



Spencer sporting rifle as first offered in 1864.



The basic Army rifle supplied by Spencer during the Civil War.



A well worn Spencer Civil War carbine.

C. M. Spencer: The Man and His Inventions

by W.T. Lewis

The father of the Spencer carbine was a very gifted inventor of many useful items. He showed his talent with machinery at an early age and continued throughout his 89 years.

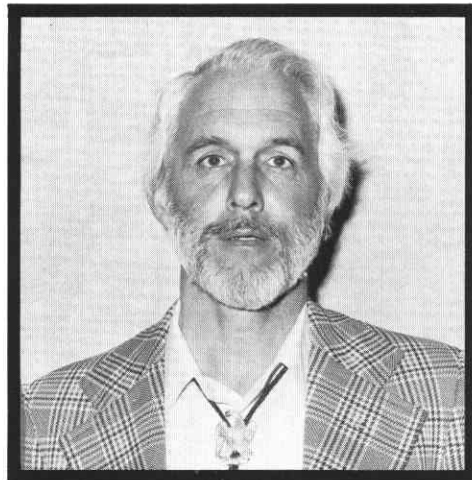
Christopher Miner Spencer was born in South Manchester, Connecticut, June 20, 1833. His interest in firearms was evident as early as age twelve when, while living with his grandfather, Josiah Hollister, he cut down his grandfather's musket to make himself a squirrel gun. At fourteen (1847) he went to work for Cheney Brothers Silk Mills but left there to apprentice to Samuel Loomis at the machinist's trade. He was sixteen months at this, interrupted by a winter in school.

He worked for Cheney Brothers as a journeyman machinist for several years, but 1853 found him in Rochester, New York for about a year repairing locomotives. From there he was in Chicopee, Massachusetts, employed by N. P. Ames and after this worked at Colt's Armory. By age 25 (1858) he was again working for Cheney Brothers in Manchester, Connecticut.

His first patent was No. 25,770, dated October 11, 1859, and was described as an apparatus for cutting and attaching labels to spools. This was followed by No. 27,012, dated January 31, 1860, for thread machinery for spooling. Both of these inventions were useful to the Cheney Brothers. By his own statement, it was during this time (1858) that he conceived the idea of a repeating rifle with a magazine in the stock. It was late in 1859 before he was successful in his experiments, and the basic patent was received March 6, 1860 (No. 27,393). Further development continued in 1860 and 1861 with work being done by Spencer and L. Wheelock. During this period at least 28 guns were made in Hartford, Connecticut by Wheelock.

On February 4, 1862, Spencer received a patent on a breechloading single shot carbine. On July 29, 1862, he received a patent improving his original repeating rifle which very closely resembles the rifle action as used in the Civil War. His expense record for 1861 still exists and documents the building of the first military rifle.

Remember that Fort Sumpter was fired upon April 11, 1861: it didn't take long for Spencer to get started on an Army rifle. The first expense listed for the rifle, "No. 56 caliber" was May 6, 1861, and it was completed May 30, 1861, at a cost of \$293.67. The next expenses listed are for travel: June 8, 1861, to Philadelphia: September 9 to Chicago: November 21 to Washington, and December 28 to New York. Possibly in Philadelphia the rifle was demonstrated before Commander J. A. Dahlgren and a letter exists of his recommendation to Capt. Andrew Harwood, Chief of Bureau of Naval Ordnance, for the purchase of the Spencer rifle for trial. Spencer himself says it was through the personal friendship of Gideon Wells with Frank Cheney that the first contract with the Navy was received.



The first Army contract is dated December 26, 1861, and is for 10,000 rifles, with triangular bayonets and the usual appendages for service, at \$40 each. The first delivery of 500 guns is promised for March, 1862. The contract reads that late deliveries will reduce the amount of guns under the contract by the amount that are late. At this point they have no employees, no machinery and not even a building, yet in 90 days they are guaranteeing delivery on 500 guns. As one might expect, they did not meet their deadline and by May 27, 1862, they are in trouble with the Commission on Ordnance and Ordnance Stores. In a statement to this Commission, Warren Fisher, Jr., Treasurer of the Spencer Repeating Rifle Company, tells of the formation of the company, the expenditure of \$198,000 and the difficulties encountered in getting into production. He also offers to substitute carbines for rifles in case the rifles are not wanted. He offers two sizes of carbine, large weighing nine pounds and small weighing six and one-half pounds.

The result of the findings of the Commission is a new contract signed June 19, 1862, for 7,500 rifles under the same terms as before. The new delivery date is July, 1862. The first actual deliveries are 500 rifles on December 31, 1862, with all 7,500 delivered by June 20, 1863. Note that Gettysburg was fought July 1 through 3, 1863. It took about one year to start a major armory capable of producing approximately 2,500 guns per month.

C. M. Spencer did not have a financial interest in the Spencer Repeating Rifle Co. On May 10, 1861, Charles Cheney bought the rights to Spencer's repeating rifle and agreed to pay one dollar royalty on all guns sold. Some of Spencer's royalty account sheets have survived and they clearly differentiate between sales to the government and sundry other sales. Much has been written about individual units pledging their pay and purchasing their own

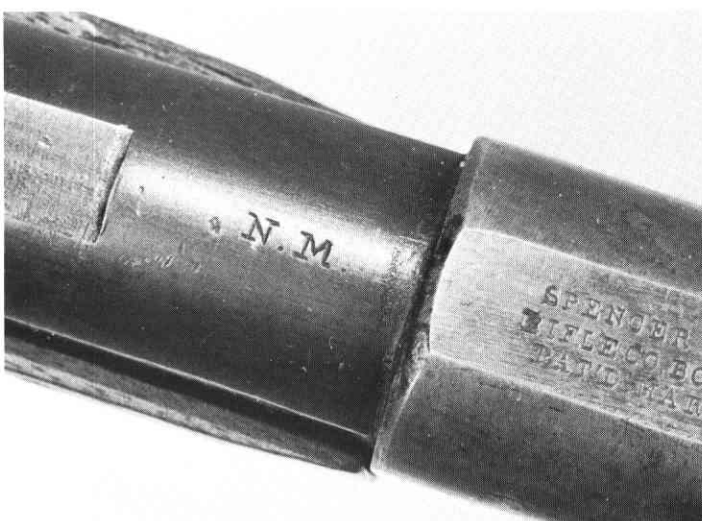
Spencer rifle & carbine variations.



Model 1865 marking with English proofs.



Model 1867 marking.



New model marking.

weapons during the Civil War. These royalty records do not substantiate this at all.

It is unreasonable that any private sales were made during the period that Spencer Repeating Rifle Co. was late on their government deliveries and in danger of losing their contract. It is safe to assume that deliveries were not being made because no guns were being produced. That will reasonably cover production through June 29, 1863, when the last of the 7,502 rifles under the revised contract of June 19, 1862, were delivered.

The next U.S. Government contract was July 13, 1863, for 11,000 carbines with 1,600 to be delivered in August, 1863. Again they were behind schedule, as the first delivery of 1,000 carbines is October 3, 1863. Production of rifles in May and June, 1863, was averaging 1,500 guns per month. On October 2, 1863, an additional 2,000 rifles were on hand for the State of Massachusetts but were delivered to the U.S. Government on request of Generals Rosecrans and Burnside. That should account for July and one-third of the August production. It is reasonable to assume some loss of time due to the change from rifle to carbine production. At most you have a month and a half before carbine production must have been in full swing to deliver the 1,000 guns on October 3, 1863. Again Spencer was behind on deliveries and would have had difficulties in supplying private orders.

December 4th, 1863, an agreement was signed between C. M. Spencer and the Spencer Repeating Rifle Company reducing Spencer's royalty on all government sales to fifty cents per gun with one dollar per gun paid on all private sales. Ledger sheets beginning March 1, 1864, exist and make it easy to document private purchases from then on. They are as follows:

| | U. S. ORDNANCE | | SUNDRY PURCHASES | | |
|--------------------|----------------|--------|------------------|--------|----------------|
| | Carbines | Rifles | Carbines | Rifles | Sporting R & C |
| 3-1-64 to 8-31-64 | 12,181 | 1,968 | 454 | 67 | |
| 9-1-64 to 12-31-64 | 12,000 | 1 | 605 | 83 | 7 |
| 1-1-65 to 3-31-65 | NO RECORD | | | | |
| 4-1-65 to 6-30-65 | 10,002 | 0 | 509 | 4 | 17 |
| Totals | 34,183 | 1,969 | 1,568 | 154 | 24 |

These documents give only 4.8% sales to other than the U.S. Ordnance Department and include even a two-month period after Lee's surrender, and I feel are conclusive evidence of the lack of non-government sales. In all, U.S. Ordnance purchased 11,471 rifles and 45,732 carbines from the Spencer Repeating Rifle Company during the Civil War and 18,959 Model 1865 carbines after the war.

After October 3, 1863, deliveries of carbines are continuous through the end of the Civil War. It appears that none of the contracts were filled in the amounts ordered. The first contract for carbines dated June 13, 1863, for 11,000 carbines has only 7,000 guns delivered from October 3, 1863 through December 31, 1863. The right to deliver the other 4,000 was apparently forfeit due to late delivery.

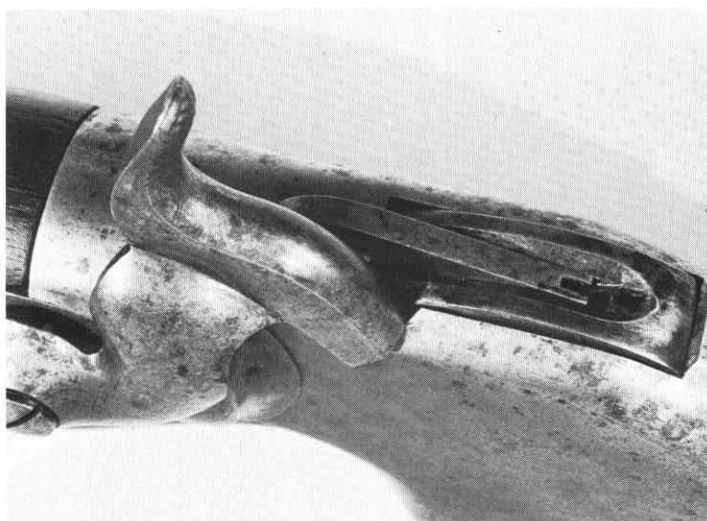
The next contract of December 24, 1863, for 34,500 carbines has 7,000 guns delivered from January 20, 1864 through June 4, 1864, but is apparently superceded by a third carbine contract of May 24, 1864, for "all of the carbines you can produce to September 1, 1865." Actually the last delivery against this contract is 1,000 guns in January, 1866.

Some interesting correspondence concerning the contract for 34,500 carbines is in the Archives. A letter dated November 21, 1863, from General George D. Ramsay to Spencer Repeating Rifle Company requests "2,000 rounds of ammunition for your carbine caliber .44." In a letter from General Ramsay to Warren Fisher dated December 7, 1863, (seven days before the contract for 34,500 carbines), General Ramsay offers a contract for 34,500 carbines. It also specifies "The first 4,000 to be .52 caliber and the balance caliber .44." This sentence is not included in the executed contract of December 24, 1863.

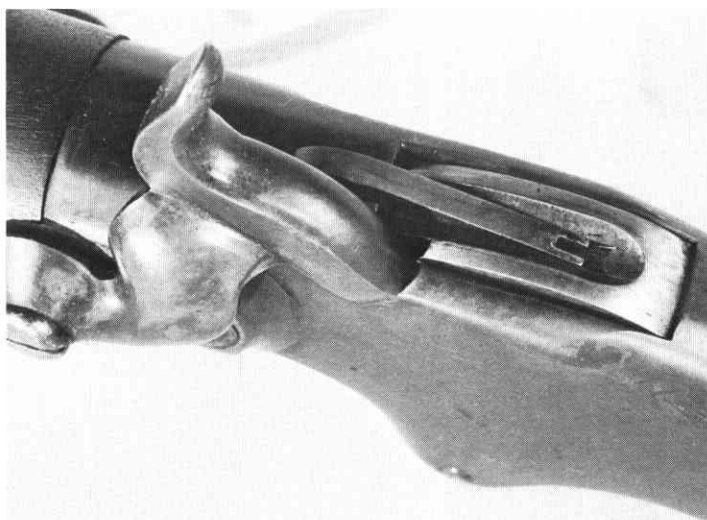
Although I find no record of any .44 caliber carbines being delivered, a letter of January 21, 1864, refers to experiments being carried on at Springfield by Major Dyer. The letter states that until the experiments are complete the Spencer Repeating Rifle Company should continue making .52 caliber carbines. None of the guns still at Springfield are in .44 caliber and the closest gun they have to this period is serial No. 19,319, which is a cut-away action with a large forked ejector guide and is .52 caliber. The earliest .44 caliber guns that I have recorded are No. 38,237 and 38,226, which are octagon barreled sporting rifles and must date to about October, 1864. Spencer's royalty account for September, 1864, through January, 1865, refers to the sale of seven sporting rifles and carbines, but the caliber is not specified.

Proof that the government then, as now, really had no idea what was going on is in a letter dated September 30, 1864 from General A. B. Dyer, Chief of Ordnance, to Warren Fisher, Treasurer of Spencer Repeating Rifle Company: "Sir — It is very desirable that the carbine furnished the Department by the several contractors should have a uniform caliber. Please, describe fully the carbine you are manufacturing under your contract of the 24th of May, 1864 with Ordnance Department. Give diameter of barrel, diameter of chamber, length of barrel, twist, depth and number of grooves, weight of carbine, etc. and state whether you can change the diameter of chamber to .52 and that of the barrel to .44." A similar letter is addressed to the Burnside Rifle Company asking about the Spencer carbines they were manufacturing. Aside from the typical government confusion of not even knowing what they are buying, here is the reference to .44 caliber and a chamber measurement that fairly well described the 56-46 cartridge.

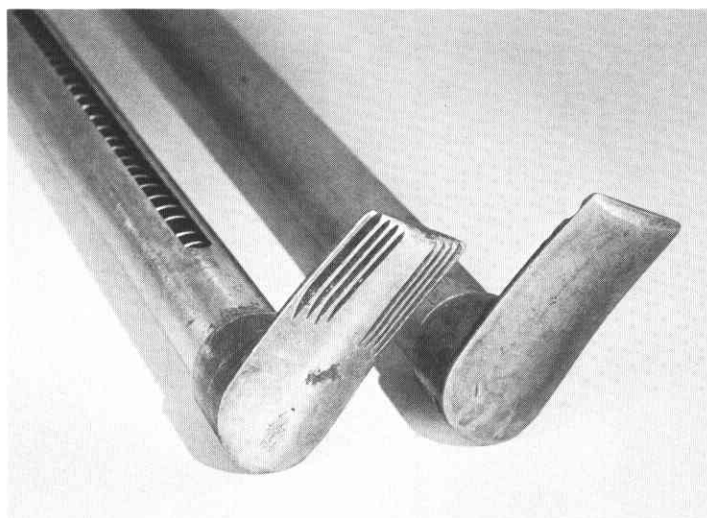
Lee surrendered on April 9, 1865, but under Spencer's contract carbines are delivered into September, 1865, with an additional 3,000 guns being purchased in December, 1865, and January, 1866. This ends the government purchases from the Spencer Repeating Rifle Company. In spite of all the correspondence concerning a .44 caliber



Square hammer nose and receiver top of first model.



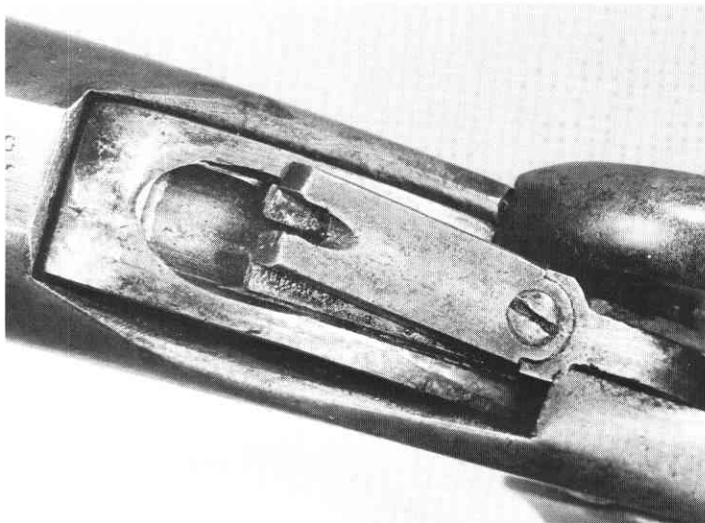
Rounded hammer nose and receiver top of reconditioned model.



Smooth (early) and grooved (late) magazine tubes.



In front of the trigger: the stabler cut-off.



On top of the breech block: Spencer's cut-off.



Tang sight on a sporting rifle.

cartridge, the caliber of the carbines is reduced from .56 (56-56) to .50 (56-50 cartridge) during the contract of May 24, 1864. The first delivery of the .50 caliber guns is April 3, 1864, and is of 327 carbines in a delivery of 1,007 guns, the balance being .52 caliber. Both calibers are delivered until May 2, 1865 when the last of the .52 caliber guns are completed. All of the .50 caliber carbines made by Spencer Repeating Rifle Company are marked "M. 1865" on the barrel just forward of the receiver.

Post-war sales must have been very disappointing. Production of military rifles, sporting rifles and carbines continued through late 1868. Serials indicate over 23,500 of the M. 1865's were produced with the government paying \$18,959 for them. Other post-war serials run from 90,000 to past 108,600 for guns marked either "M. 1865," or "N.M." Sporters have their own serial numbers from 1 to about 1,700. This makes a total of approximately 24,840 guns made after the Civil War not purchased by the U.S. Government. One source quotes *The Scientific American* of December 11, 1869 as offering for sale by Winchester Repeating Arms Company some 2,000 rifles, 30,000 carbines and 500 sporting rifles. This number greatly exceeds most estimates of production taken from serial numbers, so sales must have been very bad.

The exact order of the demise of the Spencer Repeating Rifle Company is not clear. Production probably ceased in the fall of 1868 due to lack of sales. The minutes of the stockholders meeting of Winchester Repeating Arms Company dated November 6, 1868, discuss the purchase of the stock of the Spencer Repeating Rifle Company. Oliver Winchester was empowered to purchase Spencer. The Corporate Record Book No. 55 on file in the Boston State House records the sale of all Spencer Repeating Rifle Company property to the Fogerty Rifle Company of Boston in December, 1868. On August 6, 1869, Winchester Repeating Arms Company authorized Oliver Winchester to purchase the assets of Fogerty, which he did. The Boston Post of September 29, 1869, records the auction of the machinery of the Spencer Repeating Rifle Company at the Chickering Building in Boston. It does not say who the owner of the machinery was, but that the sale totaled somewhere in the neighborhood of \$138,000.00. Winchester records show the sale of the assets of Fogerty (The Spencer Repeating Rifle Company machinery?) netted over \$127,000.00 in the fall of 1869. This total plus an auctioneer's commission would match nicely with the \$138,000 figure. Charles Cheney assigned the Spencer patents to Winchester, not Fogerty. Spencer also signed a supplemental agreement with Winchester August 22, 1870, where in he agrees to assign any future patents or improvements in repeating rifles to Winchester, but may retain patent in single shot rifles and single shot or repeating shotguns.

Several authors have suggested that the failure of the company was due to competition from government surplus sales. I really can not support this with facts. In the Ledger of Sales of Ordnance 1865-1871, the first sale of Spencer carbines is January, 1869, 200 carbines to E. F. Davidson at \$26.00 each (NOTE: cost was \$25.00 per gun). This is no

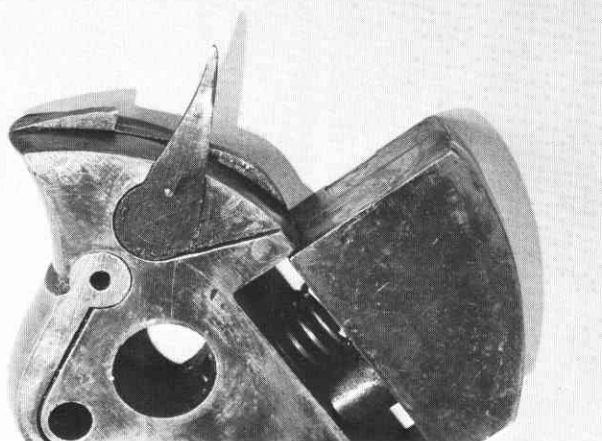
until after the company has ceased production and was not at a bargain price. The first large sale was to Remington in November, 1870, for 19,434 carbines at \$25.25. Again, a small profit. This is slightly different from today's government which is paying to cut up M-1 rifles which would reasonably sell for \$200.00 apiece. Other sizeable purchases, all dated October 11, 1870, were to O. F. Winchester, 5,000 carbines; Schuyler, Hartley and Graham 5,000 carbines; and W. S. Starr, 5,000 carbines. In all 35,238 carbines and 1,380 rifles were sold surplus from January 1, 1869, to June 6, 1871. To this total must be added 11,133 rifles and carbines retained by the troops at the end of the Civil War leagally under general orders No. 101, A.G.O. Circular 13, 1865. Only these last would have affected potential sales as would those guns simply "liberated" and taken home.

C. M. Spencer left the Cheney Brothers right after the Civil War and became associated with Silvester Roper in his Roper Repeating Rifle Company in 1866. Charles E. Billings is listed as President of Roper in 1868, but by 1869 The Billings and Spencer Company of Hartford, Connecticut, is formed and receive their charter in July, 1872. Their specialty is drop forging and they advertised over 2,000 different articles from gun parts to various other machinery parts. The 1883 catalog also lists the Billings Patent Breech Loading Single Barrel Shot Gun.

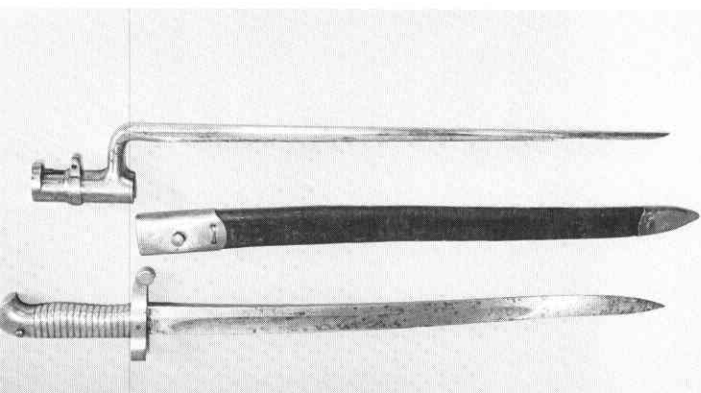
C. M. Spencer's most important invention came in 1874 when he developed the first automatic screw machine. The basic principle is still is use today for millions of screws and other small items adaptable to his automatic lathe. With this idea he founded the Hartford Machine Screw Company in 1876, but sold out in 1882 to go back into the firearms business. May 9, 1883, is the date of incorporation of the Spencer Arms Company founded to produce the first practical pump action shotgun. The company was not a success and was sold out to Francis Bannerman in 1888. Mr. Spencer returned to making improvements in automatic screw machines, building several automobiles and building the first steam yacht in the Hartford Yacht Club. He died January 14, 1922, ending a brilliant career as an American inventor. Like Edison and Bell, he left us tools that are as useful now as they were one hundred years ago.



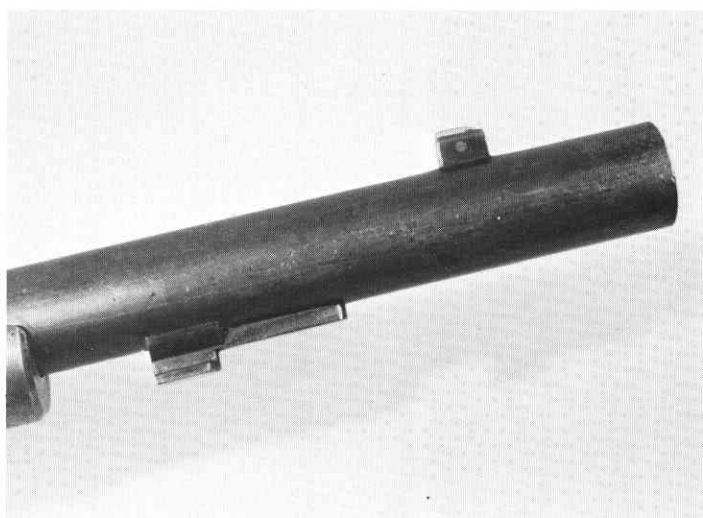
Right: Old model extractor. Left: New spring-assisted extractor.



Short knife extractor.



Navy and Army bayonets.



Saber bayonet stud on Navy rifle.