. His "L.F.R." stamp is found on the left side flat on most barrels of these carbines (Figure 31, upper left). The proof stamp "J.M.W." of John M. White, however, is seen on some of the earliest carbines manufactured by the American Machine Works, with serial numbers below 300 (Figure 31, upper right). There is another group of barrels without the proof inspection stamp of Lafayette Rogers. For some reason, Lafayette Rogers seems to not have been available to witness the proof of barrels on a lot of 500 or 600 carbines with serial numbers between about 6000 and 6675. The proof of carbine barrels in this lot were witnessed instead by Joseph Hannis and his "JH" stamp is on the barrels of these carbines (Figure 31, lower left).

There exists one lot of Smith carbines which show proof and inspection markings but the markings were not done by Army inspectors. Based on the total number of carbines manufactured, but not purchased by the Army, there were probably over 2,000 of these carbines manufactured. These carbines have the initial "B" stamped in the left flat of the barrel (Figure 31, lower right). These carbines also had an inspectors' stamp, not cartouche, high on the left wrist of the stock. The most common stamp was for "G.P." (Figure 32). No Army inspectors with these initials are known.⁸⁹ Because these inspectors were, most likely, not assigned by the Army, carbines marked in this manner probably identify carbines sold on the commercial market. Poultney & Trimble sold carbines from their Baltimore store during the War but even more likely these are carbines sold by Schuyler, Hartley and Graham, the military outfitters in New York. The 300 carbines purchased by the troopers of the 5th Missouri Militia Cavalry in 1864 and carbines sold to Argentina likely were likely from this lot.



Figure 31. Barrel proof stamp of Lafayette F. Rogers on Smith carbine serial number 2308 (upper left; photograph courtesy of Rock Island Auctions). Barrel proof stamp of James M. White on Smith carbine serial number 50 (upper right; Author's collection). Barrel proof stamp "JH" for Joseph Hannis on Smith carbine serial number 6282 (lower left, photograph courtesy of Rock Island Auctions). Barrel proof stamp "B" of unidentified inspector on Smith carbine serial number 3454 (lower right, Author's collection).

Carbines delivered to the Army, at least through mid-1864, were issued almost as quickly as they were delivered. McAulay found records indicating that almost 7,000 Smith carbines of this model were issued between late 1863 and early 1865. There were probably more. McAulay identified a total of forty Federal cavalry units, not issued the earlier Model 1861 carbine, were issued this later model Smith carbines by the end 1864.⁹⁰ The volunteer cavalry units receiving large numbers of Smith carbines beginning in late 1863 also included the First Connecticut to replace losses and replace Model 1861 carbines that still had sling swivels. The Eleventh Illinois also replaced their previously issued Model 1861 with the new model carbines having the sling bar and ring rather than sling swivels. Units issued with substantial numbers of this model Smith carbine included the First Alabama (U.S.) Cavalry. They were issued Smith carbines in late 1863 and most of the carbines issued were this later model but some of the carbines issued, as noted above, were of the earlier model with sling swivels.⁹¹ Other units issued new Model 1863 carbines were the Second Arkansas (U.S.) Cavalry, the Tenth and Fourteenth Kansas Cavalry, the Second Kentucky Cavalry, the Fourth Maryland Cavalry, the Second Minnesota Cavalry, the Minnesota Independent Cavalry Regiment, the Eighth Minnesota Mounted Infantry, the Fourteenth Missouri Cavalry, the Seventh Missouri Militia Cavalry, the First New York Veteran Cavalry, the Twenty-second Pennsylvania Cavalry, the Third West Virginia Cavalry and the Third and Fourth Colored Cavalry. The troopers of the Fifth Missouri Militia Cavalry were not issued Smith carbines. Instead, the troopers purchased them. They purchased 300 Smith carbines in 1864 to replace the Austrian rifles that they were originally issued.⁹²



Figure 32. Inspector “GP” stamp on civilian sales Smith serial number 5992 (Photograph courtesy of Rock Island Auctions).

Frank Mallory recorded the serial numbers of Model 1863 carbines issued to several of these units. His list that is now published by Springfield Research Service⁹³ lists the serial numbers of 50 Model 1863 carbines issued to the First Connecticut, over 60 to the First Alabama (U.S.), 81 to the Eleventh Illinois and 42 to the Third Maryland, 41 to the Seventh Missouri Militia Cavalry, and 14 to the Sixteenth Kansas.⁹⁴ The serial numbers of carbines recorded by Frank Mallory were almost all Massachusetts Arms Company arms. Only a handful of the over 500 carbines listed by Mallory have serial numbers identifiable as made by the American Machine Works.

Immediately after the Confederate raid across the border to St Albans, Vermont, 500 Smith carbines were rushed to that state to

arm local militia.⁹⁵ Two companies of Frontier Cavalry were authorized immediately later on the same day as the raid, 19 October 1864. These companies were quickly formed and armed and remained in service securing the border with Canada until finally disbanded 27 June 1865. It is likely that these two companies were armed with these Smith carbines.⁹⁶ There were 482 of these carbines reported still in storage at the State Armory at Vergennes, Vermont on 1 October 1866.⁹⁷

Including both Model 1861 and Model 1863 carbines manufactured by the Massachusetts Arms Company and the American Machine Works, U.S. Armories reported they still held 18,728⁹⁸ Smith carbines after the end of the Civil War. This is about 60% of the total of the carbines purchased by the Army. This equates to a loss rate during war service of almost 40%. Most of the carbines in storage were serviceable but several hundred were listed as unserviceable indicating these had been previously issued, seen service and returned to armories. The great majority of carbines stored in Ordnance Department storage were, however, carbines that had never been issued and the majority of these were, undoubtedly carbines manufactured by the American Machine Works late during the War.

The Smith carbine was percussion and was made obsolete by the introduction of metallic rim fire cartridge firearms during the Civil War. None of the Smith carbines still in storage are known to have been sold and then re-sold to France during the Franco-Prussian War, as were many surplus Civil War era arms. Nevertheless, at least 2,102 Smith carbines had been sold to the Argentine Army.⁹⁹ The Argentine Ministry of War reported that many had been purchased by 1871 to arm Argentine cavalry during the Triple Alliance War against Paraguay (1865–70). These were all probably new arms and not purchased from surplus U.S. Army stocks after the Civil War. The U.S. Government had only sold limited quantities of surplus Smith carbines before 1871 and many of these were noted as unserviceable.

The earliest recorded sale of surplus Smith carbines was in September 1865. A lot of 233 unserviceable Smith carbines were sold at Harpers Ferry. There were 505 sold at the Allegheny Arsenal in January 1866 and 34 more unserviceable carbines were sold in November 1867.¹⁰⁰ Two additional sales of surplus Smith carbines occurred in June 1874 and October 1876, but the total from these sales was only 1,227 carbines.¹⁰¹ These two sales occurred well after the Smith carbines were purchased by Argentina, as were the last and, by far, the largest sales. In 1901, the U.S. Government sold 7,995 to Marcellus Hartley in June, 7,954 to the Nolan Brothers in September and 603 to Francis Bannerman in November.¹⁰²

There is good evidence that some or all of the lot of 505 Smith carbines sold at the Allegheny Arsenal on 18 January 1866 were purchased by the Fenians, as arms for their invasion to overthrow the British Government in Canada in June 1866. Several Smith carbines have been found stamped on the left wrist of the stock with the initials IR (Irish Republic).¹⁰³

Ammunition for the Model 1863

The Model 1863 carbines were chambered to fire the same rubber cartridge as used in the earlier Model 1861 carbines. Brigadier General James A. Farrell, commanding New York National Guard in New York City reported that he had purchased 25,000 cartridges from Poultney & Trimble as part of the response to the emergen-

cy of Lee's invasion of Maryland and Pennsylvania in June 1863. These were rubber cartridges. General Farrell reported the cost paid as \$32.50 per thousand.¹⁰⁴ Only one additional Army order for rubber cartridges was placed with Poultny & Trimble after manufacture of the new Model 1863 carbines commenced. On 29 December 1863, Chief of Army Ordnance General Ramsay had agreed to purchase 1,000,000 rubber cartridges offered by Poultny & Trimble but at a deep discount of \$19.75 per thousand. At the time, Thomas Poultny was arranging to manufacture a new cartridge invented by Captain Silas Crispin to replace rubber cartridges. Of the 1,000,000 ordered, only 784,000 however were actually delivered.¹⁰⁵ These apparently were the last of the rubber cartridges manufactured and Poultny's attractive price was an attempt to unload his existing inventory. The India rubber cartridges were expensive. The first orders awarded by the Army in 1862 of these had cost \$45.00 per thousand. Since then, as production economics improved and due to cost pressure by the Army, prices had dropped by August 1863 to \$30.75 per thousand.

Even at the lowest cost, the rubber cartridge for the Smith carbine was still one of the most expensive cartridges used in any Federal issued carbine.¹⁰⁶ The Army wanted a lower cost. A lower cost cartridge was soon available. Attempting to improve cartridges used in Gallagher carbines, Captain Silas Crispin, commanding the New York ordnance depot had designed a foil and paper wrapped cartridge. The breech-loading Gallagher carbine when first placed into service fired a brass cartridge and troops issued with the Gallagher carbine quickly identified a serious design flaw with the carbine. The carbine had no cartridge extractor and the spent cartridge had to be removed by hand. When fired, the brass cartridge expanded in the breech, often cracked and was then difficult to remove. As a result, reports from the field were very critical of this carbine. Crispin designed his new cartridge to still provide an effective gas seal but also to be soft after firing. The spent cartridge was easier to remove and made the Gallagher a much more useful firearm. Crispin's cartridge was also less expensive and the design was quickly recognized as being useful for cartridges fired by the Smith, Burnside and Maynard carbines as well. Crispin applied for a patent for his foil and paper wrapped cartridge on 15 June 1863. Unfortunately for Crispin, Richardson and Overman of Philadelphia, the agents for the Gallagher carbines, also made a claim that they had invented the cartridge. The conflicting claims delayed the issuance of the U.S. patent 42,329 in Crispin's favor for almost ten months, until 12 April 1864. In the meantime, Crispin had assigned the rights to this patent to Thomas Poultny on 23 June 1863. After this date, the cartridges would be known as "Poultny cartridges". The drawing accompanying the patent for this new cartridge is shown in Figure 33. In the drawing it shows the cut segments of metal foil, "B" in the drawing, and paper, "C" in the drawing. These were rolled together to form the cartridge. The outside paper layer was then shellacked to protect the cartridge from moisture. Because the foil and paper were rolled, the cartridge was allowed to expand when it was fired. As it had in the earlier rubber cartridge, the expansion in the breech formed an excellent gas seal. Moreover, since the cartridge was not rigid, it could easily be grabbed with the finger to extract the spent cartridge.

Although approval of the paper and foil cartridge was delayed at the patent office, Crispin was undeterred and applied for two more patents for a foil cartridge. The first was submitted on 29

October and the second on 18 November 1863. Both patents were approved on the same day, 15 December 1863. Both were for improvements to cartridges constructed with rolled foil and were very similar to the cartridge design claimed in the earlier Patent 42,329, except paper was not wrapped over the foil. Patent 40,978 pertained to primed cartridges and Patent 40,988 pertained to unprimed cartridges like used with Smith carbines. The latter patent was submitted by both Captain Crispin and by Major Thomas J Rodman who was then the commander of the Watertown Arsenal. Both of the patents were assigned to Thomas Poultny when they were approved. The drawing submitted for Patent 40,988 is shown in Figure 34. Note on the drawing that only the thin foil is shown and the paper is omitted. Thomas Poultny needed to claim the approved patent but he ignored the deletion of the outer paper wrapping and only manufactured paper and foil cartridges for the Smith carbine as described in the earlier patent application. Cartridges using only wrapped metal foil were not as useful. The paper was necessary to provide bulk to the cartridge necessary to seat it within the chamber and the paper could be shellacked to provide a moisture barrier for the cartridge.

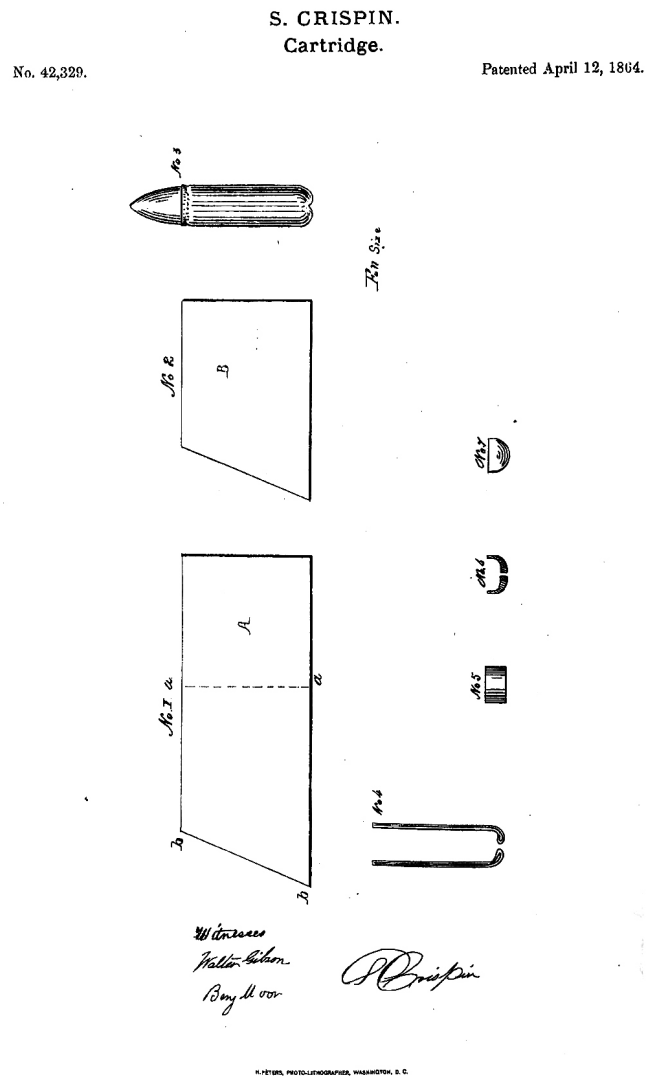


Figure 33. Patent 42,329 Drawing showing cartridge made from wrapping paper and metal foil.

The new cartridges were tested at the Washington Arsenal in November 1863. Captain James G. Benton assigned to the Washington Arsenal observed the tests and on 17 November 1863 reported to General George Ramsay, now the new chief of ordnance:¹⁰⁷

was short and the 300,000 were delivered to the Frankford Arsenal by 4 January 1864. These cartridges were actually manufactured by the B.C. English Company of Springfield, Massachusetts. The *Springfield Republican* reported on 9 September 1863 that a new company had been established:

B.C. English, formerly of Hartford, who bought the Batty property on Central Street, near Maple, a few weeks since, will commence work here tomorrow, and when in full operation will employ about forty hands. Mr. English having a gun contract which he will fill, as well as manufacture percussion caps.

Nothing is known about a contract for manufacture of guns, but Captain Crispin does note that he had arranged for Mr. English to manufacture the new Poultney cartridges.¹¹¹

With a manufacturer identified, T. Poultney offered on 27 January 1864 to sell the Army 3,000,000 cartridges at a somewhat higher price, \$20.50 per thousand.¹¹² Price increases were justified by higher lead and powder costs. General Ramsay proposed to purchase 2,000,000 cartridges at this price. Poultney accepted and a contract was issued 29 February 1864.¹¹⁴ The final delivery of this order, 100,000 cartridges, was made 9 June 1864. The Army purchased another 2,000,000 at the higher price of \$23.00 per thousand on 27 June. The higher price was somewhat justified because it included delivery of the cartridges to the New York Arsenal. Deliveries were completed 2 September.¹¹⁴ A final contract for the Poultney cartridges was awarded 13 October. Prices for lead and powder continued to increase during the war and the price for this final order was for \$26.50 per thousand but the price excluded delivery from Springfield to the New York Arsenal. Also, the Army would supply the percussion caps included in each packet of ten cartridges. This last order was for 4,000,000 cartridges, the largest order awarded. Accounting seems to have been confused by B.C. English. It appears that English counted cartridges for this final order and the 300,000 they had originally made for Schuyler, Hartley and Graham earlier in the year. Only 3,700,000 were delivered and paid for by the Army. The final lot of this contract was delivered by 1 February 1865.¹¹⁵

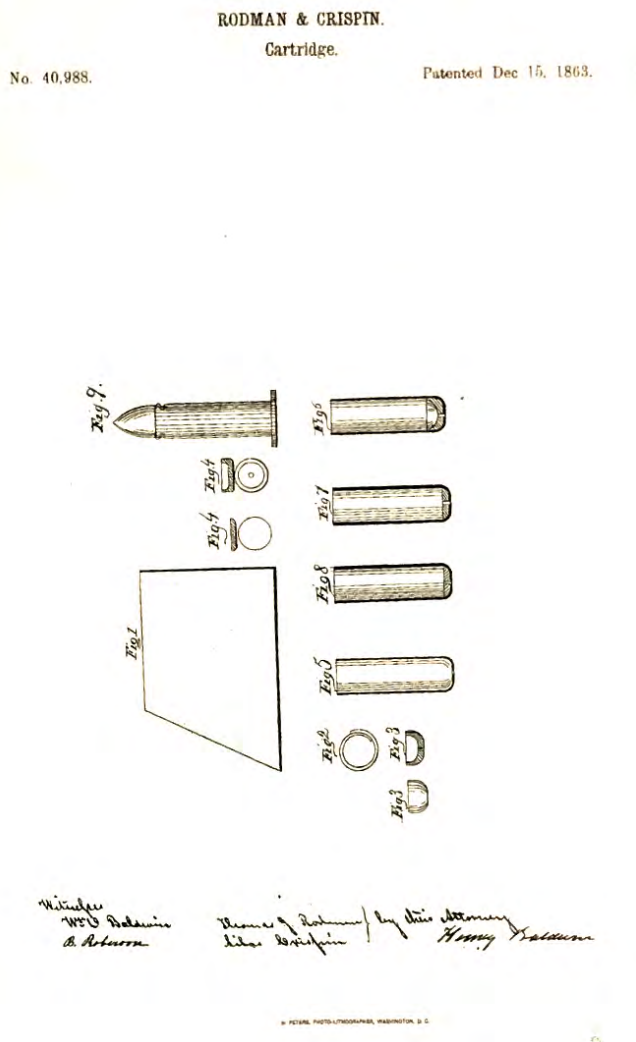


Figure 34. Patent 40,988 Drawing showing a cartridge made from a wrapping of metal foil.

I have the honor to submit herewith the results obtained in firing Poultney's cartridge with the Smith carbine.

*This cartridge appears to give good results and being strong and much cheaper than the rubber cartridge used in Smith's carbine... I have no hesitation in recommending its adoption for the service.*¹⁰⁸

One main advantage of the new cartridge was its cost. After the favorable report by Captain Benton, Silas Crispin received a requisition from the War Department to purchase 300,000 Smith cartridges in early December 1863. He further demonstrated the advantage to General Ramsay by reporting a pricing quote he had received from Schuyler, Harley and Graham in New York of \$30.75 per thousand if rubber cartridges or \$19.75 for the new paper and foil Poultney cartridges.¹⁰⁹ The choice was obvious and the Poultney cartridges were ordered.¹¹⁰ The delivery of the cartridges from Schuyler, Hartley and Graham was a little delayed. They first had to finish obtaining and delivering cartridges for an earlier order of Poultney cartridges for the Gallagher carbine. However, the delay



Figure 35. Poultney patent paper and foil Smith cartridge (left) and pasteboard packet of ten Poultney patent paper and foil Smith cartridges (Author's collection).

The new paper and foil cartridge and packaging is shown in Figure 35. Cartridges were packaged in packets of ten. Note the patent date on the package. This is the patent date for the foil only cartridge. As with all Army purchased cartridges after June 1863, packets of ten cartridges also include twelve percussion caps. The cartridges were all .50 caliber. The conical lead bullet weighing about 376 grams was the same as in the earlier rubber cartridges with a solid base and a single grease ring around the base. The diameter of the bullet remained .52 inches. The overall length of the

cartridge, however, was shorter. While the earlier rubber cartridge case was 1.5 inches in length, the paper and foil cartridge case was only 1.375 inches. The powder charge remained the same, about 50 grains of black powder. Because the cartridge was shorter, Poultney did propose to alter the length of the chamber for the last carbines then being manufactured.¹¹⁶ These would probably been the carbines manufactured by the American Machine Works but none of the chambers observed on these carbines differ in size from those manufactured by the Massachusetts Arms Company. Of the 8,000,000 Poultney Patent foil and paper cartridges purchased by the Army during the War, in October 1870, 6,283,540 (almost 78% of the cartridges purchased) still remained in storage in US Armories.¹¹⁷

Appendages for Model 1863

None of the contracts for Smith carbines actually list the appendages supplied with these carbines. Nevertheless, the practice in most Army contracts was to include for each carbine a nipple cone wrench and screwdriver, and a bullet mold supplied at one per each ten carbines. Bullet molds were single cavity iron with an iron sprue cutter (Figure 36). Molds made by the American Machine Works were only marked with the initials of an inspector. The initials of Joseph Hannis, "J.H" are shown in Figure 36; the initials of Henry Hastings, "H.D.H" are also found on some molds. Although Joseph Hannis did inspect the earliest Model 1861 car-

bines and the last 200 or so Model 1863 carbines manufactured by the Massachusetts Arms Company, he was also the lead inspector assigned the American Machine Works during most of that company's production of Smith carbines. He stamped his initials only on molds made for carbines manufactured by the American Machine Works. Henry Hastings is only known to have worked as a sub-inspector at the American Machine Works factory. Although bullets made in these molds are identical to bullets made for either Model 1861 or Model 1863 carbines manufactured by the Massachusetts Arms Company, molds marked inspected by either Joseph Hannis or Henry Hastings are only associated with the Model 1863 carbines manufactured by the American Machine Works. Molds made for the Model 1863 carbines manufactured by the Massachusetts Arms Company remain marked by that company in the same way as the molds supplied for the earlier molds for the Model 1861 carbines (Figure 13).

Model 1863 carbines did not require a carbine sling as had been supplied with the earlier carbines and were not supplied. Civil War era firearms were issued with combination tools consisting of a cone nipple wrench and screwdriver and a brush with a leather thong that was used to clean carbine barrels. These items remained unchanged from those supplied with the Model 1861 carbines. Examples of these tools are shown in Figures 14 and 15.

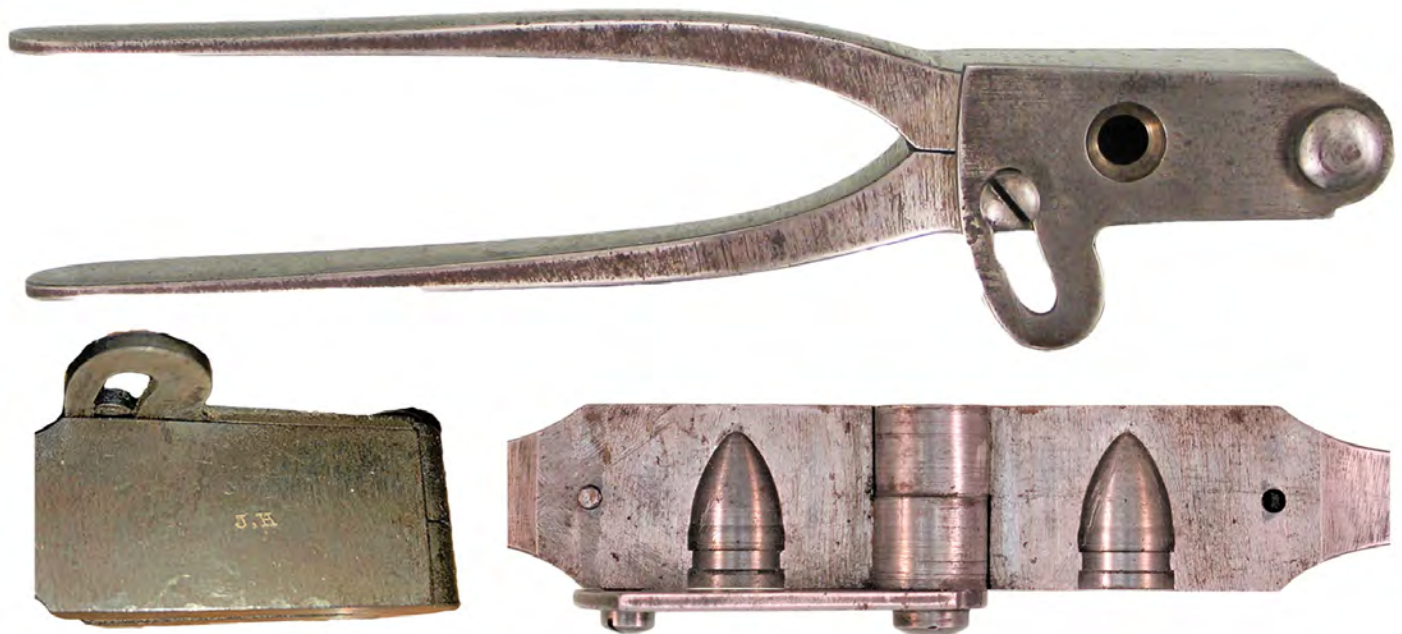


Figure 36. Single cavity bullet mold for Model 1863 Smith carbine made by American Machine Works (Author's collection).

Summary Chart of Smith Carbine markings

MODEL	OBSERVED SERIAL NUMBER RANGE	RECEIVER MARKINGS	SERIAL NUMBERS ON FACING OF BREECH	PROVING INSPECTORS BARREL STAMPS	ARMS INSPECTOR CARTOUCHES
MASSACHUSETTS ARMS COMPANY					
Model 1861 (Military Contracts)	1-2,000	Mass Arms markings horizontal near breech	No	None	None
	2,400-3,300		No	None	JH
	3,300-4,600		No	JH	JH
	4,600-7,500		No	None	None
	7,500-9,500		No	None	JM
	9,500-10,500		No	None	None
	10,500-11,230		No	None	JM (usually 2 cartouches)
Model 1863 (Military Contracts)	11,230-16,500	Mass Arms markings horizontal near breech	No	None	JM (usually 2 cartouches)
	16,500-21,500		Yes	M, P, N or any combination	JM with AJN from SN 18,000 or if no AJN. (usually 2JM cartouches)
	21,500-21,750		Yes	Mostly JH; JMW possible	JH with some stocks stamped with GKC
Model 1863 (Civilian Sales)	17,300-19,500 (range observed)	Mass Arms markings horizontal near breech	Yes	None	GP or HJ (stamp, not cartouche)
AMERICAN MACHINE WORKS					
Model 1863 (Military Contracts)	1-2,000	Am Mch Wrks markings horizontal near breech	No	Mostly LFR; JMW on SN <300	Mostly LFR and JH; some stocks show GKC or JMW stamps
	2,000-6,479	Am Mch Wrks markings vertical near breech		Mostly LFR	Mostly LFR and JH
	6,250-6,479	Am Mch Wrks markings horizontal near breech		JH	Mostly LFR and JH
	6,480-6,675	Am Mch Wrks markings horizontal under sling bar		JH	JH
	6,675-12,200			Mostly LFR	Mostly LFR and JH; HDH possible replace LFR to about SN 11,000; some stocks show JH or HDH stamps
Model 1863 (Military Contracts)	1,748-2,000 (range observed)	Am Mch Wrks markings horizontal near breech	No	B	GP (stamp, not cartouche)
	2,000-6,479 (range observed)	Am Mch Wrks markings vertical near breech	No	B	GP or HJ (stamp, not cartouche)
	6,480-6,500 (range observed)	Am Mch Wrks markings horizontal under sling bar	No	B	GP (stamp, not cartouche) (None observed over SN 6504)

Endnotes

- ¹ Spears, Ralph. "Early Firearms of Gilbert Smith, Part 1." *Bulletin of the American Society of Arms Collectors* 124:63-79. 2021.
- ² The Baltimore Sun newspaper announced the formation of the company on 1 January 1859. Advertisements for the new store at 200 Baltimore Street began to appear in the *Baltimore Daily Exchange* newspaper on 3 January that included listings for sale of "Double Barrel Bird Guns by Richards, Manton, Greener, Moore and all English makers". "French Breechloading Shotguns", "Single and Double Barreled Duck Guns" as well as "Skates and Sleigh Bells at Manufactures Prices". The firm styled itself as "The Sportsman's Warehouse".
- ³ Johnston accompanied his brother-in-law to meet with Benito Juarez and negotiate the McLane-Ocampo Treaty, a treaty that would have supported Juarez's liberal government, but also would have granted perpetual military and economic rights to the United States. The US Senate, however, failed to approve the treaty. Johnston acted as a military advisor during the negotiations but he also assumed a mission to scout and evaluate routes across the Isthmus of Tehuantepec, then seen as the shortest land route to move trade goods between the east and west coasts.
- ⁴ The Massachusetts Arms Company of Chicopee Falls was first incorporated in 1850 (*Springfield Daily Republican*, 19 March 1850). The company had purchased buildings and the gun making facilities from the Ames Company and had started with a contract to make Wesson & Leavitt revolvers. The Ames Company had originally purchased the buildings and machinery from the Chicopee Falls Company in 1841 after that company had failed. Ames had greatly expanded those facilities after the US Navy had awarded contracts to manufacture Jenks carbines and Model 1842 Navy pistols. The company had, however, quit making firearms in 1846 shortly before the eldest brother, Nathan, who had been responsible for the major expansion of that company, had died. Although no longer making small arms, Nathan's younger brother, James, had continued the Ames Company, and continued to expand the company's manufacture of swords and cannon. James still ran the Ames Company but he was also one of the original investors and officers of the new Massachusetts Arms Company, along with Timothy W. Carter and Benjamin F. Warner. Since incorporation, the Massachusetts Arms Company had continued to expand during the 1850s. Prior to the contract with Poultney & Trimble for Smith patent firearms, the company had secured contracts to manufacture Wesson & Leavitt revolvers, Adams revolvers, Greene carbines, and Maynard patent revolvers, rifles and carbines. The company also manufactured gun making equipment and machinery, selling not only to gun makers in the US but also in England (the *New England Farmer* newspaper (Boston), 14 October 1854).
- ⁵ *Springfield Daily Republican*, 22 January 1861. In Poultney's letter to Holt and Owen dated 26 March 1862 attempting to justify the failure to meet deliveries, he stated that the "factory, with all the machinery and tools, was totally destroyed by fire". (Mowbray, Stuart C., and Jennifer Heroux. *Civil War Arms Makers and Their Contracts*. Lincoln, RI: Andrew Mobray, 1998., p 120).
- ⁶ The contract between the Massachusetts Arms Company and the Maynard Arms Company was for 5,000 firearms. The Army only purchased 400 Maynard carbines. The Revenue Service purchased 100 and the Navy 60. The Army had awarded the first contract to Doctor Edward Maynard's Maynard Arms Company of Washington for his patent carbines on 28 December 1857 and the Massachusetts Arms Company was subcontracted to manufacture them. A final production model of the Maynard carbine was not approved until August 1858 and the final delivery of the 400 was not made until 6 April 1859. The Revenue Service purchased their carbines in November 1859 and the Navy in February 1860. Although the military services did not purchase anymore, the Maynard design proved to be popular. They were particularly popular in the South. The perceived threat that Abraham Lincoln, and an anti-slavery administration might be elected caused several southern states to prepare to defend themselves. Several thousand of the Maynard carbines and rifles were purchased by the states of Florida, Georgia and Mississippi for arming local militias. In all, an estimated 5,000 Maynard firearms were manufactured during 1859 and 1860. Most were sold in the South. This is a substantial number for arms production by any factory prior to the massive expansions during the Civil War.
- ⁷ These Smith "sporting" guns were also know sold by dealers in Staunton, Virginia and Charleston, South Carolina.
- ⁸ The highest serial number noted for these "sporting" guns is 132.
- ⁹ This letter did not survive. It was never returned to the Ordnance office files.
- ¹⁰ U.S. Government, *Correspondence Relating to the Contracts for and Purchases of Small Arms*. Washington: U.S. Government Printing Office, 1862. Letter of endorsement from BG J. W. Ripley to Secretary of War dated 15 August 1861.
- ¹¹ The employment of mounted troops was a continuing debate during the 19th Century. During this time military officers debated the merits of cavalry versus dragoons (essentially infantry mounted to more quickly move into action), and the armaments carried by mounted troops; sabers and pistols, lances, carbines, or various combinations. During the Civil War, both Federal and Confederate mounted units would be organized and deployed with all these combinations.
- ¹² U.S. Government 1862. *opt. cit.* Letter from BG James W. Ripley to Thomas A. Scott dated 17 August 1861.
- ¹³ There exists no correspondence regarding the reduction of price. Thomas Poultney was then in Washington and seems to have been in direct communication with the office of the Secretary of War.
- ¹⁴ U.S. Government 1862. *opt. cit.* Letter from Thomas A. Scott to General Ripley dated 26 August 1861.
- ¹⁵ U.S. Government 1862. *opt. cit.* Letter from T. Poultney to Brigadier General J. W. Ripley dated 27 August 1861.
- ¹⁶ U.S. Government 1862. *opt. cit.* Letter from BG Jas W. Ripley to T. Poultney dated 27 August 1861.

- ¹⁷ U.S. Government 1862. *opt. cit.* Letter from T. Poultney to Brigadier General J. W. Ripley dated 28 August 1861.
- ¹⁸ McAulay, John D. *Carbines of the Civil War*. Union City, Tn: Pioneer Press, 1981. p 39.
- ¹⁹ Holt, J, and Robert Dale Owen. *Report of the Commission on Ordnance and Ordnance Stores made to the War Department*. Washington: US Government Printing Office, 1862. Joseph Holt and Robert Dale Owen were the two primary members of the Commission on Ordnance and Ordnance Stores that had been established by the Secretary of War 13 March 1862 to investigate Ordnance contractors who had failed to make promised deliveries and to identify contract fraud, contracts awarded due to in-appropriate political influence, or contracts with pricing abuses. The Commissioners had the authority to terminate or renegotiate 107 arms contracts awarded during the first months of the Civil War in 1861 when the Army's Ordnance Department was overwhelmed trying to respond to the needs of the emergency expansion of the Army. The report contains a wealth of correspondence and testimonies by the various contractors.
- ²⁰ The Massachusetts Arms Company was severely damaged by fire on 18 January 1861 (*Springfield Daily Republican* of 22 January 1861).
- ²¹ Letter from T Poultney to J. Holt and R.D. Owen dated 26 March 1861(Mowbray and Heroux 1998, *op. cit.* p 120).
- ²² The contracts for 150 carbines for Alabama and 200 for South Carolina are well documented and correspondence in both states indicate deliveries were expected in January 1861. However, there is no correspondence yet located confirming deliveries and none of these Model 1859 carbines have been positively identified as in service within those states.
- ²³ Richard S. Lawrence who worked for the Sharps Rifle Manufacturing Company of Hartford, Connecticut invented this adjustable sight and patented it 15 February 1859, US Patent 22958. These sights are the same as seen on some late production Model 1853 Sharps carbines and all New Model Sharps rifles and carbines.
- ²⁴ The new design was probably introduced to avoid paying royalty to Lawrence.
- ²⁵ At least one carbine is observed to be missing the Mass Arms Co. markings, carbine with serial number 940. The reason is unknown
- ²⁶ The first instance found for this designation was in McAulay, 1981.
- ²⁷ Santarelli, Michael. *The Smith Carbine in the Civil War*. 2019. Self published. p 50.
- ²⁸ Major Hagner would later serve as the chief inspector of factories manufacturing small arms and then, after his promotion in 1863 to Lieutenant Colonel, as the commander of Watervliet Arsenal.
- ²⁹ Mowbray and Heroux 1998, *op. cit.* p 2.
- ³⁰ Executive Document 99, Vol 12 of *Executive Documents of the House of Representatives for the 40th Congress, 2nd Session, 1867-68*, p. 852.
- ³¹ Letter from J Holt and Robert D. Owen to BG J.W. Ripley dated 28 March 1862 (Mowbray and Heroux 1998, *op. cit.* p 122).
- ³² Mowbray and Heroux 1998, *op. cit.* p 120-121.
- ³³ *Ibid.*, p 123.
- ³⁴ Letter T. Carter to General Ripley dated 19 February 1863 (NA RG 156, Entry 85).
- ³⁵ Letter, P.V. Hagner General Ripley dated 23 April 1862. Letter reproduced in Mowbray and Heroux 1998, p. 121.
- ³⁶ *Ibid.* Letter P.V. Hagner to Edwin M. Stanton dated 4 June 1862.
- ³⁷ Originally trained as a gunsmith in Philadelphia, Joseph Hannis had moved to Springfield and been employed at the US Army in 1836. In 1838, he was assigned as a contract inspector and had numerous arms inspection assignments before the Civil War. At the beginning of the War, he was first assigned to the Ames Company to inspect swords. He had several other inspection assignments before he was assigned to the Massachusetts Arms Company to inspect the Smith carbines in January 1862. Except for a two week period at the Colt factory in June, he remained at the Massachusetts Arms Company as lead inspector of Smith carbines until production of this model Smith carbine ended in July 1863. He was re-assigned as an inspector of rifled-muskets until he returned to Chicopee Falls about a year later in 1864. He soon transferred to the American Machine Works to inspect Smith carbines being manufactured there from during 1864. (Daum and Pate 2016, *op. cit.* p. 95.).
- ³⁸ *Ibid.*
- ³⁹ *Ibid.*, p. 221.
- ⁴⁰ *Ibid.*, pp. 136-7. Mills had worked at the Harpers Ferry Armory before the war and had moved his family to Springfield, Massachusetts. He requested, for family reasons, inspection duties at Chicopee Falls or at Middleton or Hartford, Connecticut and was assigned to inspect Smith carbines at the end of 1862 until March and then again in April 1863 to complete inspection of the last lots of the Model 1861 Smith carbines.
- ⁴¹ McAulay, J. D. 1981. *op. cit.*, p. 39.
- ⁴² Schuyler, Hartley and Graham. *Illustrated Catalog of Civil War Military Goods 1864*. New York: Dover Publications, 1985. p. 133.

- ⁴³ McAulay, J. D. *Carbines of the U.S. Cavalry 1861-1905*. Lincoln, RI: Andrew Mowbray, 1996. P. 19. The remaining troops were armed with Sharps.
- ⁴⁴ *Ibid.*, pp. 35-37.
- ⁴⁵ *Ibid.*, p. 52.
- ⁴⁶ Mallory, Frank. *Serial Numbers of U.S. Martial Arms. Vol 2*. Silver Springs, Md: Springfield Research Service, 1986. The actual number issued to the First Alabama is uncertain because most of the serial numbers reported for that regiment are in the 11,000 range. This range overlaps the carbines of this model and the next. If the highest serial number for the Model 1861 carbine is 11,250, the total listed by Mallory would be 68 of the Model 1861.
- ⁴⁷ Letter found in NA RG 156, Box 290, Entry 21 and reported by Paul D. Johnson (Johnson, Paul D. "Smith Carbine Models: New Information." *Man at Arms*, February 1999: pp. 25-28).
- ⁴⁸ *Ibid.* The Massachusetts Arms Company ledgers show a payment by Poultney & Trimble in April 1864 of \$388.36 that may be the payment for this modification.
- ⁴⁹ T. Poultney to Gen J.W. Ripley dated 12 December 1861 (NA RG 156, "Letters Received by Chief of Ordnance").
- ⁵⁰ Thomas, Dean S. *Round Ball to Rimfire Part Two*. Gettysburg, Pa: Thomas Publications, 2002. p 235.
- ⁵¹ Letter Poultney to Secretary Stanton dated 12 August 1862. NA RG 156 ("Letter, Telegrams and Endorsements Sent Relating to the Manufacture, Procurement and Repair of Ordnance Supplies and Equipment").
- ⁵² Thomas, Dean S., 2002. *op. cit.*, p. 235.
- ⁵³ *Ibid.*, p 240.
- ⁵⁴ *Ibid.*, p. 94. Dean Thomas reported weights of bullets vary between 346 grams and 367 grams.
- ⁵⁵ McAulay, J. D. 1996. *op. cit.*, p. 94.
- ⁵⁶ Letter T. Poultney to General Ripley dated 12 December 1861(NA RG 156 "Letters Received by the Chief of Ordnance").
- ⁵⁷ Shaffer, James B., Lee A. Rutledge, and R. Stephen Dorsey. *Gun Tools Their History and Identification*. Eugene, OR: Collectors' Library, 1992. The tool is very similar to tools known to be made by the Massachusetts Arms Company for Maynard carbines. The Smith tools are identified by the nipple wrench. The wrench for the Smith is 1/64 inch larger than the wrench for the Maynard.
- ⁵⁸ McAulay J. D., 1981. *op cit.* p. 35. The original contract is filed in NA RG 156.
- ⁵⁹ The exceptions were Ballards and Wesson carbines. These carbines continued to have only sling swivels as had the previous model Smiths. Before 1863, the Army had purchased the previous model Smith, Gibbs, Sharps & Hankins, and early Gallagher carbines with sling swivels. Later models of the Smith, Sharps & Hankins and Gallagher carbines all have the sling bar.
- ⁶⁰ The Report by the Commissary General of the State of New York dated 25 December 1863 in the Annual Report No 142 to the 88th Session of the New York Assembly included the letter to the commander of the State National Guard in New York City, Brigadier General James A Farrell from the State Adjutant General, John T. Sprague dated 6 July 1863 reporting that he had awarded a contract to Poultney & Trimble of Baltimore for 500 Smith carbines. The cost was \$25 each.
- ⁶¹ Todd, Frederick P. *American Military Equipage 1851-1872, Vol II State forces*. Company of Military Historians, 1983. p. 964.
- ⁶² Officers had to purchase their uniforms and arms. Government purchased arms could not be issued to officers. Officers could either pay the government for arms or could purchase arms directly from commercial sources.
- ⁶³ Government, Executive Report No 99, Volume 12 of the *House of Representatives for the 2nd Session of the 40th Congress* 1868, p 958. The Army paid \$25 for this carbine.
- ⁶⁴ Leoni, Juan B. "Obsolete Muskets, Lethal Remingtons: Heterogeneity and Firepower in Weapons of The Frontier War, Argentina, 1869-1877," *The Journal of Conflict Archaeology*, Volume 9, Issue 2, May 2014, pp 93-115.
- ⁶⁵ Letter T.W. Carter to Lt Colonel Hagner 1 October 1863 (NA RG 156 Box 283).
- ⁶⁶ McAulay, J. D., *Civil War Carbines, Volume II, the Early Years*. Lincoln, RI: Andrew Mowbray Inc, 1991. pp. 63-73.
- ⁶⁷ The contract is reproduced in Executive Report 99, p 269 (*Government, Executive Reports, Volume 12 of the House of Representatives for the 2nd Session of the 40th Congress*. 1868).
- ⁶⁸ *The Springfield Republican* newspaper of 13 November 1861 reported: "The American machine works are now running at their utmost capacity in the production of gun-making machinery under the efficient direction of Mr. Tyler and Mr. Lewis. They cannot supply the demand for the above warlike appurtenances, to be used in the U.S. armory, by Col Colt of Hartford, Jenks of Philadelphia, etc. A new machine for bedding lock-plates in the musket stocks was tried for the first time yesterday, and though very complicated, it performed like clock-work. It is to be used in the U.S. Armory, and more elegant and exact piece of mechanism can nowhere be found. There are now about 180 men employed by this company."
- ⁶⁹ Letter William McFarland to Edward Maynard dated 1 July 1863 (McFarland papers in a private collection)

- ⁷⁰ Deliveries are listed in Executive Report 99, p 840 (*Government, Executive Reports, Volume 12 of the House of Representatives for the 2nd Session of the 40th Congress*. 1868).
- ⁷¹ New York State Archives series A4105-11, records bundle 7.
- ⁷² Deliveries are listed in Executive Report 99, p 851 (*Government, Executive Reports, Volume 12 of the House of Representatives for the 2nd Session of the 40th Congress*. 1868).
- ⁷³ The actual number manufactured was probably a few more.
- ⁷⁴ The Company in October was Poultney & Trimble. A banker, George S. Brown, would become a partner in February 1864 in a new company, the Smith Patent Arms Company. It is unknown if this is an error by the newspaper or if Brown was already associated. All of the Smith patents were still, in October 1863, owned by Thomas Poultney.
- ⁷⁵ Massachusetts Arms Company ledgers, October 1849 to April 1868, page 355 (Mass Arms Collection in the Wood Museum of Springfield History).
- ⁷⁶ February 1864 has the first ledger entries of payments to the American Machine Works by the Massachusetts Arms Company. (Massachusetts Arms Company ledgers, October 1849 to April 1868, page 285).
- ⁷⁷ There is controversy over this number. Michael Santarelli included a list of serial numbers in Appendix C of his book showing carbines he found manufactured by the American Machine Works. He lists almost twenty carbines with higher numbers. Carbines from his list with higher numbers and also included in the author's database show that these carbines were incorrectly described by auction houses and were in fact manufactured by the Massachusetts Arms Company. The author is convinced that almost all of the others listed with higher serial numbers by Mr. Santarelli were also listed in error and were actually manufactured by the Massachusetts Arms Company. (Santarelli, M. 2019. *op. cit.*).
- ⁷⁸ On 5 September 1864, Thomas Poultney in a letter to General Ripley included a "Request an extension of six months on their contract for Smith's Patent Breech Loading carbines." (NA RG 156, Entry 20 Register of Letters Received by the Ordnance Department). Based on deliveries accepted after this date, the extension was obviously granted.
- ⁷⁹ Deliveries are listed in Executive Report 99, p 851 (*Government, Executive Reports, Volume 12 of the House of Representatives for the 2nd Session of the 40th Congress*. 1868).
- ⁸⁰ James Mills was a highly regarded inspector who had been an assistant foreman at the Harpers Ferry Armory until it was captured by Virginia troops in 1861. He remained loyal to the Union and moved north where Captain Dyer at the Springfield Armory re-hired him. Eventually he was assigned as a sub-inspector to assist Joseph Hannis inspecting Smith carbines at the Massachusetts Arms Company by October 1863. He remained at the Massachusetts Arms Company, becoming the lead inspector, inspecting both Smith and then Maynard carbines in 1864 and 1865. (Daum and Pate, 2016, *op. cit.*, p. 136).
- ⁸¹ The "DAP" cartouche of Dwight A. Perkins has been observed. Perkins is better known as a sub-inspector of Colt rifled muskets, and as the lead inspector of Spencer rifles and carbines. He must have assisted James Mills for a short period in May or June 1863 before he moved to the Spencer Repeating Rifle Company facilities later that year. The cartouches of other sub-inspectors might also be found.
- ⁸² Augustus Noble was originally a carriage maker but had moved to Springfield and employed at the US Armory by 1860. He worked at the Armory until assigned as an inspector in Providence, RI (unidentified firm) in March 1863, then to inspect Muir and S. Norris and W.T. Clements (SN & WTC) rifled muskets. While inspecting rifled muskets, he teamed up with James Mills. Both were assigned to the Massachusetts Arms Company to inspect Smith carbines in December 1863. (Daum and Pate 2016, *op. cit.*, p 146).
- ⁸³ The 1865 Massachusetts state census shows Sherman as a resident of Chicopee Falls. (Daum and Pate 2016, *op. cit.*, p 181).
- ⁸⁴ George Charter had been a resident of Springfield his whole life and before the Civil War was employed at the US Armory. He was first appointed as a sub-inspector in 1862 and had had several assignments before he was assigned to help Joseph Hannis with the inspection of the last Smith carbines manufactured at the Massachusetts Arms Company in 1865. (Ibid, p 53).
- ⁸⁵ Lafayette Rogers was described in Census records as a machinist living in New Hartford, New York before the Civil War. In 1863 he was employed as a sub-inspector of contract arms by the US Armory at Springfield. He had several inspection assignments, mostly proving barrels, before being assigned in November or December 1863 to inspect Smith carbines manufactured at the American Machine Works. His main task there, as it had in his previous assignments, seems to have been proving barrels as his initials are stamped on the barrel of almost all Smith carbines manufactured at the American Machine Works. His cartouche on a number of carbines stocks indicates he had other inspection duties in addition to proving barrels. (Ibid, p 170).
- ⁸⁶ Census records indicate Henry Hastings had been a jeweler before 1860. In 1860 he was employed at the Colt factory. He became an inspector of contract arms in 1862, inspecting Burnside carbines until November 1863. After that date, he was given a number assignments until the end of the Civil War. His cartouche has been seen on late manufactured Sharps carbines and Ames light cavalry sabers as well as Smith carbines and Smith carbine bullet molds made by the American Machine Works. (Ibid, p 91).

- 87 There is also speculation the stamped “P” might indicate inspection by George Palmer. Daum and Pate indicate that the “G.P.” stamp found on the wrist of some Smith carbines was the stamp of George Palmer. However, the “G.P.” stamp has only been observed on American Machine Works made carbines, not Massachusetts Arms Company made, and only on carbines with barrels stamped with a “B”. “B” cannot be convincingly identified with any known US inspector. These carbines are most likely those made for commercial sales, most likely to Schuyler, Hartley and Graham. These are not carbines delivered to the Army. Consequently, these carbines were probably not inspected by Army inspectors and the “G.P.” markings on these carbines are not by a Army inspector. (Daum and Pate 2016, *op. cit.*, p. 153).
- 88 John M. White had been employed at the Springfield Armoury since about 1842. Between 1862 and the end of the Civil War, he was employed as a sub-inspector at the Burnside and Remington factories. It seems he mostly proved barrels. His stamp is observed on both the last 100 of the Smith carbines manufactured by the Massachusetts Arms Company and first 250 or so of the American Machine Works manufactured Smith carbines.
- 89 See note 85 above.
- 90 McAulay, J. D. 1996. *op. cit.*, pp. 52-55.
- 91 *Ibid.*, p. 16.
- 92 Todd, F. P. 1983. *op. cit.*, p. 964.
- 93 Mallory, F., 1986. *op. cit.*
- 94 The carbines issued to the First Connecticut and Eleventh Illinois Cavalry must be replacement carbines for previously issued Model 1861 carbines. The Sixteenth Kansas Cavalry is not listed above as being issued substantial numbers of Smith Carbines. Only one troop, Troop H, was issued Smith carbines. McAulay reports only a total of 54 carbines issued to this regiment.
- 95 Washburn, Peter T. *Report of the Adjutant and Inspector General of the State of Vermont Oct 1, 1864, to Oct 1, 1865*. Montpelier: Walton’s Steam Printing Establishment, 1865. p. 117.
- 96 *Ibid*, pp 90-91.
- 97 Todd, F. P., 1983. *op. cit.* p. 1240.
- 98 This is the total of Smith carbines reported by McAulay as sold at Government sales after the War between 1865 and 1901 (McAulay, J. D. 1996. *op. cit.*, pp. 75-79). A report of ordnance and ordnance stores submitted to the 2d Session of the House of Representatives of the 40th Congress in 1868 reported only 10,512 on hand. (Executive Report 99, Volume 12 of the House of Representatives Executive Reports for the 2nd Session of the 40th Congress 1868, p 28). Although by 1868, several thousand surplus carbines had been sold, there still exist a significant unexplained discrepancy. Interestingly, 559 Smith carbines were still listed as in service in the hands of Federal cavalry in 1868. The remainder were in storage at Federal Armories.
- 99 Leoni, Juan B., 2014, *op. cit.*, pp. 93-115.
- 100 McAulay, 1996, *op. cit.*, p 75.
- 101 *Ibid*. p 79
- 102 *Ibid*. p 80-81
- 103 One of these carbines is shown in Santarelli, M. 2019, *op. cit.*, p 95.
- 104 Report by the Commissary General of the State of New York dated 25 December 1863 included in the Annual Report No 142 to the 88th Session of the New York Assembly a response by General James A. Farrell, the commander of the State National Guard in New York City, to the State Adjutant General, John T. Sprague dated 15 August 1863 reporting that he had purchased the cartridges from Poultney & Trimble of Baltimore.
- 105 Thomas, D. S., 2002. *op. cit.*, p. 241.
- 106 Sharps linen cartridges cost \$19 per thousand in September 1863; Burnside brass cartridges \$24; Gallagher brass cartridges \$25; Merrill paper cartridges \$18. All of these cartridges were without primers as was the Smith cartridge. The rimfire No 56 Spencer copper cartridge was priced at \$35per thousand but the Army actually purchased them for \$24 but had to supply lead and powder as commodity prices for these were rising rapidly in the wartime economy. (Thomas, D. S., 2002).
- 107 Ramsay replaced Brigadier General James Ripley as Chief of Ordnance on 15 September 1863. He was favored by the President but his assignment was opposed by the Secretary of War, Edwin Stanton, and he was re-assigned one year later in 1864. Opposed by Stanton, Ramsay was curtailed but did make his mark. He competently ensured Federal armies received arms and ordnance during his tenure and it was Ramsay that directed the adoption and major purchases of the Poultney cartridge, not only for the Gallagher but also for the Smith and Burnside carbines.
- 108 Letter Capt J.G. Benton to General G.D. Ramsay, dated 17 November 1863 (NA RG 156, “Correspondence and Reports Relating to Experiments, Class 8”).

- ¹⁰⁹ Letter Capt S. Crispin to General G. D. Ramsay, dated 10 December 1863 (NA RG 156, “Letters, Telegrams and Endorsements Sent Relating to the Manufacture, Procurement and Repair of Ordnance Supplies and Equipment.”).
- ¹¹⁰ Letter General G.D. Graham to Capt S. Crispin dated 15 December 1863 (NA RG 156, “Letters, Telegrams and Endorsements Sent Relating to the Manufacture, Procurement and Repair of Ordnance Supplies and Equipment.”).
- ¹¹¹ Letter, Capt S. Crispin to T. Poultney, dated 10 October 1863 (Hagley Museum and Library, Acc 140, pp. 27-29).
- ¹¹² NA RG 156, “Register of Proposals of Manufacturers – Cartridges”.
- ¹¹³ NA RG 217, “Ordnance Contracts”.
- ¹¹⁴ Thomas, D. S. 2002. *op. cit.*, p 245.
- ¹¹⁵ *Ibid*, p 246
- ¹¹⁶ Letter, T. Poultney to General G.D. Ramsay dated 27 January 1864 (NA RG 156 “Letters Received by Chief of Ordnance”).
- ¹¹⁷ McAulay, J. D.,1996. *op. cit.*, p 94.

