



## "THE SPRINGFIELD RIFLE"

My maternal Great-Great Grandfather, William Erwin Sartin, was a First Sergeant in the Federal Army during the War Between the States. A member of the Missouri State Militia, and later the 1<sup>st</sup> Missouri Cavalry, Grandpa Sartin very possibly carried a U.S. Model 1861 Springfield Rifle-Musket, the primary shoulder arm of the Union Army\*.

Officially adopted in 1861, the M1861 was an improvement over the earlier U.S. Models 1841 and 1855 percussion rifle-muskets. Named for the U.S. Armory at which it was developed in 1860, the M1861 had brightly finished steel barrel, butt-plate, lock and mountings. The .58 caliber barrel measured 40" in length and was secured to a solid full-length walnut stock by three steel barrel bands. Overall length was 56" and weight was a reasonable 9 pounds.

The Springfield was put through a full year of extensive tests before being approved for general issue to U.S. troops. The testing board found that the average soldier could easily fire ten shots in five minutes and place six of those in a 2' square at 100 yards. Allowed to take his time, the same shooter could place all ten rounds into a 1' square at the same distance. In some tests, the Springfield shot six rounds a minute.

Ballistic performance was no less impressive. The standard load, a 500 grain .58 caliber Minie' ball\*\* backed by 60 grains of FFg, was found to penetrate eleven 1" pine boards at 100 yards and six 1" pine boards at 500 yards. At the conclusion of their testing the Ordnance Board concluded, "The rifled musket of the caliber .58 of an inch is a decided and important improvement, and considering the compactness, lightness, and accuracy at long ranges and the use of the bayonet, the arm is in every respect well adapted to the general service of Infantry."

As finally approved, the M1861 cost the Federal Government between \$18.00 and \$25.00 each. Springfield Armory alone produced over 800,000 M1861 rifles. Another 900,000 contract rifles were produced for the government by private firms. Clearly, the Union soldier was a force to be reckoned with when he waded into battle with a Springfield rifle, a bayonet and a forty round cartridge box\*\*\*.

*The Springfield Rifle, continued:*

Letters home indicate that the Union soldiers were very pleased Springfield. One Union soldier wrote, *"We have not got the Enfield rifles but the Springfield...they are just as good and a good deal lighter."* And apparently the enemy was very fond of them too. In a letter home one member of the C.S.A.'s 16th Mississippi wrote, *"Springfield (and Enfield) Rifles generally do best..."* The M1861 pattern was slightly modified in 1863, but generally remained the same weapon throughout the remainder of the Civil War. This was not however, the end of the M1861's service to the nation,

At the end of the Civil War, U.S. Arsenals were filled with new Springfield's. Postwar depression and Reconstruction prohibited the purchase of new cartridge firing breech-loading rifles desired by the Army. This dilemma was resolved when in 1865 Erskine S. Allin, Master Armorer at Springfield Armory, invented a way to convert the M1861 from a muzzle-loading rifle to a breech-loading rifle. The Springfield would eventually come to be known as the "Trapdoor Springfield" because of its peculiar hinged breechblock.

The initial "Trapdoor Springfield" conversions utilized the existing barrel firing a .58 caliber rimfire cartridge. In the following year (1866) the rifles were further converted to fire the newly adopted .50-70 cartridge by sleeving the barrels to .50 caliber. The pattern was further refined in 1868 and 1870, however the .50-70 cartridge was retained.

By 1873 the Plains Indian Wars were in full swing. Plains warfare was carried out over vast open expanses that came to necessitate a cartridge capable of greater range and better accuracy. This need subsequently resulted in the development of the classic .45-70 Government cartridge that was introduced in that year. Now, government arsenals were producing new rifles and carbines made expressly for the .45-70 cartridge.

While the 1873 Trapdoor rifle was a solid and reliable rifle, it's army issue copper cased ammunition was inadequate. In the heat of battle, the prolonged firing of the rifle would heat the chamber causing the soft copper cartridges to become soft and stick to the chamber walls. This problem was further exaggerated by the fact that many soldiers had by this time taken up carrying their ammunition in fabric "Prairie Belts" worn openly around their waists. Exposed to dust and humidity, the cartridges formed gummy verdigris upon them.

Nowhere would this problem be more apparent than in June 1876 when Brevet Brigadier General George Armstrong Custer and units of the U.S. Seventh Cavalry engaged Indian warriors at the Battle of the little Bighorn. In examining the battlefield, military investigators found evidence that many of the rifles chambers had likely become jammed, forcing the soldiers to pry the cartridges from the chambers with a knife blade. This problem was later rectified by the introduction of brass cartridge cases.

*The Springfield Rifle, continued:*

Many Trapdoor rifles were later converted into single-shot shotguns. These shotguns were fairly inexpensive to purchase and provided a means of self-defense and a hunting arm for cash-strapped settlers traveling west who could not afford a better weapon [Interestingly, a similar weapon was made from surplus British Snider rifles and marketed to settlers under the name "Zulu"].

**The Trapdoor Springfield** would continue to see service as the standard issue battle rifle until the 1892 adoption of the bolt action Krag repeater and its .30 caliber smokeless powder cartridge. Even after the Krag rifle was adopted as the primary U.S. rifle, the Trapdoor continued to serve with National Guard and State Militia units and saw service in the Spanish-American War and even in the early months of the U.S. involvement in World War I. Eventually, the tired Springfield was completely phased out of even reserve service to become yet another chapter in the history of U.S. military shoulder arms; but not without having earned the honors of being the last muzzle-loading weapon adopted by the United States and the U.S.' last black powder firing cartridge rifle.

\* It should be noted that while the M-1861 Springfield and the (co-standard) M-1853 Enfield Rifle-Musket were the primary combat shoulder arms of the Union Forces, there were 79 "officially recognized" muskets and rifles and an additional 23 carbines in the federal inventory. Conversely, the Confederacy "recognized" anything they could get their hands on.

\*\* The Minie' ball used by both North and South was an American variant developed in 1849 by James Henry Burton, Assistant Master Armorer at Harper's Ferry Arsenal. Whereas French Col. Minie's bullet utilized an iron disc to forcibly expand the bullet's hollow base, Burton's design strictly relied on the explosion of the powder charge. With the invention of the Minie' ball a rifle could be loaded as fast as a musket yet retain the accuracy of a rifle.

\*\*\* Well, maybe. After the Civil War it was estimated that approximately 240 lbs of black powder and 900 lbs of lead were consumed for each soldier killed in battle.

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