EARLY FIREARMS OF GILBERT SMITH, PART 1

by Ralph Spears

The carbines based on the patent of Gilbert Smith of Buttermilk Falls, New York were some of the most commonly used by Federal cavalry during the Civil War. However, before the production model carbines supplied to Federal cavalry were made, Gilbert Smith had progressed through a series of models of his patent breech-loader. He had had some commercial success with sales of his patent rifles to sportsmen and had even secured a U.S. Army contract and sold some of his early models to arm militias in Alabama and South Carolina. Regrettably, early records are scarce and much about the earliest of Smith firearms may never be known. Nevertheless, some information might be discerned from the few records and examples of his early firearms that do survive.

In 1847, Gilbert Smith lived in New York City and was a machinist working at Hoe and Company, makers of printing presses. He was then 40 years old. He obviously had interests other than printing presses. His interest in firearms was first shown with a demonstration in the nearby marshes of Hoboken of a carriage-mounted muzzle-loading rifle of his design. The demonstration was reported in the *New York Herald* newspaper of 7 February 1847. As described in the news article, this rifle had a one-inch bore and was fired at long distances with notable accuracy.

By 1854, he had advanced his design and demonstrated a new design breechloading rifle to several Army officers and a correspondent of the New York Times at the Washington Arsenal on 8 May. The *New York Times* described the large rifle with having a heavy three-foot-long barrel. It weighed 80 pounds and was mounted on a wheeled carriage with mechanisms to adjust for elevation and rotation. The new article reported that the rifle fired a one-inch ball weighing five ounces at ranges up to 880 yards and reportedly with great accuracy.[1] The demonstration was reported nationally in newspapers but resulted in no serious military interest.

He continued to design, working to develop a more useful size firearm. Almost a year later, in April 1855, he demonstrated such a firearm, a carbine he designed for use by cavalry. This demonstration was also made to Army officers at the Washington Arsenal.[2] Although it was a carbine and intended for use by cavalry, this carbine was not at all like the ones he later developed. This carbine, as described in his patent 14,001, had a sliding cap to seal the breech closed. The patent was finally granted on 25 December 1855 but it was based on an application submitted more than a year earlier on 27 October 1854.[3] For this demonstration in 1855, Smith had not yet developed his novel cartridge with a case made of an elastic material. The cartridges fired for the 1855 demonstration were described as a pasteboard disc glued. This new carbine did have a Maynard tape primer. The Maynard self-priming system was then popular with the U.S. military and was being installed on most of a new series of arms being adopted by the U.S. Army that year. However, the carbine's priming system was apparently not used during the demonstration as it was not working well. Lieu-

Reprinted from the American Society of Arms Collectors Bulletin (2022) 124:63-79
Additional articles available at http://americansocietyofarmscollectors.org/resources/articles

tenant John C. Symmes who conducted the test, reported in the overall results of the demonstration, that the carbine was *"in its present state quite unfit for service"*.

Undeterred, Smith did not give up but continued with new ideas and over the next 18 months he applied for and received three additional U.S. patents. His next patent, patent 15,496, was granted 5 August 1856. It provided for a firearm with a flexible lip inserted into the breech that when the firearm is discharged the lip is driven into a groove cut into the rear of the chamber. This lip provided a seal to prevent the release of gas. Figure 1 is the drawing submitted with the Patent and shows the arrangement. The lip is shown as the small "b" and the grove as the small "a" in the smaller figures. The patent also shows a firearm with a hinged breech and a lock strap mounted over the receiver to a stud mounted on the barrel. The strap secures the breech closed during firings. These elements, however, were not claimed in the patent.

Patent 17,644, granted the next year on 23 June 1857, is really the basis of all future Smith firearms (Figure 2). It provided for four new design features. First and most importantly, the flexible lip described in the earlier patent 15,496 has been abandoned. Instead, a split chamber partly inside the barrel and partly inside the receiver is provided. The split chamber allows for a new design cartridge case made of a suitable material to serve as packing "to make the breech perfectly tight". Second, the patent indicates the new design cartridge case is made from vulcanized India rubber or India rubber cloth. Third, the patent, although shown in use on a sliding breech, a design that will be quickly abandoned, retains the locking strap mounted above the receiver and barrel that snaps over a stud which locks the barrel in place. Fourth, the patent claims a new type adjustable rear sight. Neither the sliding breech nor the adjustable sight will be used in Smith's later designs.

Smith's last U.S. patent for firearms, patent 17,702, was granted only a week later on 30 June 1857. This patent specifically describes the cartridge. Although the India rubber cartridge had been described in the earlier patent 17,644, Gilbert Smith sought a separate patent just for his cartridge design. He applied for the patent on 11 May 1857 providing the precise design details for a cartridge with a flexible case made from India rubber to use in breechloading firearms. The cartridge could carry either ball or shot. Figure 3 shows the design of the cartridge in the drawing submitted with the patent application.[4] In the smaller figures in the drawing, Figure 1 shows the cartridge with ball and Figure 4 shows it with shot. The cartridge base specified in the patent was made of leather, perforated so that the flame from the primer could reach the main powder charge. That feature was soon abandoned. Gilbert Smith applied for a re-issue of the patent the next year with additional design details. The reissue, Number 598, was approved 14 September 1858. The reissue allowed for the case to be made also of gutta-percha as well as India rubber and the reissue deleted the specific use of leather for the base of the case. The reissue claimed the base could be of the same or similar material as made the cartridge case. A thin sheet of paper placed inside the base would keep the powder charge within the cartridge case and prevent it spilling out of the penetration that allowed the primer flame.

The first demonstration of the new design carbine using the new rubber cartridge was at the West Point trials in August 1857.[5] The Smith patent carbine was only one of several breechloading arms submitted for these trials. The purpose of these trials was *"to determine which was the best suited for military service"* of the several breechloading designs recently invented. At the conclusion of the trials, the Board reported favorably on the new Smith design. The final report stated the following about the Smith:

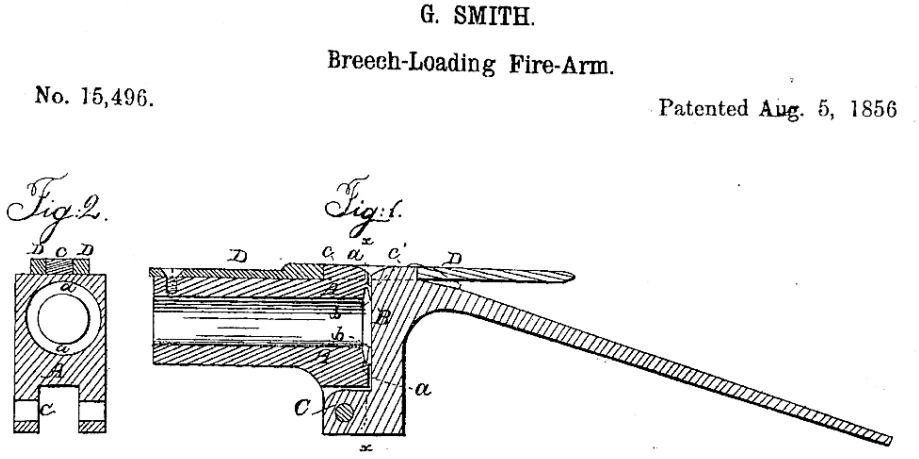
> *"the joint seems to be completely closed by the packing of the India Rubber Cartridge Case, and the parts appear to be simple and strong. The firing was very uniform. The Arm loads with great facility."*[5]

In 1858, Smith also submitted one of his new design carbines with his novel cartridges for a demonstration by the Navy. Commander J. A. Dahlgren at the Washington Navy Yard test fired a Smith patent carbine on 2 February. Dahlgren's report submitted to Captain Ingraham, the Chief of the Bureau of Ordnance and Hydrology, the next day was also favorable. He remarked:

> *"The mechanism is simple, and after firing one hundred rounds in succession, its movements were performed with the same ease as at first; I think on the whole that it is worthy of a trial on Ship Board."*[6]

The decade of the 1850s was a period of rapid developments in firearms design and the Army conducted trials at West Point almost annually to evaluate new designs. The next trials of breechloading carbines by the Army were held the next summer, in July 1858. A new Board of Ordnance Officers assembled on 13 July to test a number of breechloading firearms. The trials were held specifically to select the best breechloading carbines for purchase by the Army. The Army had received an additional and specific Congressional appropriation in June to select and purchase a breechloader to issue to troops for field trials.[7] Smith submitted a carbine for these trials with a bore of .488 inch used with a rubber cartridge containing 41 grains of powder.

After the test firings of the different types of breechloading guns, the Smith patent carbine was not judged the best, the Burnside de-


G. SMITH.

Breech-Loading Fire-Arm.

No. 15,496. Patented Aug. 5, 1856

Fig. 2.

Fig. 1.

Figure 1. Patent Drawing for patent 15,496.

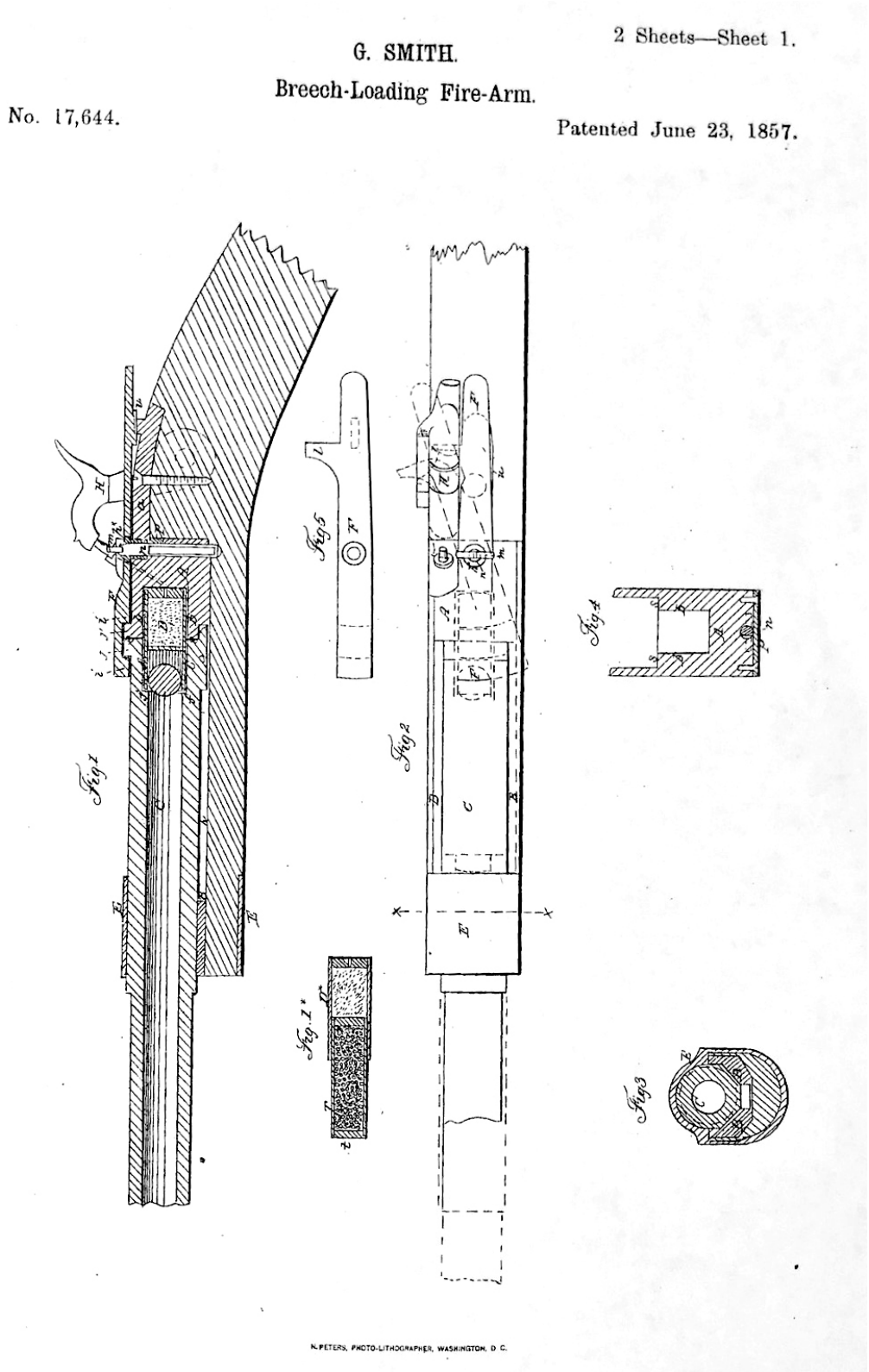


Figure 2. Patent Drawing for Patent 17,644.

sign was. Nevertheless, the Board's report to the Chief of the Ordnance Bureau, Colonel H.K. Craig, on 31 July 1858 concluded, as had Commander Dahlgren earlier that year, the recommendation that the Smith patent carbine was still worthy of a trial.

None of the carbines demonstrated during 1857 and 1858 to the U.S. Army or the Navy have been identified. The carbine tested by the U.S. Army was however, described in the Report by the Ordnance Board of the tests at West Point.

"The stock is joined to the barrel by a hinge at the rear end and lower side, and a strap of iron fastened to the barrel, and fitting over a stud on the stock. This strap has a spring and is raised by pressing on a pin near the trigger; when the stock falls down and the end of the barrel is left open for the cartridge.

The escape of gas is cut off by means of an India rubber cartridge case, which is inserted in the barrel, and a part enters the breechpiece in the stock. It is pulled out, after firing, with the fingers."[8]

The description clearly indicates that Gilbert Smith's design had progressed to include all of the final characteristics seen in later firearms.

G. SMITH.

Cartridge.

No. 17,702. Patented June 30, 1857.

Fig: 1.

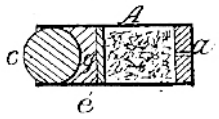


Fig: 2.

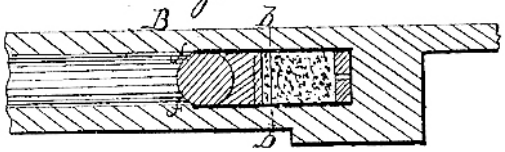


Figure 3. Diagram showing the cartridge in patent 17,702.

Fig: 3.

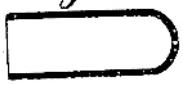


Fig: 4.

Tests of the new design were not limited to the U.S. Army and Navy. W.W. Greener reported that one of the new design carbines was also demonstrated to the British Board of Ordnance in 1858.[9] Figure 4 is a sketch shown in Greener's book. It correctly shows the hinged receiver but it also shows a carbine with a conventional percussion side lock. No other Smith patent firearm is known with such a lock and all others have a back-action percussion lock with the mainspring mounted behind the hammer. The sketch of the lock is suspect and probably inaccurate. Other sketches in Greener's book are also obviously incorrect. Greener first published his book in 1881 so the sketch dates to more than 20 years after the gun was demonstrated. His memory of it may be flawed. Since there is no example of early Smith patent arms known in British collections or museums, there is no other evidence that the sketch accurately depicts the gun demonstrated and tested by the Board of Ordnance.

The carbine found in the Musée royal de l'Armée et d'Histoire militaire (Royal Museum of the Armed Forces and Military History) in Brussels (Inventory No 11746), Figure 5, clearly proves that Gilbert Smith demonstrated his design and sought sales in Europe. Although the carbine demonstrated to the British Board of Ordnance has not survived, this early Gilbert Smith gun that was demonstrated in Europe has. The details of the lock and hinged receiver of this mostly unmarked Liege manufactured .54 caliber carbine is shown in Figure 6. The details in the description of the carbine tested at West Point in July 1858 applies also to this carbine. Note the lock is back action and is not at all the same as the carbine in the Greener sketch (Figure 4). Other than a proof stamp on the barrel, the carbine is unmarked. No record of a trip to Europe before 1859 by Gilbert Smith seems to have survived and no details are known of the demonstrations and trials in Europe before then. However, Gilbert Smith and Thomas Poultney did travel to Europe in May 1859.[10] No details of the trip exist but undoubtably, the trip's purpose was to further demonstrate and market Smith patent firearms. The carbine in the Royal Museum in Brussels might be a carbine made for such a demonstration.

After receiving design details from Gilbert Smith either during a previous trip to Europe in 1858 or by a courier, William Edward Newton, of the English Patent Office, entered English patent

No 372 of 1859 on 9 February 1859.[11] This patent also claimed the specific design details for the cartridge with the case made of *"some impermeable and elastic substance, such a case is made to serve as packing to make the breech joint perfectly tight"*. The patent suggested that the impermeable and elastic substance to be either India rubber or gutta percha. This patent was more inclusive than the patents granted in the United States. As well as the cartridge design, it also patented key design features of the firearm. First, the same as the U.S. patent, the patent included the split design of the chamber to receive the cartridge *"partly in the barrel and partly in the breech…, and so much larger than the general bore of the barrel as to have a shoulder in front to retain the cartridge"*. Second, not included in a U.S. patent, the patent included the design of a breech locking strap operated using a pin installed just forward of the trigger and fitted to slide up through the breech frame to push up the locking strap to disengage it from locking studs mounted on the top of the receiver and barrel. When pushed up, the pin released the barrel to be rotated forward to allow insertion of the cartridge or removal of the spent cartridge after firing. Figure 7 is the drawing issued with the British patent in 1859.

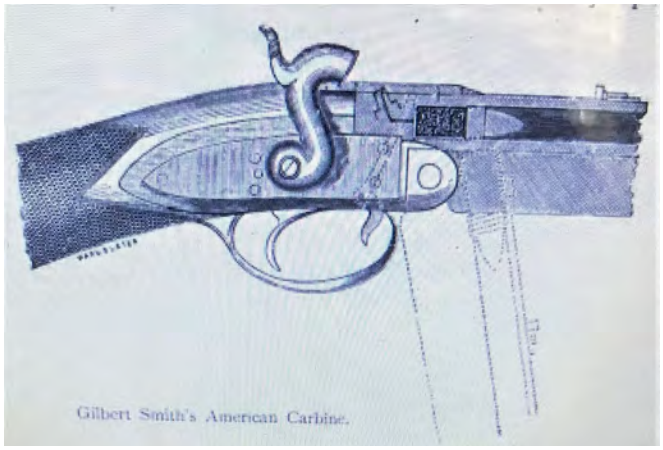


Figure 4. W.W. Greener Sketch of Smith patent firearm tested by British Board of Ordnance in 1858.[9]

The gun shown in the patent drawing clearly shows the hinged receiver, the top strap which locks the breech during firing and the split chamber containing the cartridge. Interestingly, the patent application drawing also shows the carbine with a sling bar and ring mounted on the left side. The sling bar and ring clearly indicates the carbine was designed for use by cavalry. This sling bar differs from the sling bar and rings which would be mounted on later military production carbines in the United States; it is considerably longer. The sling bar attaches to the frame of the gun just forward of the receiver hinge and the other end attaches to the forward barrel band. The drawing has no scale indicated but the sling bar would have been six inches or longer.

The British patent drawing shows the design has progressed to show a firearm which is very much like the carbines that were already tested by the U.S. Army and Navy in 1857 and 1858. All of the guns demonstrated and tested in these previous tests had been very different than the one submitted in the first test in 1855. These guns also differed from the one described in patent 17,644 of 23 June 1857. Although that patent described the split chamber, it also described a gun with a barrel which slid forward to load. The British patent is the first since 1855 showing the hinged receiver. The hinged receiver would be a characteristic of all future Smith patent carbines.

None of the early Smith patent arms demonstrated to the Army or Navy seems to have survived and one of the real mysteries about these earliest Smith patent firearms is who manufactured them. We may never know unless some records can be found. Gilbert Smith might have made the gun himself that he tested in 1855 but beginning in 1857, Thomas Poultney, a Baltimore entrepreneur, became associated with Smith. In that year, Poultney purchased the patent rights from him and he most likely helped Smith manufacture his patent arms demonstrated and sold from 1857. In 1859, Thomas Poultney formed a partnership with David Trimble, also of Baltimore, and started the firm of Poultney & Trimble. This partnership then became the exclusive agents for marketing all Gilbert Smith firearms and arranged for their manufacture. Unfortunately, no actual contractual documents have been located but the association between Smith and Trimble is confirmed in a later letter written to the commissioners investigating early Civil War arms contracts for the War Department.[12] Joseph Holt and Robert Dale Owen, the commissioners, received a letter from Gilbert Smith dated 26 March 1862 confirming to them *"that for five years* [before 1862] *I have been the principal owner of the Patent for Smith's breech-loading gun, and sole manager; and for two years I have had the arms manufactured at the works of the Massachusetts Arms Company, Chicopee Falls, Massachusetts."* From this testament it is clear that Poultney had the patent rights since 1857. The letter also confirms that the Massachusetts Arms Company, the company that would make most of the Smith cavalry carbines during the Civil War, only became involved in the manufacture of Smith patent arms in 1860. The lack of involvement by the Massachusetts Arms Company is also confirmed in the Report by the Board of the 1858 West Point Trials. The Report records the Board visited the Massachusetts Arms Company during the trials and that only Greene and Maynard long arms and Dean & Adams revolving pistols were being made there in July 1858.[13] While the Report mentions visits to several other arms manufacturing facilities, regretfully, no visit to one making the Smith carbines is mentioned. The Massachusetts Arms Company ledgers also indicate no expenditures on Smith arms until April 1860.

For several years before the start of the Civil War in 1861, the Massachusetts Arms Company at Chicopee Falls, Massachusetts

Figure 5. Belgium manufactured Gilbert Smith prototype carbine ca. 1859 (Collections War Heritage Institute, Inv. 11746).

had made Greene patent arms, Adams patent revolvers and most recently, Maynard patent arms. The representative and inspector for the Maynard Arms Company, William P. McFarland, then resident at the Massachusetts Arms Company in 1860, provided interesting details on the activities of Poultney & Trimble with the Company, beginning in March 1860. McFarland reported in a letter to Edward Maynard on 21 March that *"Mr. Poultney is at the Mass. Arms Co. to discuss making Smith carbines for the government order,"*[14] and in another letter on the 26 March he reported that Poultney & Trimble were bargaining with the Massachusetts Arms Company to make 5,000 rifles.[15] It is also clear from the financial records of the Massachusetts Arms Company that the manufacture of Smith firearms only began during April of that year.[16] The earliest Smith patent carbines as tested and demonstrated before April 1860, and even the five carbines supplied for the Washington Arsenal trials that began in February 1860 could not have been manufactured by the Massachusetts Arms Company.

Figure 6. Smith prototype carbine showing the breech opened (Collections War Heritage Institute, Inv 11746).

None of the arms tested between 1855 and 1858 have been identified, but there are a number early production models of Gilbert Smith patent firearms made before the Civil War that have survived. These early guns have differences in the shape of the receiver that allows them to be categorized into two separate models. The first, and earliest, model was clearly made for military service and the second is just as clearly a model made primarily to be sold to sportsmen. Although each of these models have specific characteristics, they also each display a number of design variations. One thing that is common to both models is that they are marked with some variation as being based on Gilbert Smith's patent of 1857 and both show the markings of Poultney & Trimble of Baltimore, Maryland. This clearly indicates that both of these models date from no earlier than 1859.

David Trimble joined Thomas Poultney on 1 January 1859 to form their partnership to sell guns, hardware and cutlery from their store at No. 200 Baltimore Street in Baltimore.[17] Advertisements began quickly to appear in the *Baltimore Daily Exchange* newspaper. The first appeared on 3 January and 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"* and somewhat later that year, advertisements added, *"Fishing Tackle, Cricket Implements and Sporting Goods of All Kinds"*. The firm styled itself as *"The Sportsman's Warehouse"*.

Model of 1859

A new model of the Gilbert Smith patent firearm had been developed by 1859. These are probably very similar to the model demonstrated at the Army Trials at West Point in 1858 but these are also the first Gilbert Smith firearms marked with Poultney & Trimble. Since it is likely that these firearms were first introduced and manufactured in quantity in 1859, they are designated here as the Model 1859 (Figure 8). There was no contemporary designa-

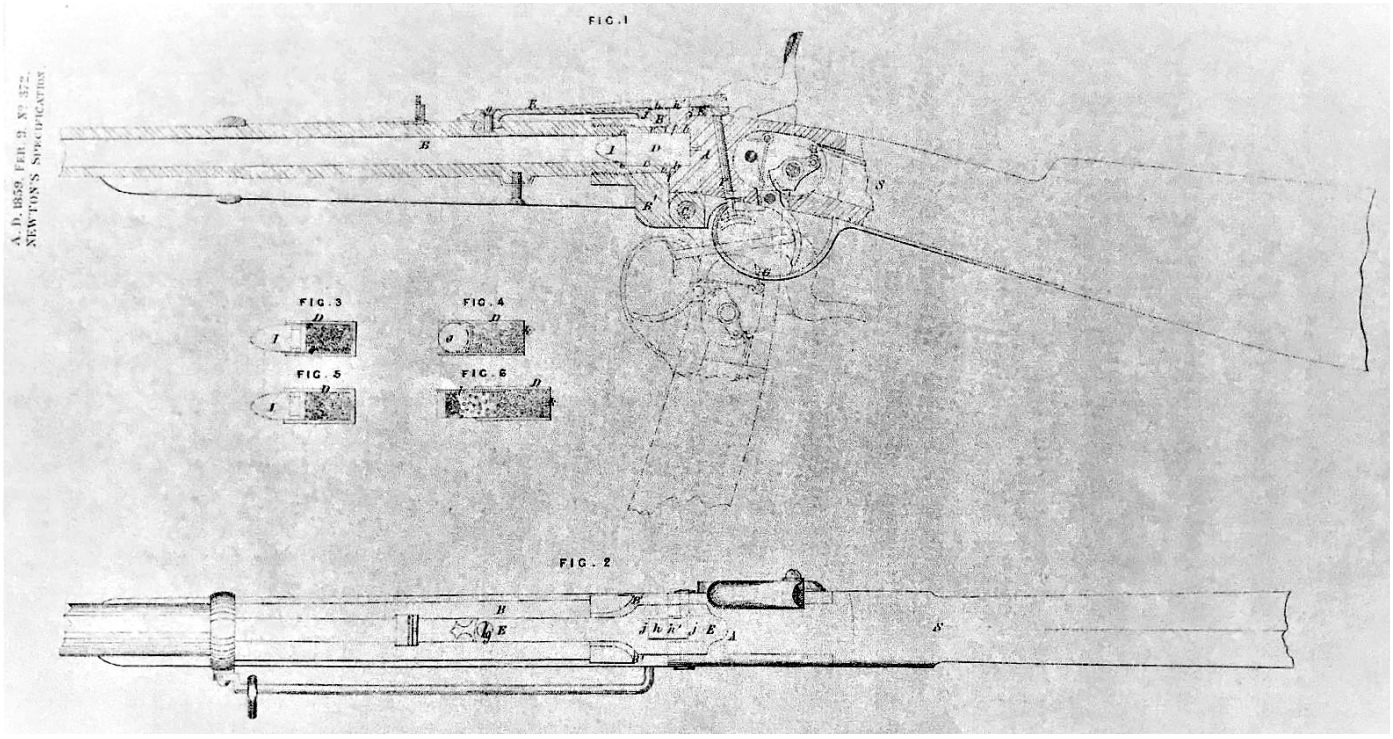


Figure 7. Design drawing included with British patent No. 372 of 1859.

Figure 8. Model 1859 military style carbine with spring closing strap over the receiver (Hubert Lum collection).

tion of these arms however, as a separate model. These guns are very similar to the gun shown in the drawing supplied with the British patent application (Figure 5) and are the earliest American made Smith patent guns that have been identified. Thomas Poultney demonstrated this new design to the Secretary of War, John Floyd, on 13 January 1859. After he witnessed a trial, Floyd remarked that *"it amongst the best of the Breech Loaders that I have examined."* [18] Probably because of Floyd's influence, his cousin by marriage, Joseph E. Johnston,[19] then the Lieutenant Colonel of the First U.S. Cavalry, carried one of these Smith patent carbines for six months during service on the frontier in Kansas beginning in June 1859. Johnston was very impressed with his carbine and provided a highly complementary testimonial on 17 December 1859. Poultney quickly published the testimonial in his sales brochures.[20] The testimonial stated:

Washington, December 17, 1859

On a secret tour of six months, I carried with me for trial, one of your Breech loading Carbines, I lived in camp during the time, so that my trial of the Gun was much like that to which a campaign would subject it. I fired it about four hundred times – cleaning it but twice; at no time was there the slightest stain of powder in the joint, which proves, that the India Rubber Cartridge Case makes it perfectly "Gas-tight." I repeatedly compare it at three hundred yards, with Government rifles and found it at least equal to them in accuracy. It may be loaded on horse-back with more facility than any gun I have seen. The Breech-loading contrivance is very strong and simple, and made by the India Rubber Cartridge Case, independent of mere closeness of the joint, and the Gun. I tried shoots with great accuracy and force.

I wish very much to see it introduced into the service of the Government.

Very respectfully,
Your obedient servant,
J.E. Johnston,
Lt. Col. US Cavalry

Gilbert Smith and Poultney & Trimble had eagerly sought government contracts previously. Carbines had been demonstrated to Army and Navy officers and been tested in formal Army trials during 1857 and 1858. Yet, despite favorable comments at these trials and a successful demonstration to the Navy in 1858, no immediate government contracts had been awarded. However, Johnston obviously had influence in the War Department and his testimonial probably resulted in an immediate Army contract for Smith patent carbines. On 9 February 1860, the Army's Ordnance Department finally ordered 300 carbines. The agreed contract price for each .50 caliber carbine was $35.00.[21] These carbines were intended to be issued to troops of cavalry for trials during actual service. Another test of Smith's latest design by an Army Ordnance Board would soon seem to justify the contract.

Only eight days before this contract was awarded, the War Department issued Special Order 23 forming a board of officers and directed that the Smith patent carbine undergo further testing along with 18 other firearms. A board of officers was assembled at the Washington Arsenal to supervise these tests and record the results. The group of firearms tested included ten breechloading guns as well as the latest models of muzzle loading rifles and muskets.[22] The Board assembled and began tests on 9 February, the same day that the contract with Poultney & Trimble was awarded. Testing of the various arms lasted until 20 April 1860. The Smith carbine was actually fired and tested on 17 April. All of the arms tested were fired at targets ten feet square from different distances by regular troops then stationed at the Arsenal. The rate of firing and accuracy results were carefully recorded. The final report issued on 20 May 1860 reported the results of the firings on the targets and included comments and recommendations from the Board. The results of the tests clearly justified the purchase of the Smith carbines. It stated:

"The board entertains a more favorable opinion of this arm than of any other breech-loading arm presented, and therefore recommends it to be adopted, to a limited extent, for further test, in active service on a campaign." [22]

The Board explained that five Smith patent carbines had been provided for the tests. One, described as of an earlier pattern, had the spring strap that held the receiver and barrel together during firing was straight and fastened over the barrel and made to slip over a locking stud on top of the receiver. Four of the carbines, described as of a more recent type, had the spring locking strap fastened over the receiver to the locking stud on the top of the barrel. The Board reported that the spring strap that was mounted to the rear over the receiver quickly failed as it became too weak to secure the breech closed. The carbine with the spring closing strap fastened along the top of the barrel however, was fired over one thousand times without weakening the spring.[23] Probably as a result of these tests, all later manufactured Smith patent carbines have the spring closing strap installed along the top of the barrel.

While none of the carbines included in demonstrations and tests have been positively identified, early examples of carbines with both the spring strap mounted over the receiver and over the barrel do. Figure 8 shows an actual example of a carbine with the closing strap mounted over the breech. Figure 9 shows an example of what was described as the "earlier" pattern with the spring closing strap mounted over the barrel. This was the successful model and the one manufactured for the Army contract of 9 February 1860. A Poultney & Trimble sales brochure published in 1860 , Figure 10,

Figure 9. Model 1859 military style carbine with spring closing strap over the barrel (Author's collection).

shows this Model 1859, a carbine very much like one of the *"more recent type"* carbines described as supplied for the Washington Arsenal tests. The carbine shown on the brochure shows it with the spring closing strap curved over the receiver and not installed over the barrel. Note in the sales brochure that the spring strap can be clearly seen protruding just forward of the hammer over the opened breech. Figure 11 (Figure 11) is a detail of the carbine in Figure 8 compared with a detail of the carbine in Figure 9. The Figure shows the arrangement of the locking straps mounted on the receiver and over the barrel.


SMITH'S PATENT BREECH LOADING
RIFLE,
MANUFACTURED BY
POULTNEY & TRIMBLE,
No. 200 BALTIMORE STREET,
BALTIMORE, MD.

This Arm is the *simplest, strongest*, one of the most accurate and effective Breech Loaders in the world.
It can be fired ten times per minute.
Will throw a Ball one mile.
Each Cartridge Case can be used twenty times or more by re-loading with powder and ball.
This Case can be filled in the field or on horse-back with more facility than any other, as it requires only the ordinary powder flask.
When loaded, the India Rubber Case unlike a metal one can be transported without danger of the ammunition jarring and coming loose.
This Arm is peculiarly adapted for Cavalry or Horse-back use as it permits free use of the bridle hand when loading, and also can be loaded when a horse is in full run.
It uses the Military Percussion Cap and is sure fire.
Rifles can be made of any length and weight required.

The Cut of Cartridge is full size.

Figure 10. Poultney & Trimble Sales Brochure c 1860 showing Model 1859 carbine.[24]

These carbines are obviously military types. Both have sling swivels and both are .50 caliber. Firearms for sale to sportsmen were often of a smaller caliber and did not need sling swivels. Both of these Model 1859 carbines shown in Figures 8 and 9 have the same dimensions. They are 39½ inches in overall length and have 21½ inch half octagon-half round blued barrels. This model carbine has a 11½ inch forestock. The main characteristic of this model carbine is the profile of the receiver. Receivers have virtually horizontal and not curved tops on the blued receivers. The receivers also have perfectly flat sides. These receivers are very unlike later models of Smith production arms. See the detail of the receivers in Figure 12. Hammers have a rounded profile as shown in these Figures. Receivers on these Model 1859 military carbines are unmarked. The carbines however are engraved on the top of the barrel (Figure 13):

Figure 11. Details of Model 1859 carbines showing the different arrangements of the locking strap as described by the Army Board at the Washington Trials in 1860. Top carbine has the locking strap over the receiver (Hubert Lum collection). The bottom carbine has the locking strap over the barrel (Author's collection)

GILBERT SMITH'S PATENT 1857 ADDRESS POULTNEY & TRIMBLE BALTIMORE, MD

Figure 12 also shows the bolster of the cone nipple has a clean-out screw. However, surviving carbines of this model most often do not have the clean-out screw.

There are different types of rear sights noted on surviving carbines of this pattern as well. The one shown in Figure 8 has an adjustable three leaf sight with a short base. The short base leaf sight is also shown on the carbine on the sales brochure, Figure 10. This rear sight can also be seen on the top carbine in Figure 11. The carbine shown in Figure 9 however, has a Lawrence patent sight with a range calibrated ladder with slide.[25] This sight can be seen on the bottom carbine in Figure 11. It is possible that the short base leaf sight was used on the earliest carbines of this model but most of

Figure 12. Right and left side views of the receiver of a Model 1859 military production carbine (Author's collection).

the surviving carbines observed have the Lawrence sight. Another characteristic of this model arm is the trigger guard, all arms of this model have the conventional looped guard as shown in Figures 11.

Although most carbines of this model were obviously made for military use, there exist some examples with the flat sided receiver that were obviously made for commercial sales. One surviving example is a .36 caliber carbine made with the stock checkered and made without sling swivels. The carbine still has a 11½ inch forestock, however, the same as on military models. The markings on the observed civilian models do differ from the military models. None are marked on the barrel. One surviving example has stampings on the left side of the receiver:

GILBERT SMITH'S
PATENT 1857
POULTNEY & TRIMBLE
BALTIMORE, MD

Another is marked on the top of the receiver behind the hammer in three lines: *"GILBERT SMITH PATENT 1857 / ADDRESS / POULTNEY & TRIMBLE BALTIMORE, MD"* similar to the markings shown in Figure 16.

Poultney & Trimble also manufactured at least one full stocked rifle of this model. The only known breechloading rifle of this model is shown in Figure 14. It has a 40 inch .58 caliber barrel. That caliber was the standard for the rifled muskets adopted by the U.S. Army in 1855.[26] It is assumed that this rifle was manufactured by Poultney & Trimble as a pattern to interest additional sales to the Army. It is possible that the rifle was made to demonstrate for the February 1860 West Point Trials but it is not mentioned in the list of arms demonstrated. A number of breechloading rifles were demonstrated and those were listed as were the results of the firings. So far, no record that this rifle was ever tested by the Army at any trial has been located. Also, there is no record of sales. It is possible that the surviving rifle is a one-off. Undoubtably this rifle was manufactured before 1861. Although the mounts and rear sight are similar to earlier government rifles and muskets, it does not have any features characteristic of the rifled muskets adopted in 1861.

Although larger for the larger caliber, the receiver of the rifle is similar to the carbines of this model as shown in the top photograph of Figure 15. The base of the front sight serves as the lug to attach a standard Model 1855 18 inch socket bayonet to the forend of the rifle. Note the design of the front brass barrel band, shown in the bottom photograph of Figure 15, more resembles that on the M1851 U.S. Rifle or M1842 U.S. Musket rather than the more recent M1855 U.S. Rifled Musket that has only a forend cap. The rear sight, as shown in the middle photgraph in Figure 15, is identical to the Model 1858 single step two leaf sight with a 1⅛ inch base used first on Model 1855 rifles manufactured at the Springfield Armory. Like some of the Model 1859 military carbines, the nipple cone bolster of the rifle does not have a clean-out screw. The rifle has sling swivels mounted on the front side of the barrel hinge extension and on the bottom of the middle barrel band. The

Figure 13. Markings on barrel of Model 1859 military production carbine (Photograph courtesy of Hubert Lum).

Figure 14. Model 1859 Smith patent rifle ca. 1860 (Dick Salzer collection).

only markings on the rifle are on the top of the receiver as shown in Figure 16.

Although we do not know who manufactured the earliest of the early model carbines used in trials and demonstrations, the carbines actually manufactured to meet the first Army contract were definitely manufactured by the Massachusetts Arms Company. The Army contract required Poultney & Trimble to find a manufacturer capable of making more than a few demonstration examples of Smith patent arms. The Massachusetts Arms Company ledgers still survive and clearly show that production of the Smith patent firearms by the company began in April 1860.[27]

The actual number of Model 1859 carbines manufactured is unknown. The ledgers of the Massachusetts Arms Company show manufacturing costs suggests several hundreds were made.[28] The highest serial number noted on a survivor is 49 but there should be a lot more. The Army had ordered 300 on 9 February 1860. Brigadier James W. Ripley, Chief of Ordnance, however wrote that none of these had been delivered by 15 August 1861.[29] Where did they go? At least one was sold to the Virginia Military Institute. Francis Henney Smith, the first Superintendent of VMI, acknowledged in a letter to Poultney & Trimble on 22 May 1860 that he had received the Smith carbine and the box of loaded cartridges ordered on 16 May 1860.

We know that several hundred more of these carbines were purchased by Alabama and South Carolina in 1860. These carbines were purchased to arm state militias as the governors in both of these states became alarmed by the Republican Party's nomination of Abraham Lincoln for President in 1860.[30] In July 1860, the Governor of Alabama, Thomas B. Moore, ordered enough Smith carbines to arm two companies of cavalry.[31] A State Constitutional Convention met in December 1860 in response to Lincoln's election. William Brooks, the President of the Convention, submitted a report dated 10 January 1861, reporting on arms purchased to date and the arms just seized from the U.S. Arsenal at Mount Vernon, Alabama.[32] All of the arms that had been purchased or seized were used to arm the 100 volunteer companies, organized by then to defend the state. This report indicated that 150 Smith Cavalry carbines along with Adams and Colt revolvers, Colt revolving carbines, Mississippi rifles, U.S. muskets, sabers and a dozen cannon had been purchased. It is interesting to note that the state of Alabama paid $3,750 or $25 for each Smith carbine.[33] The Contract with the Army Ordnance had been for $35 each. Unfortunately, no documentation has been located that confirms the carbines were actually delivered or issued and no carbines have been located and positively identified as ones delivered to Alabama. The week after this letter indicating that the Smith carbines had been purchased, the Massachusetts Arms Company was severely damaged by fire on 18 January 1861.[34] If the carbines had not been delivered by 18 January 1861, they may no longer have existed.

Also in 1860, the Governor of South Carolina, William Henry Gist, had ordered the purchase of Smith carbines.[35] The State's Ordnance Bureau reported on 5 January 1861, that the 200 carbines purchased had not yet been delivered but were expected soon. The firm of Graveley & Pringle, importers of hardware, cutlery, fine guns, and plantation tools with their address at 44 East Bay, a few doors south of the Post Office in Charleston, advertised in the *Charleston Courier* that the Smith rifle could be seen at their store. The advertisement informed readers that Major J. H. Ladson was the local agent for Gilbert Smith's rifles and carbines.[36]

Langdon Cheves was the primary reason for South Carolina's purchase of Smith carbines. He was the owner of a large rice plantation along the Savannah River, and had offered to pay to arm a local company of volunteer cavalry, the Palmetto Hussars, that he raised to defend the South Carolina coast between Georgetown and the river. He had requisitioned the State Ordnance Bureau to provide either the Maynard or Smith carbines.[37] Sixty-three (63) of the Smith carbines were designated to arm his company. This company of cavalry was armed with Colt Navy pistols and Gilbert Smith carbines. The remainder of Smith carbines were apparently issued to the Rutledge Mounted Riflemen,[38] a Charleston Volunteer militia unit raised in 1860. Correspondence with Langdon Cheves on 18 January 1861 confirms delivery of the Colt pistols[39] but not the Smith carbines. Delivery was expected by 1 February 1861[40] but no correspondence has been located confirming actual delivery. The story is the same as for the case of Alabama purchase. The Massachusetts Arms Company was severely damaged by fire in January 1861 and if the carbines had not been shipped by then, they may no longer have existed. Nevertheless, there is evidence that at least some of the carbines were delivered to South Carolina. The Rutledge Mounted Riflemen are listed by Todd as carrying Smith carbines in 1861 and 1862.[41] Unfortunately, no carbines have been located and positively identified as ones delivered and issued to either the Palmetto Hussars or the Rutledge Mounted Riflemen.

In January 1861, after South Carolina had seceded in December 1860, five more states also seceded during January and a Confederacy of the seceded states was formed in February. Northern manufacturers, including the Massachusetts Arms Company, ceased deliveries of arms to these states in early February. Although the production of the carbines manufactured to meet the Army order might have resumed after the sales to these states, production was severely curtailed because the factory was heavily damaged in the January fire. The low numbers produced and probably hard service of these carbines makes surviving carbines of this model rare today.

Model of 1860

The second group of early Smith patent firearms appear to all have been manufactured for commercial sales. Surviving exam-

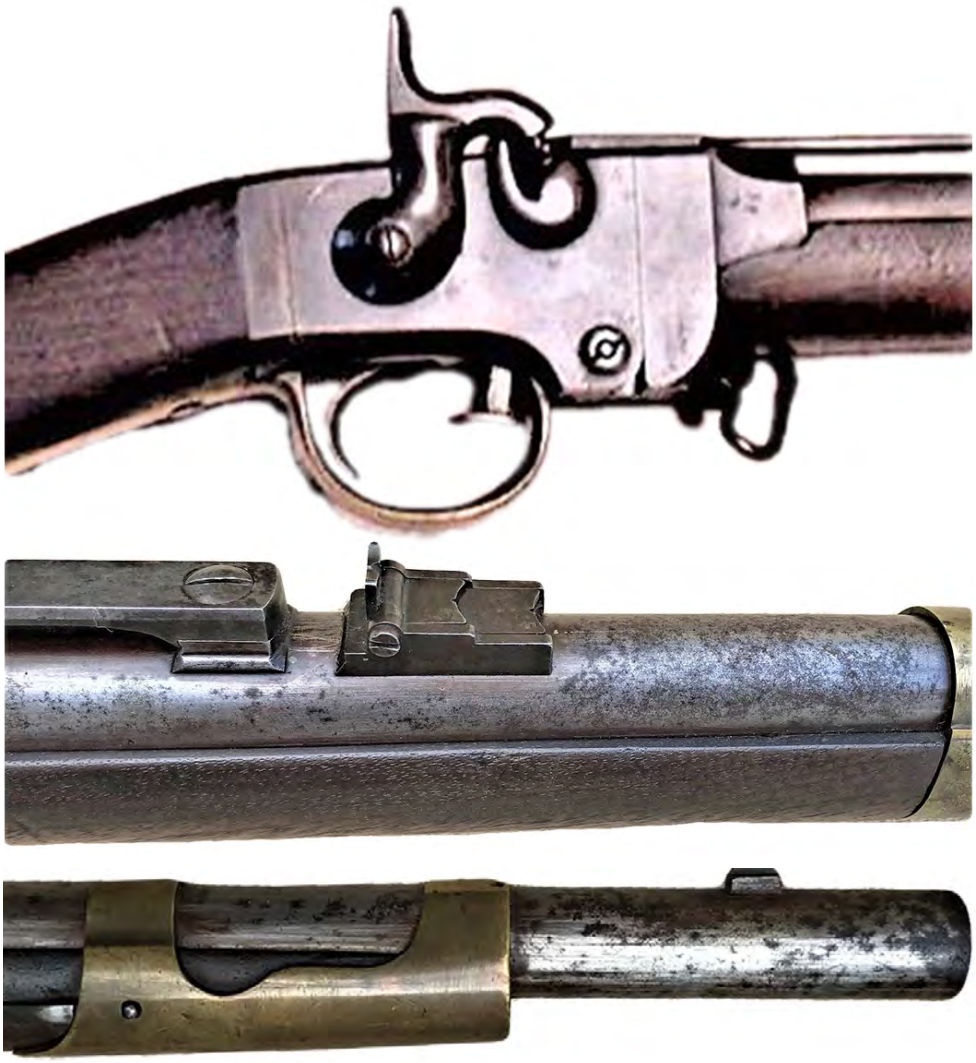


Figure 15. Details of Model 1859 Smith patent rifle showing the receiver (top), rear sight similar to a US Model 1855 sight (middle) and the brass front barrel band (bottom) (Dick Salzer collection).

ples of firearms from this group shows that these are obviously "sporting" arms. Poultney & Trimble had contracted with the Massachusetts Arms Company in March 1860 to manufacture the military model carbine for the February 1860 Army contract and the company's records clearly show that they began making Smith firearms the very next month.[42] Initially, production was probably limited to the carbines for military sales, but Poultney & Trimble wanted to expand sales into commercial markets and designed improvements to the earlier model. The Maynard Arms Company master inspector, William McFarlane, who was resident at the Massachusetts Arms Company, reported back to his boss, Edward Maynard, about the activities of Poultney & Trimble in his letter of 11 June 1861 that *"a model of the Smith gun is pretty well advanced."* [43] This was obviously a new model. Because it was introduced in 1860, it is referred to here as the Model 1860.

Sales of this new model probably began in October. In October 1860, Poultney & Trimble revised their printed advertisements in the *Baltimore Express* newspaper to add a new statement: *"Guns made in our own factory to suit any sportsman".*[44] Obviously, Poultney & Trimble, who previously had only advertised the sale of imported firearms, now had arranged to manufacture firearms of their own designs. These Model 1860 firearms began to satisfy commercial orders.

Probably the most recognized characteristic of this model is the profile of the receiver and hammer. Instead of extending virtually horizontal behind the hammer, the receiver has a pronounced curve from the top toward the wrist of the stock. The receiver also differs from the military model firearms that had totally flat sides. These civilian model firearms have receivers that have a distinct narrowing near the bottom where there is a horizontal beveled reduction in the width just above the hinge. Most guns of this model also have a characteristic narrow flat faced hammer which is thickened into a pronounced cylinder where it strikes the cone nipple. The characteristics of the receiver and the hammer can be seen in Figure 17. Compare the receiver and hammer characteristic of this model with those on the earlier model carbine as shown in Figure 12. Most of the arms of this model also have the fancy trigger guard squared off behind the trigger and extended with a loop below the bottom of the wrist of the stock. The trigger guard is shown in Figure 17. An example of one of these firearms, a .36 caliber carbine, is shown in Figure 18. As seen in the Figure, another characteristic is the butt plate. It is prominently curved, much more so than on the earlier model military style carbines as shown in Figures 8 and 9.

In addition to these characteristics that are common with all firearms of this model, there are a number of design variations observed. Since these firearms are for civilian use, many have high grade walnut stocks and many have checkering at the wrist and on the forestock. The carbines in Figures 19 display similar checkering at the wrist of the stock. Several guns of this model are observed also with German silver nose caps on the forestock.

Surviving firearms are found with different barrel lengths and in different calibers. Two lengths of barrels for carbines have been observed. Barrel lengths on carbines are either a nominal 21 inch[45] or 24 inches. Rifles observed have 27⅝ inch barrels. All barrels are blued. The barrels on carbines are half octagon to the barrel band near the end of the forestock and then round to the muzzle. All surviving rifles observed have full octagon barrels. Surviving examples are known in a number of different calibers. .36, .44 and .50 calibers have been observed. All firearms, both rifles and carbines of this model are half stocked. The length of the forestock is a nominal 12 inches. This is about one-half inch longer than the forestocks found on the earlier military model firearms.

Figure 16. Patent and Agent markings at the top of the receiver on a Model 1859 Smith patent rifle (Dick Salzer collection).

Rear sights vary. Some are found with a simple "V" post. Others have a short base three-leaf adjustable sight as seen on some of the earlier military carbines (Figure 8) and others have a Lawrence patent adjustable ladder sight with a sliding bar to adjust for elevation. Some rifles also have a separate peep sight mounted on the receiver directly behind the locking bar. Differences are also observed in the design of cone nipple bolsters. Some as shown in Figures 17 and 19 do not have a clean-out screw. Others like the .36 caliber carbine in Figure 19 (right) have a clean-out screw. The hinge bolts like shown in Figures 17 and 19 have a slotted cap which secures the bolt in place. Most surviving guns have the slotted bolt on the right side of the frame but a few observed have it on the left.

Not all firearms of this model have markings but two types of frame markings have been observed on these guns. Both types of markings still identify the firearm with some variation as being based on Gilbert Smith's patent of 1857 and both show the markings of Poultney & Trimble of Baltimore, Maryland. The most common markings are block letters on the left side of the receiver, but a few firearms are found marked on top of the receiver in script (Figure 20). None of these Model 1860 firearms have markings indicating who made them or where they were made. If they have markings at all, they are only marked "Poultney & Trimble, Baltimore, MD." We know Poultney & Trimble had no capability to actually manufacture large numbers of complete firearms until they contracted the Massachusetts Arms Company in March 1860. However, just as in the case of the Model 1859 military carbine production, these firearms were manufactured by that company in Chicopee Falls, Massachusetts.

Figure 17. Detail of receiver of Model 1860 production Smith patent carbine. (Hubert Lum collection).

There exist a number of surviving transition firearms that have characteristics of both this model and the earlier one. The author has in his collection a carbine that is an obvious example of a transition. It has the receiver of the earlier Model 1859 but has the hammer and trigger guard of this later model. Another example of a transition gun is a .36 caliber rifle that has all of the characteristics of Model 1860 except the it has an oval trigger guard which is characteristic of the earlier Model 1859. These examples make it clear that the adoption of this model was done over a period of time and parts from the earlier model were used.

Production of this model had probably began about September 1860 and probably continued for almost a year until August 1861. By then, the American Civil War had begun and the demand for arms by the Army was increasing. In that month, Poultney & Trimble offered to supply Smith patent carbines of a new design to arm Federal cavalry during the Civil War. As will be discussed in Part 2, Poultney & Trimble and the Massachusetts Arms Company had great difficulty expanding production and meeting the Army contract's delivery schedule for this new contract. It is doubtful that the continued manufacture of these older model firearms for

Figure 18. Model 1860 production Smith patent carbine (Hubert Lum collection).

Figure 19. Details of the receivers of Model 1860 Smith patent carbines showing details of the sloping receiver, the characteristic trigger guard and examples of stock checkering. The carbine on the left shows a nipple bolster without clean-out screw (Private collection) and the carbine on the right shows the nipple bolster with one (Don Dietrich collection).

commercial sales could continue when every effort was being made to meet Army contract deliveries.

The number made of this model firearm is unknown. The serial number sequence appears to be a new sequence. The highest serial number known is 132. Based on production costs reported by the Massachusetts Arms Company, a total of several hundred including both model firearms were manufactured. Based on the serial numbers found on survivors, probably less than 150 of this second model were manufactured.

Relatively few of this model Smith patent arm survive today, many might have been lost in the April 1861 riots in Baltimore. A rebellious Confederacy of Southern States had fired on Fort Sumter in Charleston Harbor and the federal fort had surrendered just the week before. In response, the new President, Abraham Lincoln, had immediately called up 75,000 troops to march to Washington to protect the capital and suppress the rebellion. Tensions in Maryland, a slave state, were high as many wanted the state to join the Confederacy. On 19 April, rioting Southern sympathizers attacked troops of the Sixth Massachusetts Volunteers and the next day, other units from New York and Pennsylvania, as they marched south through the city enroute to Washington in response to Lincoln's call. During the riots, Poultney & Trimble's store on Baltimore Street, as well as many other businesses was victimized. The *Washington Evening Star* newspaper reported on 23 April 1861 that during Saturday morning (20 April) a large crowd broke into the store and removed *"an immense quantity of arms, consisting of patent rifles, fowling pieces and revolvers."* The patent rifles referred to were undoubtably mostly Smith patent.

Ammunition

All Smith patent guns manufactured prior to the Civil War used cartridges made from India rubber as designed by Gilbert Smith and described in his patent 17,702 of 30 June 1857. The cartridges fired in the various tests and demonstrations in 1857 and 1858 of the patent carbines used a cartridge of .48 caliber. The conical bullets used in the tests, like all Smith patent arms, had a solid base with one grease ring. The bullets used in the 1857 trials were described as weighing 330 grams and the rubber cartridge contained 40 grains of powder.[46] The bullets fired in the 1858 trials were heavier, 402 grams, and the cartridge contained 41 grains of powder.[47] This caliber reported was the same as used for the 1857 trials.[48] None of the cartridges used in these early tests have been positively identified but there does exist a .48 caliber bullet that may be associated with those tests; Dean Thomas had this bullet in his collection (Figure 21). The Smith carbine fired in the tests

Figure 20. Differences in patent and agent markings. The carbine on the left shows the markings on the left side of the receiver (Don Dietrich collection). The carbine on the right shows them on the top of the receiver (Author's collection).

of 1860 at the Washington Arsenal, however, used a .45 caliber cartridge. The powder charge included in the cartridge was not listed in the final report of these trials. None of the cartridges used in this trial have been identified.

All known Model 1859 military carbines were .50 caliber and none of the cartridges made for this model have been identified. The .50 caliber cartridges manufactured during the Civil War for use in the later models are probably the same. Only one .36 caliber cartridge for use in a Model 1860 carbine or rifle has been identified (Figure 22).[50] The length of the rubber case for that cartridge is 1.5 inches which is the same as observed for the later .50 rubber cartridges manufactured for the Smith carbines purchased and issued during the Civil War. The chamber dimensions of these early Model 1859 and Model 1860 firearms are about 1⅝ inches in length, or nominally ⅛ inch longer than the later Civil War models of carbines. The reason for the longer length chamber, despite using cartridges of the same length, is unknown.

Figure 22. .36 caliber rubber cartridge for a Smith Model 1860 rifle or carbine (Don Dietrich collection).

Figure 21. A .48 caliber bullet possibly as used for an early Smith carbine in the Army Trials in 1857 or 1858. Note the single grease ring characteristic with all Smith bullets (Dean Thomas collection).

Bibliography

Fuller, Claud E. Fuller. *The Rifled Musket.* New York: Bonanza Books, 1958.

Government, US. *Statements of Arms Purchase and Contracted For.* Washington: U.S. Government Printing Office, 1862.

Hamilton, John d. "Arms Makers in the Pioneer Valley." *American Society of Arms Collectors Bulletin,* Vol 94, 2006: 17-32.

Holt, J, and Robert Dale Owen. *Report of the Commission on Ordnance and Ordnance Stores made to the War Department.* Washington: U.S. Government Printing Office, 1862.

McAulay, John D. *Carbines of the Civil War.* Union City, Tn: Pioneer Press, 1981.

Mowbray, Stuart C., and Jennifer Heroux. *Civil War Arms Makers and Their Contracts.* Lincoln, RI: Andrew Mobray, 1998.

Todd, Frederick P. *American Military Equipage 1851-1872, Volume II State Forces.* Morris Plains, NJ: Chatham Square Press, 1983.

Endnotes

[1] *New York Times*, 8 May 1854.

[2] Thomas, Dean S. *Round Ball to Rim Fire A History of Civil War Small Arms Ammunition, Part Two.* Gettysburg, Pa: Thomas Publications, 2002. p 226. Reference is based on a letter from Lt J.C. Symmes to Col H.K. Craig, dated 12 April 1855 (NA RG 156, "Correspondence and Reports Relating to Experiments, Class 6").

[3] U.S. Patent 14,001.

[4] U.S. Patent 17,702.

[5] NA RG 156, Box 7, Entry 1012.

[6] Sales Pamphlet for the Smith's Patent Breech Loading Rifle Manufactured by Poultney & Trimble. Pamphlet is undated but probably dates to 1860. Dean Thomas also found this report in NA RG 156, "Reports and Correspondence of Ordnance Boards".

[7] The carbines presented for tests included Burnside, Colt, Gibbs, Joslyn, Maynard, Merrill, Morse, Smith, Sharps, Mont Storm, Symmes, and Wells. The Board's final report to General H.K. Craig, Chief of Ordnance, dated 31 July 1858, rated the Burnside carbine as judged to be the "least objectionable for use in the hands of the mounted troops". This statement regarding the Smith was extracted from the report. The Smith was rated as the third best. (NA RG 123, Box 449).

[8] Report of the Board for the Trial of Breechloading Carbines convened at West Point, N.Y., on July 13, 1858, to Colonel H.K. Craig, Ordnance Office, Washington, D.C. signed by T.T.S. Laidley, Brt. Maj., Capt. Of Ordnance, Recorder (NA RG 156, Entry 200)

[9] Greener, W.W. *The Gun and Its Development, 9th Edition.* London: Cassell and Company, Ltd, 1910. p 126.

[10] *Baltimore Sun* newspaper of 3 June 1859 reported the sailing of the Canada from Boston to Liverpool with 130 passengers including Gilbert Smith and Thomas Poultney. The Baltimore Sun of 20 August reported that Thomas Poultney returned to New York on the Asia.

[11] Newton, W. E. A Communication from Gilbert Smith, of the State of New York in the United States of America. Patent No 372 of 1859. February 9, 1859.

[12] 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. Mowbray, Stuart C., and Jennifer Heroux. *Civil War Arms Makers and Their Contracts.* Lincoln, RI: Andrew Mobray, 1998. p. 120.

[13] NA RG 156, Box 7, Entry 1012.

[14] Letter McFarland to Maynard dated 21 March 1860 (McFarland Papers in the Edward Maynard Collection, National Museum of History and Technology). William McFarland left extensive records from his activities at the Massachusetts Arms Company. Some of the records are in the Edward Maynard collection at the National Museum of History and Technology. Others were sold by Heritage Auction in 2013 and still others sold at auction by Cowen in 2017.

[15] Letter McFarland to Maynard dated 26 March 1860 (Ibid.) Of course, Poultney & Trimble had no contracts for that many firearms but it is believed that the Smith patent firearms business needed to appear to be large in order to entice the Massachusetts Arms Company to become involved.

[16] Massachusetts Arms Company ledgers, October 1849 to April 1868, pages 282-285 (Massachusetts Arms Collection in the Wood Museum of Springfield History).

[17] Dean Thomas reports that the date the company was formed is listed in the R.G. Dun & Co. Collection in the Baker Library, Harvard University Graduate School of Business Administration in the Volume 8 for Maryland, p 586. Smith patent guns would be manufactured under contracts let by the firm of Poultney & Trimble until February 1864 when a new company was formed, the Smith Patent Firearms Company. Poultney and Trimble were joined by Baltimore banker, George S. Brown, as a principal owner of the new company. The incorporation of the new company was reported in the Baltimore Sun newspaper of 12 February 1864.

[18] Letter to T. Poultney from Floyd dated 3 February 1859 (reproduced in Poultney & Trimble Sales brochure of 1860).

[19] Joseph E. Johnston would become a famous Confederate General during the Civil War. Although in constant conflict with the Confederacy's President, Jefferson Davis, General Johnston commanded the Confederate Army in Virginia during the War's first year. He commanded the Confederate Army at Bull Run and during the Peninsula Campaign until he was wounded on 31 May 1862 at Seven Pines and replaced by Robert E. Lee. When he recovered from his wounds in late 1862, he was transferred to the Confederacy's Department of the West. In the West, he organized Confederate forces to counter General Grant's assault on Vicksburg but was unsuccessful in preventing Grant's capture of that city. Later, Johnston commanded Confederate forces opposing Sherman's advance on Atlanta. He successfully delayed Sherman but argued with Jefferson Davis on strategy and was replaced. Late in the War he was again placed in command of a Confederate Army. His Army opposed Sherman's advance from Georgia through the Carolinas. Johnston surrendered the largest Confederate Army to Sherman on 26 April 1865, ending the War.

[20] Letter to T. Poultney from Johnston dated 17 December 1859 (reproduced in Poultney & Trimble Sales brochure of 1860). When Joseph Johnston wrote his testimonial, he had recently returned to Washington and would be appointed Quartermaster General of the Army in 1860 and promoted to Brigadier General. He resigned from the Army to command, as did Robert E. Lee, when Virginia seceded in 1861, and shortly after assumed command of the Confederate Army of the Shenandoah. He would command major Confederate armies during the War and would surrender the largest and last major Confederate army, the Army of Tennessee on 26 April 1865.

[21] The actual contract has not been found but the contract was reported in both the *New York Herald and Washington Evening Star* newspapers on 10 February 1860. The contract is also referenced in a letter from Brigadier General Jas. W. Ripley dated 15 August 1861 (Government 1862, Part III, No 4).

[22] These tests were directed by Special Order Number 23 dated 1 February 1860. The firearms scheduled to be tested included muzzle loading arms: M1855 rifled musket, caliber .58; M1841 Harpers Ferry rifle reamed out to .58 caliber; rifled M1842 musket, caliber .69; M1842 musket, smoothbore, .69 caliber; steel barrel M1841 rifle (Remington or Whitney), .54 caliber; iron barrel M1841 rifle (Robbins, or Kendall and Lawrence, or Robbins and Lawrence or even Tyron); M1841 Harper Ferry rifles with and without fly triggers and one with seven groove increasing twist rifling. Breechloading arms included a Merrill breechloading modified M1842 musket; M1859 Sharps rifle; a Burnside rifle; Maynard breechloading rifle and carbines, Merrill breechloading carbines; Smith breechloading carbines; Morse breechloading modified M1842 smoothbore musket and a Morse breechloading modified M1842 rifled musket; a Symmes breechloading carbine and the Schroeder needle gun. (Report of the Ordnance Tests at Washington Arsenal dated 20 May 1860, NA RG 156.4, Box 26 and reproduced in its entirety in Fuller, Claud E. Fuller. *The Rifled Musket.* New York: Bonanza Books, 1958, pp 54-148.

[23] Although the final report of the Washington Arsenal tests had not yet been released, this comment on the successful firing of a Smith carbine was also published in the *Baltimore Daily Exchange* newspaper of 6 June 1860.

[24] Sales brochure is undated. The brochure includes testaments by Army and Navy officers favorable to the gun based on test firings during 1857, 1858 and 1859. The favorable reports from the Washington Arsenal tests in early 1860 are not mentioned, consequently the brochure most likely predates mid-1860.

[25] Richard S. Lawrence who worked for the Sharps Rifle Manufacturing Company of Hartford, Connecticut invented this adjustable sight and patented it 15 February 1859, U.S. patent 22,958. These sights are the same as seen on some late production Model 1853 Sharps carbines and all New Model Sharps rifles and carbines.

[26] Of course, that caliber was also used in the recently adopted U.S. Model 1855 rifled muskets that used the conical bullets with a hollowed base as invented by Colonel Claude-Étienne Minié, of the French Army. Since the Smith is a breech-loader designed to use a rubber cartridge, the standard issue ammunition was not used.

[27] Ibid.

[28] The ledgers show that the Massachusetts Arms Company had spent through July 1861, a total of $20,546.45 in production costs for Smith carbines. Production costs include also costs to manufacture civilian firearms for Poultney & Trimble. By August 1861, production on these and models for commercial sales to sportsmen ceased and the Company began production of the next model of carbines purchased by the Army for arming cavalry during the Civil War.

[29] Letter from BG Jas W. Ripley to T. Poultney dated 15 August 1861 (Government 1862).

[30] Both of these states along with Georgia, Mississippi and Florida authorized funds to purchase firearms to arm state militias and volunteer military units even before Lincoln was elected. All these states purchased Colt revolvers. Georgia, Mississippi and Florida purchased Maynard patent carbines. South Carolina and Alabama purchased carbines of the Smith patent. Most interesting, both the Smith and Maynard carbines were manufactured in 1860 by the Massachusetts Arms Company.

[31] *Springfield Daily Republican* of 14 July 1860 and in "Age of Invention" in the *Scientific American* of 21 July 1860.

[32] The Governor of Alabama had proclaimed a Convention of delegates be assembled in accordance with the provisions of a Joint Resolution of the Legislature approved on 24 February 1860), that called "for such a Convention in a certain contingency in the election of a President of the 'United States." The contingency, of course, was the election of Abraham Lincoln and the purpose of the convention was secession from the United States. (Journal of the Constitutional Convention of the State of Alabama, Montgomery, Alabama, January 7 to March 21, 1861, pp 51-52).

[33] The Report indicated the price as only $20 but this was obviously an error if the total price paid was $3,750.

[34] *Springfield Daily Republican* of 22 January 1861.

[35] Letter from Anthony Barbot, Sec'y of the Ordnance Bureau, to Langdon Cheves dated 5 January 1861 (South Carolina Historical Society (SCHS), Cheves Papers. 12/57/12, No 4)

[36] *Charleston Courier*, 8 December 1860.

[37] Letter from Langdon Cheves to Anthony Barbot, Sec'y of the SC Ordnance Bureau, dated 29 Dec 1860 (Cheves Papers. 12/57/12, No 9). Maynard carbines were probably unavailable. Mississippi, Georgia and Florida had already purchased as many as could be made by late 1860. The Maynard firearms were also being made at the Massachusetts Arms Company. The production of the Maynards in 1860 greatly restricted the manufacture of the Smith patent arms.

[38] The unit was raised in 1860 but in 1864 was merged into the 7th South Carolina Cavalry. The unit was also issued Colt Navy revolvers. (Todd 1983, p 1177)

[39] Letter from Graveley & Pringle to Langdon Cheves dated 18 January 1861 reported that "the sixty-three Colts Navy Revolvers have been received." The letter also indicates that Graveley & Pringle received a letter from Colt's Agents in New York informing them that, for the present, they would send no more arms to the South. (Cheves Papers 12/57/13, No 9)

[40] Letter from W.C. Beck to Langdon Cheves dated 1 January 1861 (Cheves Papers 12/57/13, No 2)

[41] Todd 1983. p 1177

[42] See Note 17.

[43] Letter McFarland to Edward Maynard dated 11 June 1861 (McFarland Papers in the Edward Maynard Collection, National Museum of History and Technology).

[44] *Baltimore Daily Exchange* for 2 October 1860. This is the first date this statement was published. The *Baltimore Daily Exchange* began including Poultney & Trimble advertisements on 3 January 1859 and Poultney & Trimble placed advertisements daily through 28 June 1860 without this statement. No advertisements were published in the paper after 28 June until they began again on 2 October. Poultney & Trimble advertisements continued in the Daily Exchange with this statement until 1 January 1861 when their daily advertisements ended.

[45] 20¾ to 21¼ inch barrels have been observed in survivors.

[46] The Boards final report of the 1857 West Point trials issued as Special Orders No 118, dated 5 October 1857. (NA RG 156, Box 7, Entry 1012)

[47] The Board's final report of the 1858 West Point trials to General H.K. Craig, Chief of Ordnance, dated 3 August 1858 (NA RG 123, Box 449).

[48] Thomas 2002, Figure 574, p. 246

[49] Cartridge currently in the collection of Don Dietrich but also shown in Figure 573 of Thomas, 2002, p.246.