

# ESSENTIAL CIVIL WAR CURRICULUM

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## Civil War Small Arms and Ammunition

By **Dean S. Thomas**, Thomas Publications

Small arms are the firearms carried by individual soldiers. During the American Civil War (1861-65) small arms consisted of an incredible variety of muskets, rifles, carbines, revolvers, and even shotguns. Small arms, in the hands of both Union and Confederate soldiers, accounted for half of the war's 633,000 killed and wounded.

In 1861, neither the United States nor the newly-formed Confederate States were prepared to fight a major war. Years of peace, a small standing army, and a state militia system that was largely ceremonial, combined to severely limit stockpiles of military supplies. The most serious shortage was the lack of up-to-date small arms.

As thousands of volunteers rushed forward to join the armies of the cause in which they believed, the supply of arms in both state and national armories was soon exhausted. To meet the emergency, both Union and Confederate governments sent purchasing agents to scour the arsenals of Europe. Every type of firearm suitable for military purposes was pressed into service in the meantime. Many early volunteers found themselves armed with antiquated weapons, some even dating back to the War of 1812.

The agents operating in Europe wasted little time. By the fall of 1861 ships loaded with European arms and ammunition began to arrive at ports from Boston to New Orleans. In short order, volunteers from such states as New York, Ohio, North Carolina, and Georgia, found themselves armed with weapons originally intended for British, Austrian, Belgian, or French soldiers. As these ships continued to cross the Atlantic, established American arms makers, and those aspiring to be such, rushed to the call.

In the North, well-known arms makers such as Colt, Sharps, and Remington geared for war production. In the South, the Confederate government was attempting to build its own small arms producing facilities. This ambitious goal was a necessity if it was ever to lessen reliance on imported weapons. Unfortunately for the South, this goal was never fully attained.

In 1862 and 1863 Southern industry did make amazing strides in its ability to provide conventional muzzle-loading arms to Southern soldiers. At the same time, however, this effort was countered by Northern industrial might. Yankee arms makers not only continued to produce conventional arms, but also introduced a number of technically advanced small arms which would begin to revolutionize warfare. By 1865, one such arm, the magazine-fed breech loading Spencer carbine gained worldwide attention.

Early Southern victories provided many Confederate soldiers with Federal arms. Capture and battle- field pick-up of small arms remained an important supply source for the South until the last days of the conflict. Thus, many weapons which were only manufactured in the North also served the Southern cause. Capture was also a source of supply to some Union troops. Many who were initially armed with substandard or antiquated arms acquired British Enfields and other quality foreign weapons from Confederate prisoners or casualties.

An understanding of Civil War small arms and ammunition requires knowledge of a number of technical terms, covered in the glossary at the end of the essay.

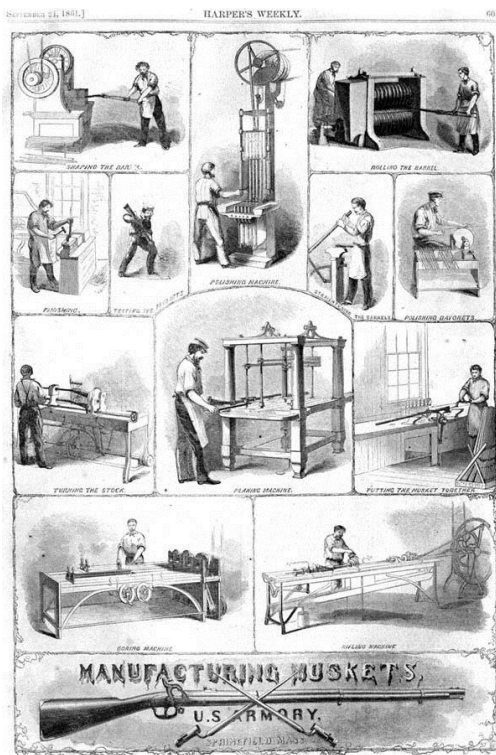
### **Springfield Armory and Small Arms Production**

By 1861, the United States was in the middle of an industrial revolution. Mass production was beginning to leave its indelible mark on American society. Using the concept of interchangeable parts pioneered by such men as Eli Whitney, intricate mechanical devices were becoming affordable to the average American. An excellent example was the Singer sewing machine which could be found in many American homes. But in 1861 the nation's industrial force changed its emphasis from tools of peace to weapons of war.

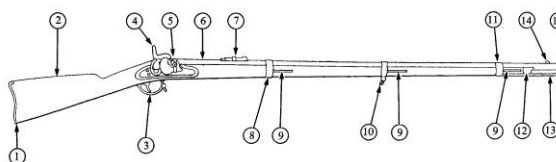
The United States armory, located at Springfield, Massachusetts, had been a leader in applying automation to production since the late 1840s. Although some hand assembly of arms was still necessary, the majority of the preassembly work was done by skilled craftsmen operating sophisticated machines.

Machine production allowed the simultaneous manufacture of identical and fully interchangeable parts. Total interchangeability eliminated costly hand-fitting of each part. The production rate thus took a quantum step forward. During 1863 Springfield was able to turn out an average of 600 rifle-muskets a day. During the period of the Civil War, this single location placed 797,936 first class rifle-muskets in the hands of the Union army.

To a large extent, machine capability was in practice at every arms producing facility in the north. The ability to manufacture intricate interchangeable parts also influenced the type of arms produced by them. Complex magazine-fed rifles such as the Henry and Spencer showed the world what American ingenuity could do.

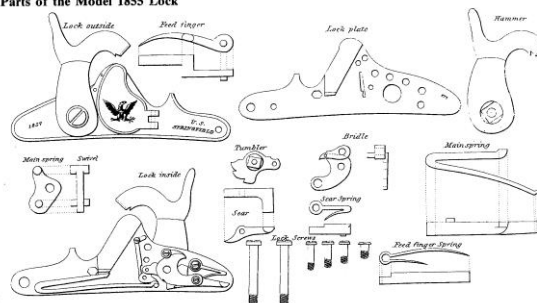


Parts of a Rifle Musket



- ① Butt and Butt Plate
- ② Stock (wood, usually walnut)
- ③ Trigger and Trigger Guard with Sling Swivel
- ④ Hammer and Lock
- ⑤ Cone
- ⑥ Barrel
- ⑦ Rear Sight
- ⑧ Rear Barrel Band
- ⑨ Bandsprings
- ⑩ Middle Barrel Band with Sling Swivel
- ⑪ Front Barrel Band
- ⑫ Nose Cap
- ⑬ Ramrod
- ⑭ Front Sight
- ⑮ Muzzle

Parts of the Model 1855 Lock



**Model 1842 Musket, .69 cal.**

The model 1842 musket was produced by both the Springfield, Massachusetts and Harpers Ferry, Virginia armories. This was the first U.S. musket that used the percussion cap ignition system. Approximately 250,000 arms of model 1842 were produced from 1844 to 1855.

The model 1842 was the standard arm of the U.S. infantry prior to 1855. At the outbreak of the Civil War thousands of these arms were stored in U.S. and state arsenals. Additional thousands were in the hands of state militia units. As a result of this, the model 1842 saw extensive Civil War action, especially in the first two years of the war. Many volunteer regiments from both the North and South still carried this weapon into battle at Gettysburg in 1863.

The adoption of the rifle musket by the U.S. Army in 1855 made the smooth-bore model 1842 obsolete. At that time, those in the hands of the Federal government were returned to the arsenals and the barrels were rifled. As with most smoothbore arms, the original model 1842 had no rear sight. The additional range and accuracy gained by rifling made a rear sight desirable; many were added to government arms at this time.

### Model 1861 Rifle Musket, .58 cal.

The model 1861 rifle musket was the classic arm of the Civil War infantry soldier. During the war, it was the standard against which all other Civil War shoulder arms were judged. The model 1861 was a refinement of the first United States rifle musket, the model 1855. By elimination of the patch box and the Maynard tape primer the arm was simplified with no loss in quality. This modification had the dual benefits of lowering both the cost and production time of the weapon, critical factors for a nation at war.

The model 1861 was originally manufactured solely at the U.S. Government Armory at Springfield, Massachusetts. The war emergency, however, called for far more arms than could be produced at Springfield. To meet the need, the Ordnance Department found it necessary to contract with 20 separate manufacturers to produce the arm.

The contract-produced model 1861's were identical in nearly every respect to those produced by Springfield. The sole deviation was the contractor's name on the lock-plate instead of that of the National Armory. A total of over 700,000 model 1861 rifle muskets were produced between 1861 and 1865.

Regiments receiving the model 1861 considered themselves fortunate. There is no known incident of those so armed exchanging the model 1861 for any other muzzle-loading weapon.

### British Pattern 1853 Enfield, .577 cal.

The British pattern 1853 rifle musket bears the distinction of being the second most widely used infantry weapon in the Civil War. The arm was imported in large quantities by both the North and the South and saw service in every major battle from Shiloh in April 1862 to the final engagements of 1865.

The pattern '53 was the standard arm of the British army from 1853 to 1867. Originally produced for British service at the Royal Small Arms Factory at Enfield, England, the "Enfield" was both well-made and deadly accurate. An important consideration from an American standpoint was its .577 caliber that allowed the use of the same ammunition made for the .58 caliber arms which were standard in both the United States and Confederate armies.

It is estimated that 900,000 pattern '53 Enfields were brought to this continent during the years 1861 through 1865. Most of these were expressly made for the American market by independent contractors in London or Birmingham, England. Many still will be found with the maker's name, such as "Ward & Sons Makers, Birm." stamped in the stock near the butt plate. Few, if any of those imported were actually made at Enfield.

### C.S. Richmond Rifle and Rifle Musket, .58 cal.

The C.S. Richmond rifles and rifle muskets were produced in larger quantity than any other Confederate made firearms. These well-made arms were close copies of the U.S. M1855 rifle and M1855/61 rifle musket. They were, in fact, made on the exact same machinery.

When the Harpers Ferry Armory and Arsenal was captured by Virginia state troops in April 1861, the machinery from that extensive facility was moved to Richmond, Virginia. This machinery, which represented nearly half of the U.S. government arms producing capability, became the backbone of Confederate small arms production. That part of the machinery which remained in Richmond continued to be used for arms manufacture until the fall of Richmond in 1865.

There are several distinct differences in the Richmond-produced arms when compared to their Yankee counterparts. The most noticeable is the plain "hump-back" lock plate. To facilitate manufacture, the Confederates immediately eliminated the Maynard tape priming system found on the M1855 Harpers Ferry arms. Because they continued to use the Harpers Ferry dies, the resulting lock retained the outline of the M1855. This distinctive lock was then stamped "C.S." over "Richmond, Va." forward of the hammer with the date of manufacture to the rear.

Additional differences were also made to ease manufacture. These included the substitution of a brass butt plate and nose cap for the harder to produce, iron parts found on Harpers Ferry arms. Another economy measure was the total elimination of the model 1855 iron patch box.

The C.S. Richmonds were often referred to as "Confederate Springfields" a term which attests not only to their appearance but to their quality as well. All of these weapons saw Confederate service.

### Austrian "Lorenz" Rifle Musket, .54 to .59 cal.

Although several types of muskets were imported from Austria, the model 1854 rifle musket, known as the "Lorenz," was the most widely used. Second only in imports to the British pattern '53 Enfield, the Lorenz saw service in both theaters of the war. The Lorenz was imported in several calibers, but the most popular and most commonly used was the .54 caliber.

Evidence has shown a heavy concentration of Lorenz rifle muskets in the Confederate Army of Tennessee and other Confederate units in the western theater, with significant numbers being issued in 1863 and 1864. Like the Enfield, importing of Austrian arms began in the later part of 1861, by the North and South. Also like its British counterpart, the Lorenz rifle musket continued to arrive in large numbers throughout the war.

### Model 1841 "Mississippi" Rifle, .54 and .58 cal.

The U.S. model 1841 rifle was one of the most famous and widely used arms of its type. The model 1841 first gained recognition in the hands of a regiment of Mississippi volunteers in the Mexican War, hence the nickname "Mississippi."

An exceptionally handsome rifle, the model 1841 was fitted with brass barrel bands and trigger guard. Added to this was a large brass patch box set in its dark walnut stock. Originally issued in .54 caliber, many model 1841's were re-rifled to the standard U.S. government .58 caliber after 1855. In either caliber, the "Mississippi" was well known for its deadly long range accuracy.

The model 1841 was produced at the U.S. Armory at Harpers Ferry, Virginia and by four contractors. Production of this arm began in 1842 and continued until 1855. During this period over 75,000 model 1841 rifles were manufactured. At the outbreak of the war, the State of New York purchased 5,000 model 1841 rifles from Remington Arms of Herkimer County, N.Y.

### Sharpshooter Rifles

Sharpshooter (sniper) rifles can be loosely defined as those intended for accurate shooting at very long ranges. During the Civil War these varied from carefully made, high grade military arms, such as the British Whitworth, to individually handcrafted American made target rifles. These weapons were often outfitted with precision telescopic sights. Despite their diversity in caliber, weight and dimensions, they all had one thing in common: in the hands of skilled marksmen, they were deadly.

### British Whitworth Rifle, .45 cal.

The British Whitworth looked very much like the pattern '53 Enfield rifle musket. It was here, however, that the similarity ended. The Whitworth was a .45 caliber arm with a hexagonal bore. The unique Whitworth bullet was shaped to fit the bore. Also unique was the mounting position of the telescopic sight. When so outfitted this sight was mounted on the left side of the stock opposite the lock plate. With a telescopic sight this rifle could be counted on for killing accuracy at ranges up to 1500 yards.

Most Whitworths which entered this country during the war did so through Southern ports and it was a favorite arm of Confederate sharpshooters. Despite the limited number of Whitworths imported, the rifle saw service in both eastern and western theaters throughout the war.

### The "American Rifle", .36 to .50 cal.

The "American Rifle," as individually crafted target rifles were known, were precision instruments. These rifles were always fitted with either telescopic or finely

adjusted peep sights. Because they were individually made, physical appearance and dimensions varied greatly. The weight of these arms ranged from about 9 pounds to nearly 35 pounds. Those of the heaviest weight, over 12 or 13 pounds, were intended to be fired from a rest. Near pinpoint accuracy at ranges to 1,000 yards could be expected of these rifles. A target the size of an enemy soldier was an easy mark at much greater distances.

Several companies and three full regiments of men were raised to serve as sharpshooters in the Union army. Most Confederates so employed did so within the ranks of normal infantry regiments. During the final year of the war, battalions of sharpshooters were formed within both the Union and Confederate armies. These battalions consisted of the best marksmen from each of the infantry regiments serving with the command. The business of killing had taken a professional turn.

#### The Henry Rifle, .44 cal.

The Henry rifle stands out as the most technically advanced firearm to see service during the Civil War. The Henry was a lever action magazine fed arm, and its fire power was unequalled. Although only 1,731 Henry rifles were purchased by the Federal government, many more saw service in the hands of soldiers who were willing to pay the \$40.00 necessary to privately purchase them.

In the days when muzzle-loading rifles were by far the most widely used weapons and when single shot breech-loaders were considered advancements, the Henry's 15 shot magazine (located under the barrel) offered a decided advantage. Students of arms who are familiar with the famed Winchester lever action rifle (still in common use today) can immediately see its similarity to the Henry. This is more than coincidental. Although the patent for the arm was held by its inventor, B. Tyler Henry, his employer, Oliver F. Winchester, held the rights to the patent.

It was Winchester who first tried to convince the Federal government to purchase this revolutionary new weapon in the early days of the war. The Chief of Ordnance, Brigadier General James W. Ripley, recommended that the rifle not be purchased, disliking the weight of the arm when loaded and seeing no advantage over single shot breech-loading arms. Also, the special copper-cased cartridge, a .44 caliber rim-fire, was not usable in any other arm.

The only arms which came close to the Henry in technology were the Spencer rifle and carbine. The Spencer had the distinct advantage of being easier to produce; this was a major factor in the Spencer becoming the dominant magazine fed arm of the war. Despite government reluctance and Spencer competition, by 1865 over 10,000 Henry rifles had been produced, many of which saw service in the war.

#### Sharps Carbine, .52 cal.

Sharps carbines were well known as a rugged and efficient arm for nearly the whole decade prior to the Civil War. The first Sharps used by U.S. forces were issued in

1854. From that time until the end of the Civil War it proved its value in every major cavalry action.

The Sharps carbine, like the Sharps rifle, used a paper or linen cartridge and fired a .52 caliber bullet. The Sharps carbines were also mechanically identical to the Sharps rifle. By means of a lever, which also served as a trigger guard, the soldier opened the carbine breech and loaded a single cartridge. The breech was closed and ignition was achieved by a standard musket cap which was exploded by an external hammer operated in the same way as a standard musket.

Both Union and Confederate cavalrymen liked the Sharps carbine and many favored it over other more advanced arms. As one Union ordnance officer reported, "A cavalry carbine should be very simple in its mechanism, with all its .... parts well covered from the splashing of mud, or the accumulation of rust and dust. Sharps carbine combines all these estimable qualities."

Spencer Carbine, .52 cal.

The Spencer carbine was not issued until October 1863. In spite of this late arrival, the Spencer proved to be the most popular and widely issued U.S. cavalry shoulder arm of the war. The Spencer carbine functions exactly the same as its predecessor, the Spencer rifle, and uses the same rim-fire metallic cartridge, but is 8 inches shorter. Both arms are lever action repeaters with a 7 round tubular magazine contained in the butt stock.

The development of the Spencer carbine was a direct result of reports such as the following, submitted by cavalry Ordnance Officer Capt. Wm. Redwood Price on Aug. 7, 1863: "The Spencer Repeating Rifle is used by the 5th and 6th Michigan Cavalry and is very highly spoken of by officers and men in those commands, as a rifle it is too heavy for the mounted service and is now used by those commands on foot mostly as skirmishers. I would recommend a similar arm with the barrel shortened to the size and weight of a carbine as the best arm for the cavalry service. A metallic cartridge is undoubtedly the best for cavalry, as a large amount of ammunition is wasted by jolting in the cartridge boxes, or becomes wet with rain or the fording of rivers. The Spencer cartridge contains within itself a perfect gas check and cap, and can be fired 8 times without taking it from the shoulder, one cartridge in the barrel and seven in the stock. The mechanism is very simple and tightly covered from dirt or rust. As a rifle it has had a thorough test in the field and is very popular."

In total, over 95,000 Spencer carbines were purchased by the Federal government. As with all other arms issued to the Union forces, some Spencers were captured and used by the Confederate army. The unique rim-fire cartridge of the Spencer proved too expensive and difficult for Confederate manufacturing facilities. The resulting necessity to rely solely on captured ammunition limited its use by Southern cavalrymen.



## Double-barrel Shotguns, various gauges

If any firearm was in abundance in the South prior to the war, it was the double-barrel shotgun. Long a standby for hunting, nearly every family had, or had access to, such an arm. Due to its short effective range, the shotgun had limited value as an infantry weapon. It was in the close, sometimes hand-to-hand fighting common to mounted troops that the shotgun found a home.

Within the ranks of the Confederate cavalry the double-barrel shotgun was a favorite weapon. With its barrels shortened for ease in carrying on horseback, the resulting wide spread of the buckshot made the shotgun formidable and deadly in close combat.

By 1863, long-range, lever action, repeating carbines had become the ultimate cavalry weapon. In spite of this, many Confederate cavalymen continued to rely on the double-barrel shotgun. Its twin charges of death-dealing buckshot served them well until the final days of the war.

## Colt "Army" Model 1860, .44 cal. And "Navy" Model 1851, .36 cal. Revolvers

Colt revolvers in calibers .44 and .36 were the most famous and widely used handguns to see service during the Civil War. These arms had gained reputations as effective and reliable weapons well before 1861.

The prominence of Colt revolvers in the years prior to the war meant that many could be found in private homes. Most of those in southern hands were carried to war by Confederate volunteers. Those in northern homes often went into service as the personal side-arms of Union officers.

Federal government purchases of Colt "Army" and "Navy" revolvers amounted to 38% of the total revolvers acquired for war use. Most of these went to arm Union cavalymen.

All Colt "Army" and "Navy" pistols used during the war were six-shot, single-action, percussion revolvers. Colts were present on every field of battle from 1861-65. They were prized and well-liked by all whose lives often depended upon them.

## Lefauchaux Revolver, 12 mm (.44 cal.)

The French Lefauchaux revolver was one of the few foreign handguns imported by the United States government during the war. The substantial number purchased, nearly 12,000, rank it as one of the more significant handguns issued to Union troops. Most Lefauchaux's purchased by the North went to arm troops serving in the western theater.

The purchase of the Lefauchaux was at the same time important and remarkable. The importance lies in the fact that this was the only non-percussion revolver purchased

for issue by either government. Equally important was that this was the first handgun issued to the U.S. Army that used internally primed ammunition. The Lefauchaux required a unique pin-fire cartridge which was difficult to manufacture and was used only by this arm.

Very few, if any, Lefauchauxs were purchased by the Confederacy. It is well known, however, that some were carried by southern officers. No less a person than General T.J. "Stonewall" Jackson had an elaborately engraved Lefauchaux presented to him by his men.

Remington "Army" and "Navy" Model 1861 Revolvers, .44 and .36 cal.

Remington revolvers in .44 and .36 caliber were second only to Colts in the number that saw service during the Civil War. Remingtons accounted for nearly 35% of the revolvers purchased by the Federal government. Although the Remington Arms Company had been well established prior to the war, they had produced mostly long arms. For this reason, the number of Remington revolvers suitable for military use that were in private hands prior to 1861 was limited. With this in mind, it is clear why Remingtons were primarily a Union sidearm in the early war years. From 1863 on, Remingtons were also carried by many southern troopers, "donated" by some Union cavalymen whose luck had run out.

Remington revolvers were six-shot, single-action, percussion arms. Because they lacked the pre-war reputation of Colts, they were never as popular in the minds of Civil War soldiers. Those who used them, however, found them a serviceable and reliable weapon.

## **Ammunition**

Ammunition for Civil War small arms was more varied than the weapons themselves. As we shall see, the period of the early 1860s was one of great armament development - much of it brought on by the war itself with the need for serviceable arms. Weapon inventors and manufacturers (particularly of carbines and pistols) were inclined to make guns that required special, often patented, cartridges. These proprietary rounds were usually not made at the government arsenals and would therefore require the ordnance authorities to place orders for ammunition as well, if the arms were approved.

Coincidentally, it was also a time of great ammunition development (the Minié ball was less than ten years old). Patentees were constantly bombarding ordnance officers with new bullet and cartridge ideas for standard arms. Some of these inventions were worthless; however, others had merit and after testing were introduced into the ordnance pipelines.

A third reason for the great variety of ammunition was the fact that neither the North nor the South had a central laboratory or arsenal for fabricating small arms ammunition. Although the Confederacy made an effort with their facility at Macon,

Georgia, the war did not last long enough for this to be fully accomplished. In the North, it does not appear that a central establishment was even considered. So even with strict regulations and guidelines, the sixteen Federal and Northern state arsenals and the eighteen smaller of Confederate arsenals and depots often made different cartridges and bullets for the same arms. In addition to this, the bullet and cartridge requirements were supplemented by purchases from private manufacturers and abroad.

The ammunition illustrated with the weapons on the following pages was employed by the particular arms; however, in many cases there were other types of cartridges used. It is beyond the scope of this study to illustrate every cartridge used in every weapon.

Civil War small arms ammunition ran the gamut from simple to complex. Although it was possible to load most weapons with loose powder and ball, this was seldom necessary except in the case of some non-standard weapons that soldiers brought from home. Both the Union and Confederate ordnance departments were more than able to supply the needs of their troops in the field. Any spotty shortages were more logistical in nature than from manufacturing shortfalls.

The most common ammunition used with muzzle-loaders during the war was the paper wrapped cartridge. Here, the bullet and powder charge were encased in paper, and it required that the soldier open the round to pour the powder down the barrel. Federal procedures demanded that the bullet be completely void of paper before it was rammed home; however, some Confederate and imported cartridges of this type were lubricated at the bullet end and were intended to be loaded still wrapped in the cartridge paper.

Combustible cartridges fall into the category of separate primed ammunition that saw extensive use with carbines and revolvers. A combustible cartridge had the bullet attached to a cartridge case made of thin nitrated paper, linen, membrane, collodion or other substance that would be completely consumed by the powder charge explosion. It did not need to be opened to expose the powder, and was ignited by the flame from a regular percussion cap. Several combustible cartridges were adapted for use in muzzle-loaders.

Other than the combustible cartridges, most separate primed cartridges were best suited for breech-loading carbines and rifles, and were an important factor in sustaining an increased rate of fire. Generally, besides the combustible varieties, this type of cartridge had a case made of copper or brass, or brass and paper, or India rubber. The flame from the percussion cap penetrated through a small hole in the base of the case and ignited the powder charge.

Unfortunately, many of these "spent" cases were difficult to remove from the breech of the gun.

The most advanced types of ammunition used during the war were those that were internally primed, such as the rimfire, pin-fire, and certain evasions of Smith and Wesson's rimfire patent. The rimfire cartridge was completely self-contained: it had together in one piece the primer, powder, bullet, and case. The cartridge cases went through at least eight steps in the forming process before they were ready to be charged with fulminate, which was "spun" into the outer recesses of the "rim" at the base of the case. After the appropriate powder charge was inserted, the bullet was crimped into the

open end of the case. In operation, the hammer of the gun struck the rim of the cartridge, igniting the fulminate and in turn the powder charge. An earlier development that saw limited use in this country was the pin-fire cartridge. Here, a stout, brass wire "pin" protruded through the side of the case. When struck by the hammer, the pin was driven into percussion compound that rested on an anvil. The resulting explosion ignited the powder charge.

Cartridges were packaged by the arsenals and manufacturers in many assorted ways. Generally, ammunition made at arsenals for muzzleloaders was put up in paper wrapped bundles of ten cartridges. Confederate wrappers are usually marked with the type of cartridge and place and date of manufacture. Regrettably, Union ammunition is not similarly identified, except on wooden packing crates for 1,000 rounds. Other methods of wrapping cartridges by private makers varied from pasteboard boxes to paper covered, drilled wooden blocks. The number of revolver cartridges in a package usually corresponded to the number of chambers in the weapon's cylinder.

One final observation regarding Civil War ammunition involves the actual diameter of bullets and the nominal caliber of weapons. Muzzleloaders had to use bullets that were smaller than the bore diameter, in order for the weapon to be loaded properly. Therefore, the .58 cal. M1861 Springfield rifle musket used a bullet .574 inches in diameter. Breech-loading carbines and rifles, and revolvers used bullets larger than the bore diameter. Thus, the bullet for the .52 cal. Sharps carbine or rifle was actually .535 inches in diameter, and a .44 cal. Colt bullet was .455 inches in diameter. Packages and crates are sometimes marked with the bore diameter of the weapon and at other times with the diameter of the ammunition.



Internally Primed Cartridges



Combustible Cartridges



Paper Cartridges



Separate Primed Cartridges

## Conclusion

Of necessity this is only a survey of the most important and common small arms and ammunition. There were literally thousands of different weapons and ammunition used in the Civil War.

## Glossary

**Army and Navy Caliber Revolvers**—the terms "Army" and "Navy", when associated with Civil War revolvers, can appear misleading. "Army" and "Navy" refer only to the caliber of an arm and in no way indicate its use by a particular branch of the armed forces. Army caliber revolvers are .44 caliber and Navy caliber revolvers are .36 cal. As nearly as can be determined, the terms originated with master salesman, Samuel Colt, in an attempt to enhance the sales of his arms to the two branches of the service.

**Breech-loading**—the breech-loading system allowed both projectile and gunpowder to be inserted into the arm through the breech or back end of the barrel. Breech-loading significantly decreased loading time. This was a major advantage during the heat of battle.

**Caliber**—the inside diameter of a gun barrel measured in thousandths of an inch.

**Carbine**—the carbine is the shoulder arm of the cavalry. Because it was intended to be carried, and if necessary, used on horseback, the average length of the Civil War carbine was 39 inches. Loading a muzzle-loading arm when on horseback is extremely difficult, if not almost impossible. For this reason most inventions of breech-loading weapons were carbines. An inventor wishing to sell a new breech-loading arm had a much better chance to do so if it was offered for cavalry use.

**Lever-action Arms**—lever-action arms are breech-loading firearms that employ a lever as an integral part of the arm. The lever opens the breech to allow either manual or mechanical insertion of a cartridge.

**Magazine-fed Arms**—in firearms terminology, a magazine is an ammunition storage place and an integral part of the arm. The magazine contains a spring and a follower to automatically force one cartridge at a time into the firing chamber. Two magazine-fed arms saw extensive use in the Civil War, the Henry rifle with its fifteen cartridge magazine and the Spencer (carbine or rifle) with its seven cartridge magazine.

**Musket**—a musket is a smoothbore shoulder arm which fires a round lead ball. Smoothbore arms were standard issue in the U.S. Army until 1855, when they were replaced by a new model arm with a rifled bore. Although obsolete by the Civil War, many muskets were still in arsenal storage or in the hands of state militia units. In 1861, the average musket was 57 inches long and weighed about 9 pounds.

**Muzzle-loading**—the muzzle-loading system requires both the gunpowder and projectile to be inserted into the arm through the muzzle or front end of the barrel. Muzzle-loading weapons were the standard issue to soldiers worldwide prior to and during the American Civil War.

**Percussion Arms**—percussion means "striking" in music as well as in weaponry. Civil War small arms commonly used a small brass "cap" which contained a small amount of fulminate of mercury, a very volatile substance, to ignite the gunpowder charge which fired the weapon. A cap was placed on a cone or "nipple" that was mounted on the firearm in an area directly adjacent to the chamber. When loaded, the chamber contained the charge of black gunpowder necessary to fire the bullet. The cap was the striking point of the firearm's hammer. The resulting percussion of the hammer strike caused the fulminate to explode, sending a tiny flame through a hole in the cone and into the powder charge. About 100 of these caps could be carried in a small leather pouch attached to a soldier's belt. Each bullet fired required a new cap.

**Pistol**—a pistol is a hand-held firearm. At the time of the Civil War most pistols were revolvers, however, a few single-shot muzzle-loading varieties remained in use.

**Ranges of Small Arms**—most rifled Civil War shoulder arms, including carbines, could be fired with precision at ranges of 100 to 150 yards and with reasonable accuracy at distances of 200 to 300 yards. The rifle musket was effective for up to 1,000 yards, but at that range the chances of an aimed shot hitting even a very large target were no better than 50/50. The accuracy of smoothbore shoulder arms was very good at 50 to 100 yards, but began to drop off rapidly after that distance. Precision shooting with Civil War revolvers was possible for up to 50 yards and the accuracy needed to hit a man-sized target was present for up to 150 yards.

**Rate of Fire**—rate of fire is defined as the number of times a user can load, aim, and fire a gun in a given period of time (usually one minute). During the Civil War, all comparisons were made with the rifle musket as the standard. An increased rate of fire was the objective of most improvements to firearms during the war. An experienced soldier could achieve the following rates of fire: Rifled musket: 2-3 shots per minute; Single-shot breechloader: 10 shots per minute; Magazine-fed repeater: Spencer: 20 shots per minute; Henry: 30 shots per minute

**Regular Army**—the Regular Army refers to the standing army, raised and permanently maintained by an existing national government. Prior to the Civil War the Regular Army of the United States consisted only of four regiments of cavalry, four regiments of artillery and ten regiments of infantry.

**Revolver**—a revolver is a hand-held firearm which includes a cylinder with a number of chambers (usually 6) containing cartridges. The cartridges were fired one at a time. During the Civil War, revolvers were issued primarily to cavalymen, although some light artillerymen also carried them. Because of its convenient size and weight, the revolver was the weapon preferred by most officers.

**Rifle**—the rifle is a shoulder arm with a rifled bore. In the mid-19th century, the rifle was distinguished from the musket or rifle-musket by its length, which was usually about 49 inches. The shorter length of the rifle was ideal for mounted infantry troops or troops serving as skirmishers, where added maneuverability was important. When breech-loading infantry arms were introduced at the time of the Civil War, the length of the rifle was considered to be perfect. These breech-loading rifles also offered increased loading speed.

**Rifled Bore Arms**—rifling in firearms consists of cutting an evenly spaced number of spiral grooves in the inner surface of the barrel (bore). These grooves caused a projectile passing through the barrel to spin on its axis, thereby greatly increasing its accuracy. The United States Regular Army was not totally equipped with rifled small arms until after 1855.

**Rifle-Musket**—the rifle-musket is a shoulder arm with a length of about 56 inches, which was manufactured with a rifled bore. The United States adopted its first rifle-musket in 1855. It quickly replaced the common musket as standard issue to the Regular Army. The model 1855 rifle-musket fired a new bullet-shaped projectile known as the Minié ball. Its high degree of accuracy was a factor in the Civil War.

**Rifled Musket**—the rifled musket is a rifled shoulder arm which was originally manufactured with a smooth bore. When small arms with rifled bores became general issue in the U. S. Army after 1855, small arms with smooth bores became obsolete. As an economy measure, many of the stockpiles of smoothbore muskets on hand were sent back to various manufacturing points to have rifling grooves cut into the bore. These rifled muskets were issued to militia units or placed in storage for an emergency.

**Sharpshooter**—a sharpshooter was the Civil War era sniper. Although some sharpshooters used the rifle manufactured by the Sharps Rifle Company, there is no evidence that there is any connection between that rifle company and sharpshooter designations as such.

**Shoulder Arm**—shoulder arms are those whose length and weight are such that they must be supported against the shoulder and held with both hands to be fired. During the Civil War, shoulder arms nearly always fired a larger bullet and used a much greater powder charge than hand-held weapons such as revolvers. This increased powder charge and longer barrel gave projectiles fired from shoulder arms a greater effective range than those fired from revolvers.

**Single or Double-Action Arms**—single and double action applies to arms which employ a revolving cylinder as a cartridge storage area. These arms all employ a small striking arm (called a hammer) to ignite the cartridge. Single-action mechanisms require the user to manually cock (set) the hammer each time a cartridge is to be fired. The cocking of the hammer causes the cylinder to turn one step and aligns the chamber containing the next cartridge with the barrel. The user then pulls the trigger to release the hammer and fire the weapon. Double-action arms allow the user to automatically turn the cylinder, set the hammer, and release the hammer by simply pulling the trigger. Double-action

mechanisms were more complicated and consequently more expensive. Despite its advantages, use of double-action revolvers was very limited during the Civil War.

**Smoothbore Arms**—smoothbore arms are those in which the inner surface of the barrel (bore) is entirely smooth. These arms fired a round lead ball which was cast slightly smaller than the diameter of the bore. This allowed the ball to be rammed down the barrel in preparation for firing. The ball would rest on the gunpowder charge which, when ignited, forced the ball out of the barrel. Smoothbore arms were used by the U. S. Army from the Revolution until the late 1850s. The greatly increased accuracy of arms with rifled bores made smoothbore arms obsolete.

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