THE SPENCER RIFLE

This Civil War Wonder Weapon Revolutionized Warfare, and Retired Forever the Muzzleloader as a Military Arm

By Jeff John

Dateline July 3, 1863, Gettysburg, Pennsylvania

U.S. Brigadier General George Armstrong Custer and a brigade consisting of the 1st, 5th, 6th and 7th Michigan prepared to confront a superior Confederate cavalry force led by the legendary General J.E.B. Stuart as he tried to circle behind the Federal lines and attack Meade's rear in support of General George E. Pickett's planned charge into the Union center. The 5th Michigan Cavalry, armed with Spencer rifles, pistols and sabers, dismounted and took up skirmish positions on the Rummel Farm 3½ miles east of Gettysburg. The 5th held their fire until the Confederates were within 100 yards. Stuart's men were surprised by the heavy volume of fire the Spencer rifles delivered and believed they were facing a far greater force. New to fire discipline, the 5th quickly expended their ammunition, likely exacerbated by little understanding from high command of how many rounds each soldier might need, but they nonetheless sent the Confederates into disarray.

The impetuous Custer and the 7th Michigan drew their sabers and mounted a furious cavalry charge head on into Stuart's cavalry in what was termed the greatest cavalry engagement in the Western hemisphere. Custer broke the Confederate maneuver and another charge by the 1st Cavalry cannoned into the Confederates and Stuart was turned back. Without support for the frontal assault, Pickett's charge failed with a tremendous loss of life as well as the battle for Gettysburg.

Soft-spoken Christopher Miner Spencer revolutionized warfare forever with his repeating rifle and carbine. The seven-shot Spencer firing the stubby No. 56 rimfire cartridge launched a one-ounce ball over 42 grains of black powder and it had sufficient power to compete with the muzzleloading musket on an open battlefield (something the .44 Henry's 200-grain bullet over 28 grains of powder couldn't do). The Spencer rifle delivered seven fast shots, could be loaded and fired prone reducing the men's exposure to return fire and artillery. Unlike the Henry with its large, open, slotted magazine running under the barrel and open top action allowing debris into the works, the Spencer's magazine was enclosed and protected from mud and debris. The action's enclosed breechblock was less susceptible to dust and dirt, too. The Henry had an all-metal barrel which was hard on fingers as it heated, while the Spencer had a wooden fore-end to protect the shooter's fingers during a prolonged action. Best of all, the rimfire round was waterproof and didn't fall apart in the cartridge box during movement as routinely happened with paper cartridges. Post war, the Spencer set off a new and wonderful aspect of American arms making art (see nearby sidebar) that continues to this day.

The Wonder Weapon of the Civil War was the Spencer rifle and carbine. Sturdy and dependable, they delivered firepower unheard of before the war. The 5th Michigan at Gettysburg were armed with M1860 Spencer rifles, a saber and the M1860 Colt revolver. The 5th soon expended their rifle ammunition, but not before convincing the Rebs they were up against more than they bargained for!

The Spencer carbine was made in greater quantities than the rifle, but the rifle was the first model issued and served with many cavalry units. Cavalry in the United States Army more often skirmished on foot with a firearm rather than in a saber charge, so the rifle was more blessing than handicap.

Dateline June 24, 1863, Hoover's Gap, Tennessee

Proof of the efficacy of the Spencer occurred when Colonel John T. Wilder's Lightning Brigade received 1,400 Spencer rifles with each man issued 80 rounds. So armed, the 17th and 72nd Indiana Mounted Infantry along with the 92nd, 98th and 123rd Illinois Mounted Infantry pushed a small contingent of Confederate cavalry out of Hoover's Gap near Murfreesboro, Tennessee. A swift counterattack by C.S. General William Bate ensued. Wilder was outnumbered five to one, yet the Spencer-armed Federals repulsed Bate's Confederate infantry who took more than 500 casualties to Wilder's loss of 47 men.

Later that November Wilder wrote to the Spencer Repeating Rifle Co.; "…My Brigade of Mounted Infantry have repeatedly routed and driven largely superior forces of rebels, in some instances five or six times our number and the result is mainly due to our being armed with the Spencer Repeating Rifle…

"My experience is that no line of men, who come within 50 yards of another force armed with the Spencer Repeating Rifle, can either get away alive, or reach them with a charge, as in either case they are certain to be destroyed by the terrible fire poured into their ranks by cool men so armed…

"I believe that the ammunition is the cheapest kind for the service, as it does not wear out in the cartridge boxes and has the quality of being water-proof—the men of my command carry 100 rounds of ammunition in their saddle bags, and in two instances went into a fight immediately after swimming their horses across streams 12 feet deep and it is very rare that a single cartridge fails to fire."

While the Spencer was most efficacious within 100 yards, it proved capable much farther out. Despite its rainbow trajectory, the Spencer's one-ounce ball still caused plenty of grief even after wheezing to its destination. Capt. G.M. Barber, writing from the headquarters of the 1st Battalion Ohio Volunteer Sharpshooters relates his men's use of the Spencer in 1863 in Chattanooga, Tenn., "…About six miles below Chattanooga the main road, over which supplies for the whole army must be drawn, lays along the banks of the Tennessee river, the south bank of which was held by the enemy, and their Sharpshooters played havoc with our teams and drivers… The river is 500 yards wide and I was ordered to protect the road… we found by actual trial that our guns had longer range and greater accuracy. We seldom missed at 700 yards. I had 125 men with me, and for two weeks kept 600 reb's at bay, and, as I afterwards learned, killed and wounded over thirty, with a loss of one man wounded."

The rifle stock is braced up with a machine screw going through from left-to-right into the tail of the lock. The Chiappa upper breechblock is numbered to the receiver. Pulling down the lever brings the upper breechblock down out of its locked position against a large spring allowing it to rotate down to eject and reload.

The Taylor's & Co. Spencer Rifle

The Civil War Spencer is imported in both rifle and carbine versions by Taylor's & Co. and called the Model 1860. While most might select the carbine, since it was the most issued of the arms, the rifle was made first and used by the cavalry, infantry and Navy. Made by Chiappa in Italy, these reproductions share attributes with several models including the post-Civil War M1865 caliber of 56-50, the flat-nose hammer of the M1860, the sight ladder from the M1865 and the M1868 extraction mechanism. The post-war rifle's magazine cutoff allowing single loading with the

The Chiappa reproduction is made as a true rifle without a sling bar on the left side. Springfield Armory converted many carbines into rifles with the sling ring and bar removed but leaving the sling plate inlet into the wood. A true rifle only has an escutcheon for the rear lockplate screw. The U.S. musket sling by Jarnigan is made from high quality leather and is one-hand adjustable. It is quiet and easy to use.

seven shots kept in reserve is not present. All these little things make the rifle a hybrid.

While I would have preferred testing a Spencer in the post-Civil War 56-50, lack of loaded ammo, tools and components curbed my enthusiasm, but I do have a big box of .45 Colt brass, plenty of bullets and sufficient primers. The Spencer is also available in .44-40 as well as 56-50.

Overall, Taylor's Spencer rifle is beautifully fit and finished with a richly blued barrel, beautiful case coloring and glossy finished walnut stock. The stout construction follows the original and is very well done considering the complicated inletting requiring the buttstock, lock, magazine tube and buttplate to come together perfectly around the fixed length of the magazine tube. Inletting of wood to metal is precise and close in the buttstock. The stock slides over the magazine tube and a nut locks the two together at the rear. Underneath, the long lower tang is held by one machine screw into the receiver ahead of the trigger, and two wood screws behind. On the left side of the receiver, a long machine screw goes through the wood under the magazine tube and engages the tail of the lock plate, which in turn has a machine screw securing the front of the lock in a machined recess in the receiver.

A military rifle, the fore-end is full length ending 3¼ inches from the muzzle and held by one screw at the back and three bands. The bands are held in place by band springs underneath rather than on the side. The fore-end wood is considerably proud of the receiver metal unlike the stock. Due to the barrels's taper, the forward two-barrel bands have a gap between the barrel and the top of the bands. The rear band fits the best. Good news is the forward bands fit the fore-end wood well and the fore-end fit is solid. Originally this model would have gotten a socket bayonet when issued to the infantry, but one isn't reproduced presently.

The barrel is well polished and richly blued along with the upper breechblock. The receiver and upper breechblock are numbered together. The receiver, hammer, lever, lower breechblock, buttplate and barrel bands are beautifully case colored. The stock and fore-end are given a high-gloss synthetic finish.

At 10-pounds, nine ounces, the rifle, with a long 30-inch barrel, is about the average weight and length for the era's infantry arms. The rifle carries better in the hand than the carbine having a balance point just ahead of the receiver. The rifle has sling swivels, and a reproduction musket sling from Jarnigan's fits nicely and carries comfortably butt up or muzzle up. Taylor's also offers a sling of similar design. Not so well thought out originally is that the sling gets in the way

The fore-end is held by three bands and one screw near the receiver. All three bands are held by band springs on the underside.

The Spencer was a very sturdy rifle all around. The lower tang had a screw into the receiver and two large wood screws behind the trigger.

RECREATING THE HAWKEN/GEMMER SPENCER

Chiappa began making Spencer Carbines in .56-50 around the turn of the century. I acquired one from Cimarron and began thinking of a Hawken Spencer. A discussion with John King led to this project. Unable to get a .50-caliber barrel with the correct bore and twist lead to a Green Mountain tapered octagon barrel in .45. This led to Pacific Tool & Gauge and RCBS for discussions about reamers and a set of dies to neck down the Starline 56-50 case to .45 caliber, thus modernizing the 56-46 into be a centerfire round capable of using the wide range of .45 pistol bullets. RCBS even labeled the dies "Spencerini 56-46" in honor of the quirky nickname King and I gave the project. The gun came in at 11 pounds, 6 ounces. Heavy, but it balances very well between the hands with the tapered 28-inch octagon barrel. Most of the original gunsmith conversions had straight-tapered barrels, which contributed to the extra heavy weight of the overall gun, as well as poor, ungainly balance.

Funny thing is the gun ran well right off the bat, and I thought gleefully of a pig hunt, but then it began to slowly jam until it wouldn't feed at all. I was basing my loads on an original 56-46 round modified a bit by my old load notes for the original that ran so well. But this was weird, because the gun originally ran just fine and then just stopped working as well. It looked like I was going to have to work on the cam until the gun ran. But which direction? And for which cartridge length?

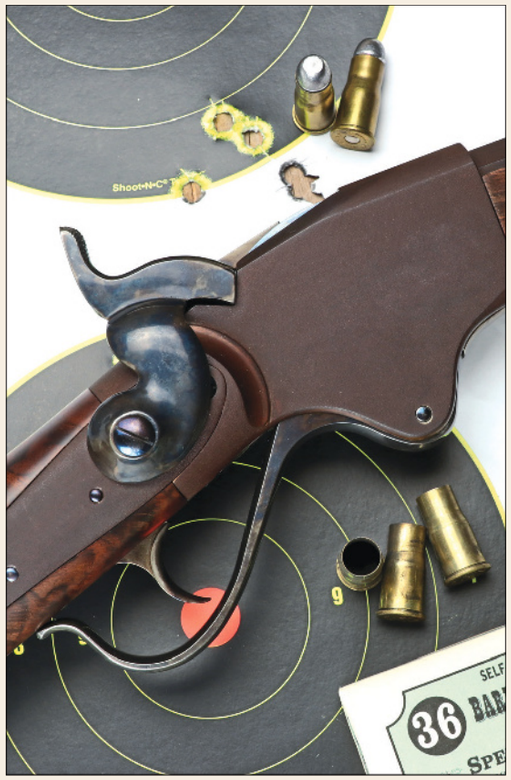
When this new Taylor's & Co. Spencer arrived, the owner's manual listed a set of strict Cartridge Overall Lengths for the calibers chambered. My 56-46 cartridges were loaded too long for the 56-50 cam. Since the gun was originally set for 56-50 ammunition, I seated some cast bullet dummies to the *exact* OAL recommended by Chiappa. Worked briskly, it fed. Bingo! Their OAL recommendations resolved a long itch concerning how this custom gun worked.

From the bench at the range, the rifle face planted. It worked fine as long as I was standing. I finally got it to run from the bench after shooting half a box, but there is much more to the Spencer feeding cycle than meets the eye, and I suspect it will take more experimentation to arrive at a set of OAL/bullet profiles to meet my reliability expectations. Originally, these guns were designed to work with one load. That's something of a curse and blessing to handloaders today.

Starline points out their 56-50 won't work in original Spencer chambers due the reduced rim thickness, so it cannot be used for original 56-46 Spencers either. The design of the reproduction 56-46 revolves around simplicity. Just resizing Starline 56-50 in the dies creates the little bottleneck case without any trimming or inside neck reaming. Use of a .452-inch barrel with a 1:20-inch twist opens the cartridge up to a wide variety of modern bullets.

Thinking back, most of the original shooting was done offhand while I was learning how it ran. Running the rifle off the bench where working the action with authority is difficult due to the impediments of a rifle rest and other gear was the likely one problem.

While I believe the Spencer was the very first Sporterized Military Rifle, it certainly wasn't the last! It wasn't long before other storied gunmakers began customizing the then-current factory rifles to improve their performance afield. Carlos Gove of Denver, Colo. added underlevers to Remington Rolling Block rifles to cam home reloaded cartridges. The Freund Brothers of Cheyenne, Wyo. improved Sharps and Ballard rifles with new breech mechanisms and better sights. Slotterbeck of Los Angeles, Calif. remodeled Sharps and other rifles into flashy sporting rifles. The custom gun industry is still going strong, if in a different direction and manner.



The Green Mountain barrel shoots exceptionally well with a wide range of bullets. This 1½-inch group was made with the plinking load consisting of Trail Boss under a 250-grain hardcast bullet.

The Italian reproductions offer solid bones for a custom rifle and a greater margin of safety due to the modern steels. They give today's shooter a way to recreate some of these storied rifles a lot less expensively than possible if an original Old West rifle had to be the basis. FN

56-46 SPENCER HANDLOADED AMMO PERFORMANCE

Bullet (brand, bullet weight, type)	Powder (brand)	Charge (grains weight)	Velocity (fps)	Group Size (inches)
Speer 300 Plated FN	RL7	24.5	1,264	2½
Speer 300 Plated FN	Blue Dot*	12.5	1,090	2¾
Cast 250	Trail Boss	9.5	1,163	1½**

Notes: Groups the product of five shots at 100 yards. Chronograph screens set at 10 feet from muzzle. CCI 200 primers used. *Denotes CCI 300 primers. **Accuracy at 50 yards. All loads in reformed Starline 56-50 brass.

CUSTOM HAWKEN SPENCER

Maker:	Chiappa Arms
Action Type:	Lever Action
Caliber:	56-46
Capacity:	7+1
Barrel Length:	28 inches
Overall Length:	45½ inches
Weight:	11 pounds, 6 ounces
Finish:	Brown
Sights:	Buckhorn rear, Rocky Mountain front
Stock:	Walnut, oil finished
Value:	$4,000

Rotate the magazine tube lever 45 degrees to the right and withdraw it entirely.

Insert seven cartridges into the butt, and replace the tube rotating up until it latches. If you handload, ensure there are no high primers!

of the lever if it isn't left with plenty of slack because the swivels are at the six o'clock position rather than at the more sensible nine o'clock position used on the Henry rifle. The sling is one-hand adjustable and quiet and sure in use.

Built by Chiappa of Italy, these Spencers share the quirks of the original yet offer some improvements. Remember this was nascent technology! While it was a workhorse in the Civil War, the Spencer features many operational detractions. Safe muzzle management is critical because you are depressing the muzzle to load, and elevating the muzzle high if you unload without shooting, and you must ensure a cartridge isn't left on the block, since you can't see inside very well. Put the hammer on half cock before the chambering cycle. Although the firing pin is an inertial type with a spring to retract it, I'm a little superstitious about leaving the hammer down with live rounds going into the chamber and the firing pin striker plate banging on the hammer nose as the action closes.

How It Works

The Spencer is a seven-shot lever action rifle with a two-piece tubular magazine in the butt. The Chiappa magazine tubes are universal (a 56-50 drops right in the .45 Colt tube), simplifying manufacture. It doesn't impede reliability when the gun is run properly, which we will get to soon. The inner tube has a lever held in two spots. A tab at the base of the buttplate entry port engages a slot in the tube to keep it in the gun and a spring-powered ball detent keeps it vertical up top. Swing the tube 45-degrees to the right and withdraw it from the butt. Drop in seven cartridges making sure they go in nose first, and reinsert the inner tube wiggling it over the rounds as necessary. Turn the lever back upright.

The Achilles heel of the Spencer is having to separate a critical part—the inner magazine tube—to reload. Losing the tube meant you now had a very complicated single shot. It wasn't hard to do with Johnny Reb's cannon shells bursting around you and volleys of .58 Minié balls whizzing past your head. An early accessory was the "Blakeslee Box" holding six or 10 tubes with seven cartridges in each. Other inventors offered similar systems, and all were much speedier. If you're out plinking, it isn't too hard to put the mag tube between the first two fingers of your left hand while also holding the rifle slightly down to load with your right.

To shoot, first half cock the hammer. Briskly pull down the trigger guard/lever to open the action. The

The spring-loaded extractor at the six o'clock position on the lower breechblock pulls the case out of the chamber and up the "cartridge keeper lever" which also keeps the next round on the upper breechblock ready to feed. If the action is opened briskly, the cartridge will eject. Otherwise, it may stay on the keeper lever, but will usually be tossed free as the keeper lever pops up as the next round feeds.

Closing the action sends the next round into the chamber. Sloppiness here will cause the gun to jam. Operating the lever *briskly* back and forth is the key to reliability. Force, as in foot-pounds of energy, isn't necessary or wise. You have to surprise the gun into working. Any hesitation gives it too much time to think about jamming.

THE BIRTH OF THE SPORTERIZED MILITARY RIFLE: THE SPENCER LED THE WAY!

Prior the arrival of the Spencer rifle and carbine to the post-Civil War surplus market, there was no sporterizing of military arms beyond simple barrel shortening to remove a bayonet lug or make a gun handier. Some rifled muskets were reamed smoothbore as shotguns, but that was about the extent of it. None of the myriad other arms supplied to the U.S. Army were of much interest to civilians since almost all had quirky actions firing unique cartridges not very suitable for much of anything a civilian might encounter. Few were repeaters.

The Spencer, however, finished the war with long, dramatic, press accounts of its prowess in battle and the carbine was issued in greater quantities than any other carbine. The public had no way to measure cartridge power except by observation, and the 1866 Spencer catalog—which could have been about three pages—featured an appendix with 25 pages of thrilling testimonials from officers commanding Spencer-armed units along with newspaper accounts of many other actions. The Federal Army bought some 45,000 carbines and more than 11,000 rifles from Spencer. Burnside made an additional 30,000 Spencer Carbines near war's end after converting over from making their signature carbine. The odd Burnside percussion-cap fired carbine with its quirky rotating block, and peculiar cartridge was the 3rd most purchased cavalry arm but didn't survive. The Burnside company failed in late 1865.

Thus, the Spencer rifles and carbines were uniquely positioned to live even after the company failed in 1868 because it really was a good, accurate, durable and thoroughly dependable rifle. There were a lot of them, too. As the Trapdoor rifle and carbine began arriving in quantities, the Army began selling Spencers as surplus in 1870, but still were modifying some for frontier use. Springfield Armory converted about 1,000 Burnside-made Spencer carbines into rifles as late as 1871.

As soon as these surplus Spencers became available, American gunsmiths began converting them into heavy-barrel sporting rifles, some weighing up to 14 pounds or more. These sporting rifles could range from simple rebarreling using modified original fore-end wood to ones featuring entirely new front ends with pewter caps and wiping rods underneath. In stock trim, the Spencer protected homesteads and put meat on the table, and those having a heavy sporter did so with panache.

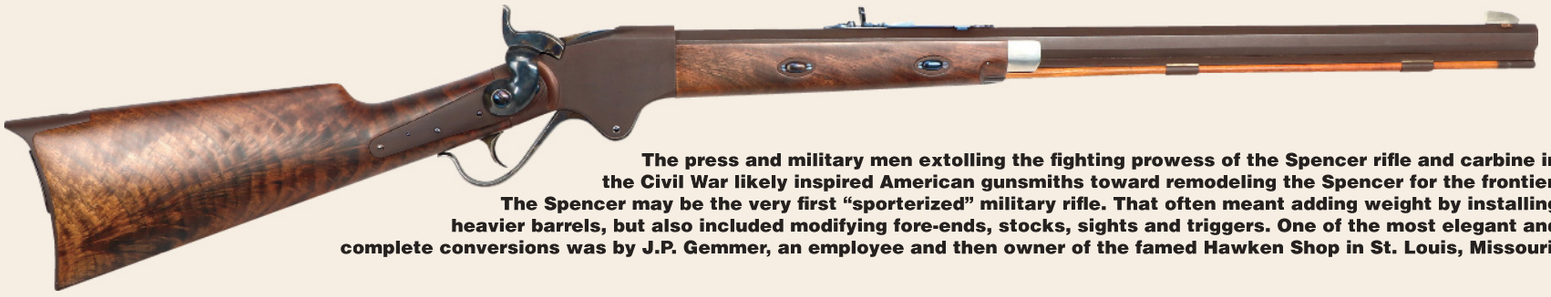
Some gunsmiths added a percussion shotgun barrel beneath the rifle barrel with some kind of tilting firing mechanism added externally that could be folded down for the hammer to strike. Most Spencer conversions were chambered in the later .50, .52 and .46 cartridges but all four cartridges were listed as late as the 1899 Winchester Catalog. Spencer ammunition disappears after WW I along with many other obsolete rounds.

Coming out of the mountains with a load of pelts into St. Louis, Missouri, in the early 1870s might have led an intrepid mountain man to rearm with the Civil War wonder weapon—a repeating cartridge arm. J.P. Gemmer, now proprietor of the Hawken Shop began offering Spencers fully remodeled into one resembling the famed Hawken muzzleloader. Jeremiah "Liver Eating" Johnson was one such customer. Our mountain man may have added a Colt 1871 cartridge revolver, too. Instead of having only a single-shot muzzleloading rifle, then going to a knife or tomahawk in a fight, he now had 13 rounds at the ready. Knife by ML Knives.

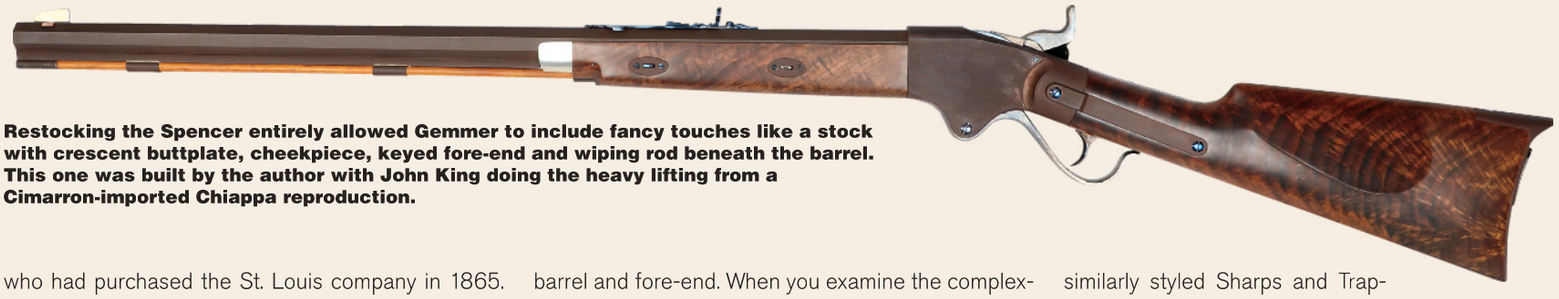
To unload a Spencer, pull out the mag tube and pour out the cartridges from the tube. You may have to work the lever to get the cartridge off the block. Work the action a couple of times to ensure there is no cartridge left on the breechblock or in the chamber.

One of the most elegant and complete conversions was known as the "Hawken Spencer." Famed frontiersman Jeremiah "Liver Eating" Johnson had an 11-pound Spencer conversion with a Hawken marked barrel. The man responsible for these conversions was J.P. Gemmer, an employee of the Hawken Shop,

THE BIRTH OF THE SPORTERIZED MILITARY RIFLE: THE SPENCER LED THE WAY!



The press and military men extolling the fighting prowess of the Spencer rifle and carbine in the Civil War likely inspired American gunsmiths toward remodeling the Spencer for the frontier. The Spencer may be the very first "sporterized" military rifle. That often meant adding weight by installing heavier barrels, but also included modifying fore-ends, stocks, sights and triggers. One of the most elegant and complete conversions was by J.P. Gemmer, an employee and then owner of the famed Hawken Shop in St. Louis, Missouri.



Restocking the Spencer entirely allowed Gemmer to include fancy touches like a stock with crescent buttplate, cheekpiece, keyed fore-end and wiping rod beneath the barrel. This one was built by the author with John King doing the heavy lifting from a Cimarron-imported Chiappa reproduction.

who had purchased the St. Louis company in 1865. He began offering entirely rebuilt Spencers modeled after the famous Hawken rifle with new buttstock featuring a cheekpiece, crescent buttplate, octagon barrel and fore-end. When you examine the complexity of a Spencer's construction, this is a worthy feat! As the muzzleloading business and efficacy of the little Spencer rimfire faded, Gemmer began offering similarly styled Sharps and Trapdoor single shots patterned on the iconic singular-looking Hawken muzzleloader chambered in more substantial calibers. FN

lever is pinned to a rod that pulls the breechblock down against a large spring until it clears the receiver locking mortise, thus compressing it onto the lower block, and both then rotate backwards. A round moves from the magazine tube onto this compressed breechblock pair now almost 90 degrees from the locked position. Briskly sweep up the lever which rotates the breechblock pair moving the cartridge towards the chamber. The large, compressed spring raises the upper block into its locking position in the receiver. Full cock the hammer and squeeze the trigger. Half cock the hammer.

Upon opening the lever again, the spent round runs up the spring-powered "cartridge keeper lever" pivoting on a screw through the receiver. Behind and underneath the keeper lever is a spring to provide downward tension to help keep the next round on the feedway and help guide it into the chamber. Upon closing the action, the lever flips the spent case free if opening the breechblock smartly hasn't already done so. It helps ejection if the muzzle is pointed up slightly.

Working the action smoothly and briskly is the key to consistent reliability. Any lethargy in opening the action might not move the spent case far enough out

It's hard to tell that the gun is firing, but there is the barest puff of smoke from a Blackhorn 209 load at the end of the 30-inch barrel. It delivered the highest recoil rated at about a 0.25 on a scale from 1-to-10 with "10" being something that knocks you back a few steps and maybe horizontal.

THE END OF THE LINE — ARMS AND AMMUNITION DEVELOPMENTS OUTRUN THE SPENCER

In December of 1864, Brigadier General A. B. Dyer, Chief of Ordnance, formed a board to examine the wide variety of rifles and carbines serving in the War along with their cartridges. The board convened in January 1865 to test 65 models of breechloading rifles and carbines in order to replace all the muzzle-loaders and choose the best cartridge for the service. At the end of April 1865 the board, headed by Major T. S. S. Laidley, Commander of Springfield Armory, concluded, "*Having examined and tested all the arms submitted for consideration, the Board recommends for adoption, the Peabody [a single-shot that would soon evolve into the British Martini-Henry]. Furthermore, the Board is of the opinion that the Spencer's magazine carbine combines more advantages than any arm of this description presented.*"

But that wasn't the end of it. Another board headed by Major General W. S. Hancock convened in January 1866 to resolve the still differing opinions of the Laidley Board about a new rifle and carbine. The Army's Hancock Board of 1866 concluded that a .45-inch bore using a bullet of 480 to 500 grains over 70 grains of powder was best. For the rifle, the Board recommended the conversion submitted by General Hiram Berdan. Fifth was the Allin conversion designed to use as many of the musket parts on hand as possible. It was soon to become the Trapdoor Springfield. The Hancock Board also recommended retaining the Spencer for use by the cavalry.

Ammunition experiments at Springfield Armory occurred during and after the war to improve the Spencer cartridge. The Spencer's ball diameter was reduced from .56 to .52 (56-52), then .50 (56-50). The cartridge showing the most promise by shooting flatter and with good penetration was considered a "smallbore" as the 56-46 featuring a 46-caliber 300-grain bullet over 45 grains of powder in perhaps the first bottleneck case. The case head in all these experiments remained the original rimfire one of the No. 56 cartridge.

General Dyer weighed in and concluded the .45 cartridge using 70 grains of powder was too long and the bullet too small in diameter for a service round and that a .5-inch bore was the minimum diameter over the same charge. The Spencer Carbine remained the favorite for cavalry use and the 56-50 became standard in the early days of the Indian Wars. The military tried to buy the rights to build the Spencer, but the company didn't want to sell, hoping for further contracts. With the vast stocks of arms on hand, it was found refurbishment of existing arms and conversion of existing muskets into cartridge arms by Springfield Armory would be the best use of the minimal funds provided by Congress to rearm.

The Army ordered some changes in the post war era most notably the inclusion of a magazine cut off and caliber change. The Army purchased some 12,000 post-war versions of the Spencer. Springfield

[Cont. to page 66]

While all the calibers offered in the Spencer Rifle (center) were perfectly adequate for self defense, all were marginal for even medium game like deer. Civilians graduated to single-shot rifles in major calibers like the big Sharps side hammer for big game and long-range target shooting (top), while the skimpy post-war military budget left the Army having to use up the many leftover parts from the old muskets in their new .50-70 Trapdoor rifles and carbines (bottom).

The Spencer underwent many improvements at Springfield Armory during the Civil War. The mainstay was the 56-56 (left). The 56-52 was an also ran likely developed by ammo maker Crittenden & Tibbals (near left), a company that also failed right after the war. Springfield Armory's two contributions were the 56-50 (third from left) and the 56-46 (fourth from left). The 56-46—perhaps the first bottleneck cartridge—should have been the clear winner due to its flatter trajectory, but General Dyer settled on the 1/2-inch bore as a minimum for the Army leading it to adopt the .50-70 (near right), and the 56-50 for Indian War Spencers. The Spencer action couldn't accommodate longer cartridges, and the army was convinced a centerfire round was the future. These were all final nails in the Spencer's service. For long-range target shooting and big-game hunting, civilians wanted far more power than the little rimfire offered and the first really successful post-war cartridge—the .44-77 (right) based on Hiram Berdan's experiments—featured a drawn brass case, the Berdan centerfire primer, and a paper jacketed bullet. Almost all of the world' militaries agreed and adopted a similar cartridge within those parameters. In the big Sharps and Remington rifles, the .44-77 round won the first Creedmore Match against the Irish Team firing muzzle-loaders and began the destruction of the buffalo herds.

The rear sight has a very small notch typical of the era and graduated to 900 yards. One oddity is that the slide needs to be kept forward due to the leaf's generous spring. If the slide is moved back to the 200-yard mark, it raises the leaf just high enough to block the sight picture.

The front sight is usual picayune post on a square base of the era. The Chiappa barrel is expertly polished and richly blued.

A variety of .45 Colt factory rounds showed promise but wouldn't feed in the Chiappa Spencer. The 250-grain Winchester Cowboy load (left) is too short and the 225-grain Hornady Flex Tip LeverRevolution too long (near left). Hornady's Critical Defense with 185-grain bullet (near right) is loaded just 0.010-inch too short to feed. That's too bad since it looks like it could be loaded to an overall length of 1.600-inch opening up interesting uses for the Spencer outside of reenacting, but factory loads can only be fired singly. The repeating rifle test was performed with a variety of the same 250-grain lead bullet (right) seated to the 1.600-inch OAL under Unique, Trail Boss and Blackhorn 209. All fed reliably *if* the action was run with authority.

Blackhorn 209 is a fun powder in old timey guns, but in the .45 Colt, case obturation wasn't high enough to prevent blowby. Be sure and wear good shooting glasses! The cartridge case was excessively soiled, and extraction became difficult after just a few rounds. Shooting light smokeless loads or Blackhorn 209 makes a good case for going with the .44-40 rather than the .45 Colt, since the .44 necks are thin and easily seal the chamber even at modest pressures.

of the chamber to be tossed free, while any hesitation during the chambering part of cycle can end in a jam. Best to surprise the rifle into working properly. Don't give it any time to question your intentions. Empties fly out, as do loaded cartridges if the lever is worked briskly. A sure, steady rhythm helps, and foot-pounds of force aren't necessary, only speed of manipulation. If you're trying to speed the engagement of targets, you might think of full cocking the hammer before cycling the action, but be aware you might fire the gun on closing if any part of your hand hits the trigger. The trigger pull-weight averages six pounds, and it breaks so crisply it feels lighter than it is.

To unload, half-cock the hammer, pull the lever open and pluck the unfired cartridge off the keeper lever. Pull the mag tube and let the unfired cartridges roll out the back. Be aware one round may still be on the breechblock. Pushing the lever fully open with the muzzle up will send this round down the mag tube. Work the action a couple of times to ensure the carrier/chamber is clear.

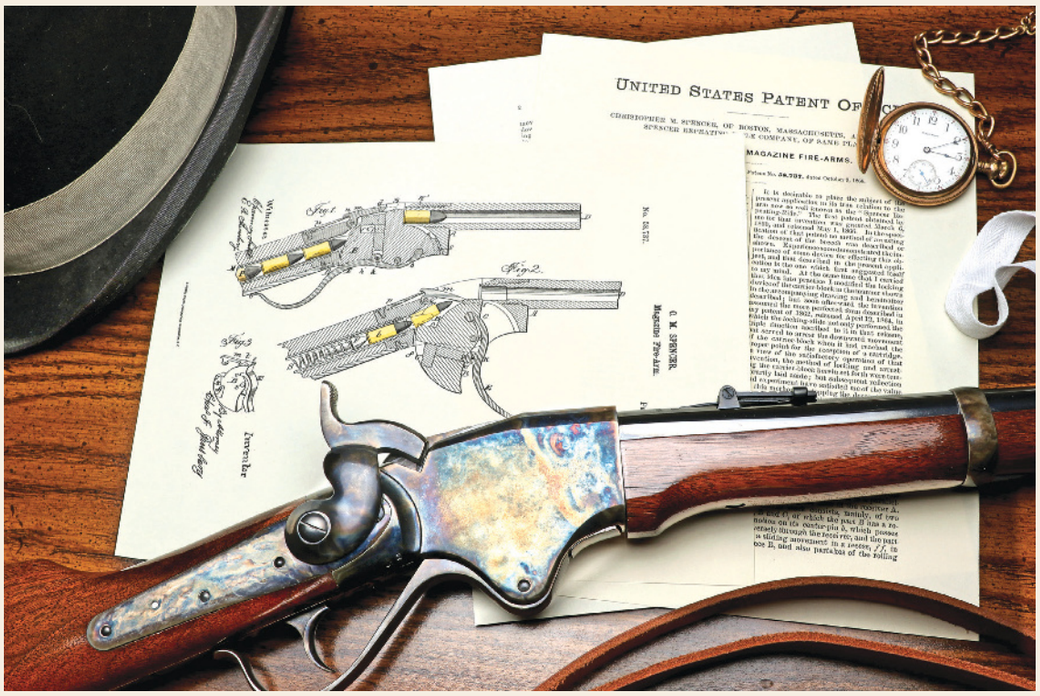
Civil War-era Spencers had a blade-type extractor on the three o'clock side. For these centerfire versions, the Italian engineers have chosen the later extractor first appearing in 1868. It is a spring-loaded shark-fin-shaped extractor on the lower breechblock at the six o'clock position. This gives the rifle more barrel wall thickness than the originals for a greater margin of safety with smokeless powder. These are fun guns, and I consider its extra strength and better steel as insurance rather than an invitation to experiment.

Sights are the usual picayune type of the era with a shallow V-notch rear matched up with a square-post front. The rear has a ladder marked with gradually increasing increments out to an optimistic "9" at the very top. Because of the external sight spring, if the ladder's slider is run in to the lowest increment, it raises the ladder off the barrel high enough to foul the already minuscule rear notch. Run forward, the ladder/slider allows use of the rear sight notch.

Cowboy Action Shooting has proved a blessing and a curse to enthusiasts of Old West arms by putting one cartridge—the .45 Colt—into every type of arm including ones for which it was never originally considered. The beauty is that a wider variety of arms have been recreated if the .45 Colt is the main event. Simple fact is, the round was a revolver round with a tiny rim and straight-wall case that doesn't seal the chambers of lever actions well, although arms designers have managed to get it to extract well. Only Colt originally chambered the .45 Colt in any quantity in their Single Action Army and 1878 double action back then, although Remington chambered a few 1875 revolvers as did Webley in their big No. 5 Express. But all of today's replica rifles and handguns are chambered in the big .45, and it is the strongest seller by far however much teeth gnashing it causes a certain firearm correspondent. Part of the charm for me is experiencing the shooting capabilities of the sometimes-odd ammunition of the era.

Originally, the Spencer was designed around one cartridge with a standard overall length. Today's .45

(*CONTINUED*) THE END OF THE LINE — ARMS AND AMMUNITION DEVELOPMENTS OUTRUN THE SPENCER



The Spencer was originally patented in 1860, but Christopher M. Spencer continually worked on improvements. One of his final patents was issued on Oct. 9, 1866—just two years before the company failed.

something that may have helped keep the Spencer relevant in the new cartridge age.

Domestically, the Spencer's short, stubby rimfire cartridge lacked the power needed on the frontier for all but short-range hunting and self-defense. Rimfire ammunition couldn't be reloaded and thus were far more expensive than centerfire rounds. Meanwhile, the wide range of percussion-cap-fired or rimfire single-shot actions born during the Civil War in the Sharps, Ballard, Remington and Maynard easily adapted to the new, wide range of cartridges ranging from small game and pest rounds to the big, powerful cartridges capable in the new game of long-range target shooting at 1,000 yards, and equally capable of taking any game animal in the world. Single shots could keep up a sustained rate of fire, although not as fast as a repeater. But all early repeaters were far less powerful and slow to reload, so the single-shot

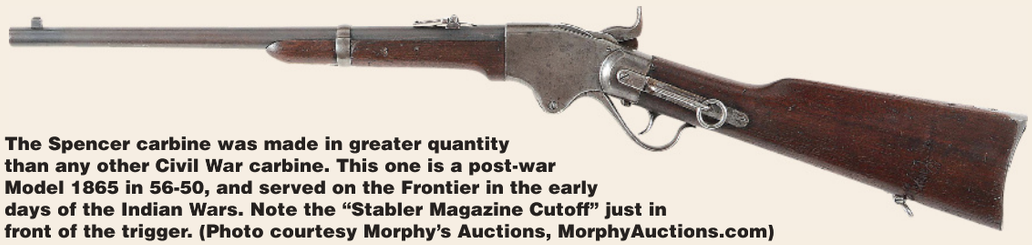
Spencer offered an elegant post-war sporting rifle, but it wasn't enough to save them. This rare Spencer Sporting Rifle in 56-46 RF sold at Morphy's for $4,095 back in 2020. (Photo courtesy Morphy's Auctions, MorphyAuctions.com)

This Burnside-made Spencer was one of about 1,000 carbines converted into a two-band rifle at Springfield Armory in 1871. (Photo courtesy Morphy's Auctions, MorphyAuctions.com)

[Cont. from page 64]

Armory refurbished and rebarreled quite a few carbines in 56-50 for service in the early days of the Indian Wars. Some 1,000 Spencer carbines were converted to rifles at Springfield Armory. The percussion Sharps was also modified for cartridges, and both saw extensive use on the frontier while work on what would become the Trapdoor played out. The military also specified centerfire cartridges instead of rimfire for all future arms. While the rest of the world chose the "smallbore calibers" of .42, .43, .44 and .45, the U.S. finally joined the club in 1873 with the .45-70.

The Spencer Company promoted a handsome post-war sporting rifle in the flatter shooting bottleneck 56-46, but it wasn't enough to keep them alive. Post-war commercial orders weren't enough, and military orders minimal. While no one reason led to the company's dissolution, the Spencer Repeating Arms Company failed suddenly and was liquidated to the Fogarty Repeating Rifle Co. in December 1868. Fogerty kept up parts production for the Army for a short time, but the military began selling off the Spencers as surplus in 1870 as the quantities of Trapdoors grew.



The Spencer carbine was made in greater quantity than any other Civil War carbine. This one is a post-war Model 1865 in 56-50, and served on the Frontier in the early days of the Indian Wars. Note the "Stabler Magazine Cutoff" just in front of the trigger. (Photo courtesy Morphy's Auctions, MorphyAuctions.com)

Sadly, the Spencer company missed the arm's last hurrah during the Franco-Prussian war of 1870. Thousands of surplus Spencers in .50 and .52 caliber were purchased by the French, and the Belgians made entirely new ones in a centerfire .50 cartridge, rifle would remain chief among soldiers, hunters and frontiersmen for another decade.

The best option was to have a Winchester repeater in addition to the single shot. Fighting the Russians at Plevna in 1877, the Turks issued their soldiers a major caliber Peabody single shot alongside an 1866 Winchester in .44 RF. The single shots kept the Russians under fire until they were close enough for the high-volume fire of the repeaters to stymie their advance. FN

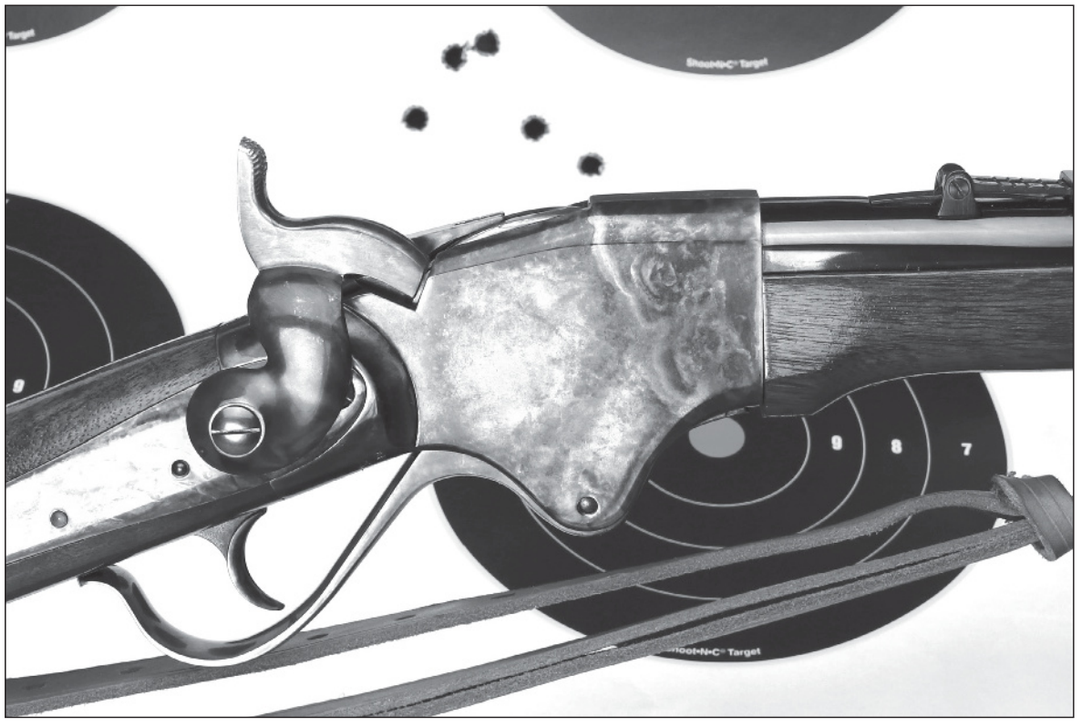
Disassembly is easy peasy. Withdraw the breechblock screw from the left side of the receiver. Work the breechblock down and out of the receiver. You'll rarely have to do this shooting smokeless powder, since the barrel needs to be cleaned from the muzzle anyway, but the face of the upper block should be cleaned if you shoot black powder or Blackhorn 209. The breechface and chamber can be cleaned with the appropriately sized RamRodz cotton swab. To reassemble, insert the breechblock in the open position and rotate it up to the closed position. Align the hole in the receiver with the one in the breechblock and work the screw through. You will have to maintain a little pressure on the lever until the screw starts in its threads. Snug the screw but don't honk it down. Too tight and the receiver walls bind the rotating parts. A drop of oil on this screw is a good idea.

Colt ammunition is loaded to a wide variety of overall lengths. For the Spencer, there is an admonishment to maintain a strict cartridge overall length of 1.600 inches for the .45 Colt and that is absolutely necessary. Chiappa adamantly recommends flat-nose bullets. Not a bad idea since the mag tube is against your face. Sadly, measuring a variety of Winchester, Remington and Hornady factory ammunition showed none hit that length. The Hornady Critical Defense round with 185-grain FTX bullet was the longest at 1.590 inches. It fed a couple of times but usually hung up. Hornady LeveRevolution with 225-grain FTX bullets hit 1.650 inches and wouldn't feed. The profile of the two Hornady bullets look promising for reliability, but only the 225-grain FTX is available to handloaders currently.

Reliability now meant carefully tailored handloads. Creating several dummies with hardcast bullets of traditional round/flatnose shape weighing 250 grains at a strict 1.600 inch fed like a charm. So seated, the bullet's crimping groove is just above the case lip, and the rounds were run into a Lee Factory Crimp to remove any residual case-mouth flare after seating. I wasn't overly worried about the bullets telescoping into the case due to the mild recoil. While a telescoping bullet might prove dangerous, it probably wouldn't feed. A sliver of a silver lining. More importantly, make sure you have no proud primers! The magazine is, after all, against your face. *The Lyman 49th Manual* has data for Lyman Mold 454190 seated to 1.600 inches.

My cases were a little shorter than the trim-to length. If you desire a crimp—it can make ignition more consistent—I suggest measuring your case length and going to Rim Rock Bullets. They list the distance from crimp groove to bullet nose on their website and a little math will get you to the OAL necessary for reliable shooting with a crimp.

S&S Firearms, who offers centerfire breechblocks for original Spencers, told me the overall length of the cartridge can be adjusted by adding a little Brownells AcraGlas or JB Weld to the "cam" that sits just behind



The best group of the day was this 2¾-inch one made with the Trail Boss load at 50 yards. The load shot four inches below the six o'clock hold using the red dot in the center of the Birchwood Casey target as an aiming mark. It also shot more to the left than the Unique load.

Another good group was fired with the Hornady load topped with a 185-grain FTX Critical Defense bullet. Hopefully it will be added to the handloader's bullet line, since it shows promise of being loaded to the correct 1.600-inch overall length for feeding in the Spencer opening up the rifle to hunting rather than just reenacting.

the extractor on the lower block (easily identified by the twin pins holding it in place). When cured, the epoxy is simply filed until your chosen load feeds. It is tedious, since you have to remove the block each time, but if you don't handload, you have options. Since I haven't tried it, I can't comment on the efficacy, but if it were me, after finding the sweet spot, I'd record the height in case it wore down and needed to be repaired.

On The Range

Winter was severe here in Northern Nevada, and I had to cool my heels before going to the range. Handloads were prepared with Trail Boss, Unique and Blackhorn 209 under the aforementioned cast bullet over Winchester Large Pistol primers in Winchester cases. The first day of clear skies and modest temperatures in the 50s led me to the desert to set up the chronograph, but winds were high. Even with the legs of the tripod pushed into the soft earth, the wind blew over the Competition Electronics Pro Chrono twice, but it didn't suffer, thankfully.

Target shooting would have to wait for another day. All three loads ran reliably, but the Blackhorn 209 didn't seal the chamber well (a problem often encountered with .45 Colt-chambered lever actions) and blowby of gases fouled the chamber enough extraction got iffy as shooting progressed. I had to clean the barrel and chamber to restore order.

The Spencer ran like a gentleman with Trail Boss and Unique, although there was some gas blowby with Trail Boss. Be sure and wear your shooting glasses! Recoil was very mild and there was little smoke out in front of the 30-inch barrel even with the Blackhorn loads. As long as I worked the gun smoothly and surely, there were no malfunctions, although I had to use a cleaning rod to punch out the last couple of Blackhorn-loaded cases.

A beautiful spring day with bright sun, temps in the 70s and no wind greeted me at the shooting bench. The rifle shot about four inches low at 50 yards and a little to the left depending on the load when using a six o'clock hold on an eight-inch Birchwood Casey Shoot-N-C bull's-eye target. Grouping was pretty good considering the very fine sights. Trying to keep the tiny front post settled into the little notch was difficult, and some vertical stringing occurred if I got careless, but the best groups were perfectly adequate, and a little file work would certainly bring the grouping to point-of-aim. Best group of the day was a nice cluster of 2¾ inches with Trail Boss under the 250-grain hardcast bullet.

The Blackhorn 209 loads fouled the chamber as expected. I cleaned the barrel after shooting them, but was unable to thoroughly police the chamber since the rod only goes in from the muzzle. The last couple of Blackhorn loaded rounds stuck in the chamber as did the first couple of Hornady rounds. If Hornady jacketed bullets were purchased for handloading, their use opens up extra possibilities for these Spencer repros as retro hunting rifles.

For more than 500 years, armies slowly evolved from fighting with sword, spear and bow to use of a single-firing arm utilizing loose gun powder and ball ignited by some kind of separate ignition source. The United States Army's adoption of the Christian Miner Spencer's Repeating Rifle firing a copper-cased rimfire cartridge of sufficient power to influence events across the battlefield ended that era. The whole world changed forever. FN

.45 COLT FACTORY AMMO PERFORMANCE

Load (brand, bullet weight, type)	Velocity (fps)	Group Size (in.)
Hornady 185 Critical Defense	1,345	3
Hornady 225 LeveRevolution	1,088	3¾

Notes: Groups the product of five shots at 50 yards. Chronograph screens set 10 feet from the muzzle. Hornady ammo had to be single loaded due to OAL considerations. The bullets are available to handloaders, and their use expands the capabilities of the Spencer beyond cowboy action shooting when loaded to work through the action.

SPENCER RIFLE

Manufacturer:	Chiappa Firearms, (Imported by Talor & Co.)
SKU:	LC2/220027
Weight (LB):	10.6
Action Type:	Lever action
Barrel Bore Diameter:	0.443 in.
Barrel Contour:	Round
Barrel Finish:	Blued steel
Barrel Grooves:	6
Barrel Length:	30 in.
Barrel Twist Rate:	RH 1x16"
Buttplate/Pad:	Casehardened steel
Caliber:	.45LC
Capacity:	7
Firing Pin Type:	Traditional
Front Sight:	Fixed blade
Forend Finish:	Walnut
Frame Finish:	Casehardened steel
Hand Dominance:	RH
Overall Length:	47 in.
Rear Sight:	Dovetail ladder sight
Stock Finish:	Walnut
Trigger Type & Pull:	Single trigger
Triggerguard Finish:	Casehardened steel
MSRP:	$2,358
Contact:	(540) 722-2017, TaylorsFirearms.com

.45 COLT HANDLOADED AMMO PERFORMANCE

Bullet Powder (brand, bullet weight, type)	Charge (gr)	Velocity (fps)	Group Size (inches)
Cast 250 RFN Blackhorn 209	22.0	1,146	4¾
Cast 250 RFN Trail Boss	5.8	891	2¾
Cast 250 RFN Unique	8.5	1,170	3

Notes: Groups the product of five shots at 50 yards. Chronograph screens set 10 feet from the muzzle. Winchester primers used in Winchester brass.

FURTHER READING

Spencer Repeating Firearms by Roy M. Marcot, OP, hardcover, ©1990, 317 pages, profusely illustrated, Northwood Heritage Press, ISBN: 0-9611494-3-4

SOURCES

C & D Jarnagin
113 North Fillmore St.
Corinth, MS 38834
(662) 287-4977, JarnaginCo.com

Green Mountain Barrels
P.O. BOX 2670
Conway, NH 03818
(603) 447-1095, GMRifleBarrel.com

Hornady
P.O. Box 1848
Grand Island, NE 68802
(308) 382-1390, Hornady.com

Morphy Auctions
2000 North Reading Road
Denver, PA 17517
(877) 968-8880, MorphyAuctions.com

ML Knives (Matt Lesniewski)
2 Evelyn St.
Amsterdam, NY 12010
(518) 843-7216, MLKnives.com

Prolix Lubricants
P.O. Box 1466
W. Jordan, UT 84084
(800) 248-5823, ProlixLubricant.com

Pacific Tool and Gauge
P.O. Box 2549
White City, Oregon 97503
(541) 826-5808, PacificToolAndGauge.com

RamRodz
P.O. Box 408
Bearsville, NY 12409
(855-486-7922), RamRodz.com

RCBS
605 Oro Dam Blvd
Oroville, CA 95965
(800) 553-5000, RCBS.com

Rim Rock Bullets, Inc.
35675 Minesinger Trail, Polson, MT 59860
(406) 883-1899, RimRockBullets.com