American Rifles
By Carleton P. Edmunds
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If you tell someone that you own an AR, no doubt images of .223s and gas-assisted AR-15's will come to mind. Dispel those thoughts for a while as we engage in a short history lesson about the original ARs, the American Rifles.

Anyone who has discovered muzzle-loading is undoubtedly familiar with the Kentucky rifle which is synonymous with Daniel Boone. If you're into black powder hunting, chances are that what you shoot is a .50 cal. half-stock patterned after the Plains rifles that were produced prior to 1850. What many may not know is that these rifles touch on a much broader American experience that helped shape our nation's destiny and turned the tide in our struggle for independence.

Our brief divergence into the past begins with the Pennsylvania rifles, aptly named in reference to the early gun makers who had established themselves in the counties west of Philadelphia, Pennsylvania by the mid 1700's. By the time of the American Revolution, these gunsmiths had begun building a simpler version of the Pennsylvania rifles we know better as the Kentucky rifle. These simpler rifles were better adapted for the frontier and were the guns of choice in the American wilderness. By the late 1700s, rifle making began to spread as a craft beyond the mountains west of the Carolinas where the next generation of American rifles, collectively referred to here as Tennessee rifles, emerged. As a group, these make up what history has penned as American "long rifles". Any discussion about American rifle making just wouldn't be complete however, unless it included the plains rifles epitomized by Samuel and Jake Hawken in the first half of the 1800s. These rugged rifles became the mainstay of the "Mountain Men" who tamed the Rockies and the Central Plains that lead to them.

These iconic American Rifles (AR's) played a crucial role in realizing our Nation's Manifest Destiny which was fully accomplished within the scant 100-year period from 1750 to 1850 when these guns dominated the art of rifle making. American Rifles secured our early economic successes in the fur trade; helped us defeat the most powerful army of the times, allowed us to gain our independence; and removed the final British and Mexican threats to western settlement. These rifles helped us realize that envisioned destiny we dreamed of once we emerged as a young nation.

My fascination with American Rifles began in the late sixties when my dad offered to research a wall-hanger owned by one of our neighbors when we lived in Tullahoma, a small town in Middle Tennessee. Much of the furniture was missing, or replaced with what appeared to be odds and ends. At first, it resembled a military rifle, but more likely it was a Southern Mountain Rifle that hade been converted at some point from flintlock to percussion using an old military lock. The full-length stock was sleek, simple walnut with no end cap or adornments. The barrel was somewhat longer than a typical

Kentucky rifle, measuring at 44 inches. The few furnishings that remained were iron, along with the octagon barrel.

The lock had been replaced at some point with a military lock, identifiable by a still-visible spread Eagle on the corroded lock face, assumed to be from Harper's Ferry. The simple and austere appearance of the rifle made it look military, but the stock was too slender, and lacked any other characteristics that would identify it as a production gun.

With some advice from a local gunsmith, my dad replaced many of the missing parts. I helped with the disassembly, cleaning, and restoration of the old gun – a project that ignited my love and appreciation for American firearms and the rich history they represent.

The experience lead me to become the then, youngest (and Charter) member of the Elk River Long Rifles, a group of much more experienced men who each shared a common love for black powder shooting and the lore of these old rifles. Working on Saturdays even before I was in High School, I saved enough money to buy my first gun, a plainsman-style rifle resembling the venerable Hawken. When I wasn't working or hiking the creeks and quiet woods of Tennessee, I would be hanging out with the likes of our early frontiersmen, learning as much as I could about these guns and the kind of men it took to use them. Sometimes a few of us would venture to a farm just south of Franklin, Tennessee where we would spend the weekend in *Rendezvous'* as black-powder rifle teams from Kentucky and Tennessee competed to see who was best. These were times that the car, and the 20th century itself, could be parked for a while to experience first-hand, the life styles and hardships the countless and unknown heroes of our past endured.

Even today there are many places where you can get a glimpse of what this period of our history was like. Here in Knoxville, Tennessee, that place would be Fort Louden which was originally built by the British between 1756 and 1757 on the Little Tennessee River in the Cherokee territory, 50 miles southwest of Knoxville.

The Fort was active until 1760 when it came under siege by the Cherokee who had turned against the British. The Fort was restored in the 1930s and stands today as an example of what life on the early frontier was like.

During the fort's annual "*Trade Faire*", re-enactors provide a visual reference for frontier life as it would have been like prior to 1760. Forget the nostalgia however since there were no nearby towns or settlements. This was Indian-territory, and the only outsiders were French fur traders who traded regularly with the Indians. Soon after the fort was constructed the French began causing tension to escalate between the Indians and the British garrison that was housed there. Of the 200 men who were at Fort Louden only a few made it out after it was sieged and abandoned in 1760.

Frontier Life at Fort Louden, annual Trade Faire, 2007.

This is a common story that repeated over and over throughout our nations' beginnings as we pushed further and further to the west. Even without the hardships of political and social unrest, the emerging landscape was brutal on the earliest hunters and the settlers that followed. Those with the best chances for survival came with American Rifles.

Part 1 The Pennsylvania Rifles

As our Colonies grew, they attracted English and German gun makers who, at first, continued in their European traditions of gun making. The guns they made at first were ornate smooth bore firearms in large calibers that sported elaborately carved stocks that were lavishly adorned with brass and silver furnishings. Often these firearms were further embellished with intricate inlay and engraving. These were works of art intended for formal hunting and were not very practical for the back-woods or the American wilderness. These German gunsmiths also brought the technology of rifling with them, which they began adapting to the guns they were making here in the Colonies.

More Americanized versions of these guns, known as Pennsylvania rifles soon developed as the these gun makers listened to the needs of those living in the less-

settled areas of the New World. More importantly, these were the first true American rifles, firmly introducing the somewhat new invention of rifling into the art of rifle making. Though less opulent than their European counterparts, these rifles still held to the same formal traditions which catered more to the well-to-do needs of organized hunts and occasional outings by gentlemen and land owners.

American rifle making was fully in place by the 1750's and was first established in the Lancaster County, Pennsylvania, which is where the Pennsylvania rifles get their name. These rifles were not only characterized by their deep rifling, but by their long barrels which were much longer than what was the norm in Europe.

Even though these early American rifles were not as well suited for the ruggedness of the back woods, there were many Pennsylvania rifles that found their way into the frontier regions just west of the colonies. One Pennsylvania rifle of note is "Betsy" the rifle owned by Davy Crocket. "Betsy" is a classic example of the Pennsylvania rifle with silver inlays; brass trigger guard, patch box and furnishings; and a beautifully carved stock.

This is a copy of the original rifle "Betsy" and is on display in the East Tennessee History Center in Knoxville, TN.

The rifling used in American rifles was probably influenced by the Jaeger rifles that were brought to America by German settlers in the mid 1700's. These were favorites of

"professional" hunters in Europe because of their relatively small size, durability, and their improved accuracy over the smooth-bore muskets that were more common.

Jaeger Rifle from 1730-1750. Photo from the NRA Firearms Museum website

The most striking features of the Jaegers were their short 30-inch barrels that enabled quick loading, and rifling which are the series of spiral-shaped grooves that spin the patched bullet when it is fired, making it much more accurate.

Bore of Jaeger Rifle showing rifling and large bore. Photo from www.ctmuzzleloaders.com

Rifling similar to what was used in the Jaeger is probably the single most important feature of the American rifles. What is common to the American rifles is that the rifling is usually very deep compared to modern guns and had two benefits.

One reason was to overcome problems with fouling, which is the soot and byproducts left behind from the slow-burning black powder. After several shots the fouling would build up inside a smoothbore musket, eventually reaching a point where a ball could not be pushed easily down the bore, which necessitated frequent cleaning. Some believed the deep rifling simply gave some place for the fouling to go. While this was not the reason, rifling does address the issue of fouling. The patched ball used in a long rifle is first soaked with some "secret " potion during loading, usually just some wetness from the tongue. The 'wetted" patch scrubs the bore from the fouling of the most recent shot, which is discharged with the next shot. The repeated process keeps the total amount of fouling in check extending the amount of time needed before cleaning. The second, more obvious benefit is that the spiral effect of the grooves imparts a spin to the bullet, which increases accuracy.

What the American gunsmiths did differently from the Jaegers was to employ the traditionally-long barrels of the trade guns. They also reduced the sizes of the bores to

make them more economical in terms of the lead they consumed. These features became the hallmarks of the American Rifle.

By frontier standards, Pennsylvania rifles were still works of art that were not very practical for carrying into the back woods or into the new frontiers that were opening up in the Ohio and Kentucky. The Pennsylvania gun makers responded to the needs of these backwoodsmen by building even simpler and more rugged rifles that we know better as the Kentucky rifle.

Part 2 The Kentucky Rifle

The Kentucky rifle marks the second generation of American rifles. The first of these are actually attributed to rifle maker Jacob Dickert, out of Berks County, Pennsylvania, so technically, they are still Pennsylvania rifles. It wasn't until 1812, and possibly after the release of "Last of the Mohicans" by James Fennimore Cooper in 1826 that the name, Kentucky Rifle became accepted.

These rifles follow in the footsteps of the earlier Pennsylvania rifles of the late 1700s, but were more practical for use on the frontier. Kentucky rifles are really just more simplified versions of the Pennsylvania. These rifles generally had straighter lines, simpler stocks, and more plaintive brass, silver, and pewter furnishings.

Examples of Kentucky rifles from 1800 -1850 made by various gunsmiths

What these guns shared in common with the Pennsylvania's were their long, rifled barrels. This is where the term "long-rifles" originated, possibly to differentiate them from the shorter Jaeger rifles, which had been brought over from Germany for hunting. More importantly, these guns were rifled – hence the term "rifles". Interestingly, rifling is largely considered an American invention even though its use can clearly be traced back to the Jaeger.

The reasons for the long barrels common to American rifles are often debated. One theory is that Indians who used the guns for hunting and fur trade were among the best

customers of the early gun makers but wanted rifles with “long” barrels because they looked more like the trade guns they had already become familiar with. This possible Indian influence seems to be borne out based on records indicating that many more guns were built than there was a market of white settlers to support. The result of the long barrels plus the rifling made for a very accurate and formidable weapon.

The longer barrels of the American guns greatly improved accuracy but also increased the time needed for loading. It takes up to a minute to load a long rifle, compared to three-shots a minute for a smoothbore musket of the same period. Loading the much shorter Jaegers however, was not viewed as that much of an issue, which at least kept up and could easily accommodate two shots a minute.

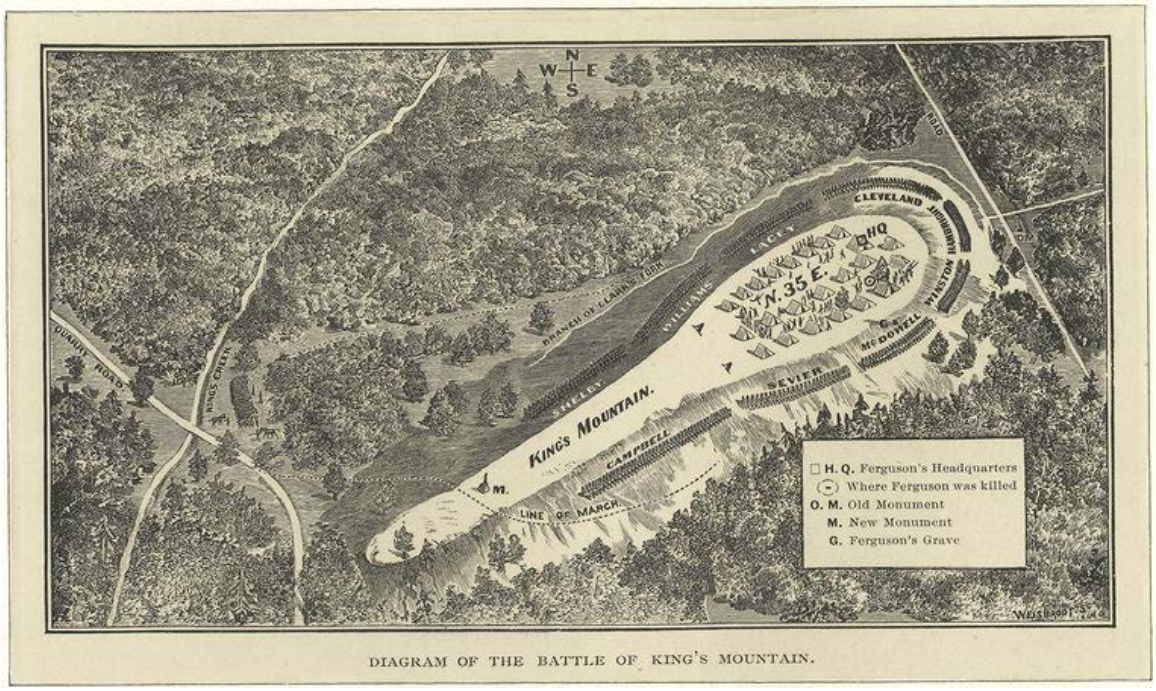
What was lost in time with the American rifles was more than made up for with power and accuracy. The use of a patched ball with a rifled barrel not only grips the ball to add spin, but makes a gas-tight seal that increases the developing pressures behind the ball as the slow-burning black powder ignited. The added barrel length also allows more time for the powder to burn, which further increases the pressures.

The resultant “crack” from a long rifle is because the velocity of the ball is traveling above the speed of sound, which is 1100 feet per second. With the increased power and velocity, a Kentucky rifle retains its accuracy out to 200, or even 300 yards – well beyond the limits of any other guns of the period, including the Jaeger. A musket for example with its much larger and heavier bullet is only effective to about 100 yards.

The superiority of what most considered “*mere hunting rifles*” proved itself at the battle of King’s Mountain, South Carolina in 1780 as we tried to gain our independence from Great Britain. The “Overmountain” settlements to the West, in what is now East Tennessee and Northern Georgia, posed a continuing threat to the British that Major Patrick Ferguson hoped to quell by terrorizing the small towns and outposts in the Western Carolinas, and hanging anyone who was in opposition.

In the process they committed many atrocities against the local settlers that angered those across the mountains in what is now East Tennessee. Ferguson’s threat was met by the “Overmountain Men” who were mustered by John Sevier and Isaac Shelby in East Tennessee, and by Virginians lead by William Campbell. The combined forces of approximately 1000 over-mountain frontiersmen began searching for Ferguson’s loyalist army and finally located them at King’s Mountain, South Carolina, just west of Charlotte.

Here, the use of the highly accurate “hunting” rifles, and skills gained from surviving in the wilderness proved to be too much for the British loyalists who were decisively defeated. The battle only lasted for a little more than an hour as the Overmountain men picked off Ferguson’s troops one by one – staying well beyond the effective range of the musket volleys that were being fired. Ferguson, believing his troops could easily defend the Mountain became trapped at the summit.



Map of Kings Mountain provided courtesy of the Gilliland Trails website.

Three separate bayonet charges were attempted by Ferguson's men to try and gain an advantage but the Overmountain contingent did not waver. Ferguson was killed by one of the militiamen, during the final charge as the loyalists tried to break through the lines that that had confined them to the uppermost top of the mountain. The shot that took out Major Ferguson is credited to "Sweet Lips", the Kentucky rifle owned by Robert Young, one of the Overmountain men from the Wautauga settlement in East Tennessee.

Photo of "Sweet Lips from Gilliland Trails website, courtesy of Patrick Gilliland.

A further testament to the accuracy of the long rifles is provided by Col. George Hanger, British officer with Tarleton in South Carolina near the time of King's Mountain. In his commentaries, Hanger provides the following observation on the precision of American rifle fire:

> [sic] "I never in my life saw better rifles (or men who shot better) than those made in America; they are chiefly made in Lancaster, and two or three neighboring towns in that vicinity, in Pennsylvania. The barrels weigh about six pounds two or three ounces, and carry a ball no larger than thirty-six to the pound; at least I never saw one of the larger caliber, and I have seen many hundreds and hundreds. I am not going to relate any thing respecting the American war; but to mention one instance, as a proof of most excellent skill of an American rifleman. If any man shew me an instance of better shooting, I will stand corrected.

Colonel, now General Tartleton, and myself, were standing a few yards out of a wood, observing the situation of a part of the enemy which we intended to attack. There was a rivulet in the enemy's front, and a mill on it, to which we stood directly with our horses' heads fronting, observing their motions. It was an absolute plain field between us and the mill; not so much as a single bush on it. Our orderly-bugle stood behind us, about 3 yards, but with his horse's side to our horses' tails. A rifleman passed over the mill-dam, evidently observing two officers, and laid himself down on his belly; for, in such positions, they always lie, to take a good shot at a long distance. He took a deliberate and cool shot at my friend, at me, and the bugle-horn man. (I have passed several times over this ground, and ever observed it with the greatest attention; and I can positively assert that the distance he fired from, at us, was full four hundred yards.)

Now, observe how well this fellow shot. It was in the month of August, and not a breath of wind was stirring. Colonel Tartleton's horse and mine, I am certain, were not anything like two feet apart; for we were in close consultation, how we should attack with our troops, which laid 300 yards in the wood, and could not be perceived by the enemy. A rifle-ball passed between him and me; looking directly to the mill, I observed the flash of the powder. I said to my friend, "I think we had better move, or we shall have two or three of these gentlemen, shortly, amusing themselves at our expence." The words were hardly out of my mouth, when the bugle horn man, behind us, and directly central, jumped off his horse, and said, "Sir, my horse is shot." The horse staggered, fell down, and died. He was shot directly behind the foreleg, near to the heart, at least where the great blood-vessels lie, which lead to the heart."

Excerpt from "Rifles and Riflemen at the Battle of Kings Mountain", NATIONAL PARK SERVICE, POPULAR STUDY SERIES, HISTORY No, 12

Part 3 The Tennessee and Southern Mountain Rifles

The battle of Kings Mountain marked a significant turning point in the American Revolution, and in the years that followed the next generation of American Rifles began to emerge. These were originally known as Southern Kentucky Rifles, or Southern Rifles, and include the more prevalent Southern Mountain Rifles. Southern Mountain Rifles are generally identifiable by their plain iron furnishings, somewhat longer barrels than a Kentucky rifle, and their simple un-decorated maple or walnut stocks. Collectively, these seem to be referred to as Tennessee Rifles, although they often include Virginia Rifles, and those built in the Carolinas and Georgia.

The more simple and austere rifles envisioned as the Tennessee are actually attributed to the Southern Mountain Rifles which are frequently referred to as "black rifles" because of their dark walnut stocks and iron furnishings. These rifles retain the same basic style of the Tennessee, but were made by local Scotts-Irish gun makers throughout the isolated Appalachian mountains. It is inaccurate however to state that all Tennessee Rifles are "black rifles" of the Southern Mountain tradition – and will get you in serious trouble on an active discussion board. To avoid confusion these should be

described as Tennessee-style rifles, understanding that there really are no absolute standards to use for reference.

Robin Hale, a noted historian of Tennessee Rifles, (1970) found records for as many as 50 gunsmiths who were making rifles in the Overmountain region of Tennessee prior to 1800. With that many gun makers in the area it tells us that the experience at King's Mountain probably did much to influence this transition from the Kentucky rifles and suggests that the earliest Tennessee-style rifles probably date somewhere between 1760 and 1780, after the battle of King's Mountain.

By 1800, rifle making had spread deeper into the Tennessee River valley as a cottage industry. This is important, since the skills developed by these Scotts-Irish gun makers allowed the art of rifle making to move further and further westward with the ever-expanding American frontier. This aspect of the Tennessee is both important, and a bit over-whelming once you realize that these rifles were built entirely from the local materials that were easily at hand, including the iron for the barrels and furnishings. They weren't built in factories with specialized equipment, but on small farms where things like rifling guides were made from wood, and bores were perfectly straightened using something as simple as twine.

Not all Tennessee's are in the simple "mountain" tradition. What has been found over the years is that there are actually many examples of "Tennessee" rifles that do in fact have brass and silver furnishings just like their Kentucky counterparts. Building on the Kentucky, however, most Tennessee Rifles appear to follow a common set of rules that seem to have adapted these guns to the game and shooting styles needed for survival in the Overmountain region. These unique traits in many ways make these rifles even more "American" because of their obvious grass-roots heritage. When you look at these rifles there does appear to be a distinctive "style" that identifies them as a Tennessee.

The Overmountain regions of North Carolina (what is now East Tennessee) and Northern Georgia were very isolated and were still occupied by hostile Indians in the late 1700s. These conditions required guns that were durable, accurate, and better suited for the different kinds of game that were abundant. But there was an even more important requirement – which is that they needed to be built on the Tennessee side of the mountains for use by the Overmountain settlers. Not only did the Scotts-Irish figure this out, they put together a completely sustainable rifle-making industry that lasted up until the 20th century. Kentucky rifles were too expensive and the Pennsylvania rifle smiths were too far away if something broke. Without a gun, chances of survival were slim. What evolved out of necessity was the Tennessee.

The earliest and probably the most well known of these early Tennessee rifle makers was Russell Bean, who was also the first white child born in the Overmountain region. His father, William Bean was an associate of Daniel Boone and in 1769, became the first permanent settler in the Wautauga Valley in East Tennessee. His son, Russell, was born that same year.

Russell Bean was one of Tennessee's more colorful characters and was well known as a crack-shot and successful armorer. Bean was considered a genius when it came to arms making and learned how to forge everything he needed from the iron that was plentiful in the area. The small amount of steel needed for springs and other critical parts could be salvaged from other items.

Tennessee Rifle made by Russell Bean in Jonesburough, TN around 1800. East Tennessee History Center, Knoxville, TN.

Russell Bean made guns until the early 1800s when other ventures took him further west towards the Mississippi. His legacy of gun making however continued on by his son, Charles Bean and his grandson Charles Russell Bean Jr, making guns in the Bean tradition well past the end of the Civil War.

The Beans were Scottish, no different from the many other Scotts-Irish settlers of East Tennessee and the mountains that are now part of the Great Smokey Mountains National Park. Through their ingenuity, these hardy folks learned along with Bean, how to build guns solely from the materials that were available. Their gun-making tradition was carried throughout the Appalachians of Tennessee, North Carolina and Georgia and is usually associated with the more simply-adorned Southern Mountain Rifles.

The barrels and furnishings of the Southern Mountain Rifles were all made from iron that was abundant in the Cumberland Mountains just to the west of the Appalachians,

along with maple and walnut for stocks, and the tough hickory that was needed for ramrods. The cottage industry of rifle making the Scots-Irish developed meant that if something on a mountain rifle broke, it could easily be repaired by a nearby rifle-maker or even a blacksmith's shop. When a new gun was needed it was also affordable for those already in a subsistence environment.

The most notable difference between the Tennessee-style rifles and their Kentucky counterparts is that they were built to a specific "formula" which better accommodated the Overmountain style of shooting that proved so effective at Kings Mountain. What the early settlers had learned from the Indians was to shoot from the cover of the trees using the tree to help steady the rifle.

This technique basically meant shooting at a right angle when compared to shooting a Kentucky rifle, trade musket, or military weapon. Shooting in this manner makes use of the tree to provide cover for the exposed side of the body. The rifle was held at a 90 degree angle, holding the barrel against the tree for support, and notching the butt against the upper arm which was held out straight from the body.

What is distinctive among the Tennessee and Southern Mountain Rifles is the noticeably different angle of the butt stock which may be to keep the barrel in the correct position for sighting. The butt of the rifle was also more crescent-shaped so it could lock into the upper arm for a more positive support instead of flat against the shoulder. A broad and sharply-cut cheek-piece is usually prominent on the inside of the butt stock to help with sighting.

Since brass, silver and pewter were hard to come by, iron was generally used for the barrel and all of the furnishings on the rifles. The use of iron, which was plentiful in the Cumberland Mountains nearby, was most likely based on availability rather than a pre-conceived need for something more durable. Increased durability however was the result, and added the feature of easy repair if something ever broke. As the area became more settled, rifle making became prevalent among the Scotts-Irish mountain people who had inhabited the Appalachians. Hale was able to document over 500 individual makers of Tennessee rifles.

While there are many Tennessee rifles that can be traced to specific gun makers who had developed recognizable styles, like the Beans, or the Soddy-Daisy style that developed near Chattanooga, the abundance of these "mountain" rifle makers means that there were many more rifles that were of the more simple i.e. "traditional" style associated with the Southern Mountain Rifles.

Most examples of the mountain rifles have no patch box, or have just a round hole cut into the stock for grease. Often the practice was simply to store grease on the bottom side of the cheek piece. What has been noted in several examples of Tennessee rifles is a somewhat peculiar "banana-shaped" patch box. While most rifles were plain, there are several that do have brass and silver furnishings, but these may be later examples

that were built as trade increased over the mountains making brass and silver more available to the gun makers who had become established.

Photo of Rifle built by Russell Bean around 1800 that shows the "Banana" shaped patch box unique to Tennessee rifles. East Tennessee History Center, Knoxville, TN.

The Tennessee "Formula"

There are basically three characteristics of a Tennessee-style rifle that can be combined into a specific formula that distinguish them clearly from the Kentucky rifle. These include the alignment of the stock and the more sharply-crescent butt plate; a generally longer barrel than a Kentucky; and use of iron furnishings. In reality though, there have been so many gun makers that many variations and exceptions exist.

One of the best identifying features of the Tennessee rifle is that straight lines drawn across the top and bottom edges of the butt stock will usually intersect in the area of the hammer. If the same lines are drawn on Davy Crockett's rifle "Betsy", for example which is a Pennsylvania rifle, you will see they intersect just behind, and below the lock plate. On the Bean rifle above, the two lines meet at the hammer.

The butt plate on a Tennessee is also more sharply crescent, making more of a notch that fits into the upper arm instead of flat against the shoulder. The toe plate usually sticks out furthest and will be the first part of the gun to come to rest on the ground. These changes allow the rifle to be fired more easily from a 90-degree angle against the

body, the shooting style of the Overmountain men. The stock also includes a full cheek piece to aid with sighting, and sports double set triggers to make the rifles more accurate. Another feature of the stock is a single screw to hold the lock in place from the opposite side. Pennsylvania and Kentucky rifles usually have two screws, or even a brass plate, to hold the lock in place. The reason for this change was likely for simplicity alone and attests to the frugal mindset of the Scotts-Irish who built these guns.

The most striking differences are the iron barrels that were usually longer than those used on the Pennsylvania and Kentucky rifles, typically measuring 48 inches in length. A few Tennessee rifles have even been documented with 60-inch barrels. There are some differing reasons for the longer barrels and some believe it was to further improve accuracy. Adding a longer barrel though doesn't make sense because it would also be more difficult to hold on target. It already takes much strength and skill to keep even a Kentucky rifle steady when shooting off-hand. But this wasn't the shooting style these folks learned. The rifle was held against the tree for support, or shooters fired from the prone position using a rock or log for support. From this perspective, the extra length and weight of a Tennessee would not have been seen as a drawback.

As a general rule, a Tennessee starts with a 48-inch barrel. A characteristic of iron however is that it is softer than steel and allows the section right in front of the breech to expand over time because of the heat and pressure. As the rifles were used, it became customary to re-dress the lands and rifling of the bores; cut off two or three inches of barrel at the breech; and then re-install the breach plug. Usually this needed to be done after every hundred rounds or so.

Understanding the frugal Scotts-Irish influence, it would have made better sense just to build the rifles longer than needed so they could be cut down several times without losing their overall accuracy. A Tennessee with a 48-inch barrel could be re-breeched four times and still have a good 40-inch barrel. This practice could also account for why fore-end caps were rarely used, which otherwise would have required re-fitting and/or replacing them every time the barrel was shortened. Like the added durability of the iron furnishings, any added accuracy because of the extra barrel length may have been nothing more than an unexpected benefit. The practice does allow savvy gun collectors and historians a way of determining the age and use of a Tennessee rifle by measuring the overall length of the barrel and accounting for how many times it had been re-breeched.

Another important feature of the Tennessee rifles is that they were matched to the game they would be used for. Tennessee's came in four varieties – based mostly on the size of the bores, which were never really "exact". Adjusting the thickness of the material used for patching easily made up subtle differences between the bullet size and the size of the bore. Squirrel rifles were made in smaller calibers between .32 and .35. There were turkey guns in .40 caliber, and in .45 for deer and other large game. There were also larger .50 to .55 caliber rifles used specifically for bear hunting.

No doubt many of these guns found their way west into Texas and further west with the next breed of mountain men who followed. By the 1830s cap-lock versions of "squirrel guns" with distinctively shorter barrels were being made for smaller game that was still plentiful, however the typical length remained at 48 inches.

East Tennessee continued in relative isolation until well after the Civil War. Charles Russell Bean Jr., grandson of Russell Bean, began building rifles in 1860, continuing the family tradition. Records indicate that he was still building rifles as late as 1870 retaining the same basic design. It is believed that the cottage industry of rifle making as a whole continued relatively unchanged throughout the Smokey Mountains until the late 1800s.

What is compelling is that, from 1780 on, these rifles really have no cut-off date and were in use well into the 20th century. Some suggest that these rifles were still being used on a regular basis in the Tennessee River Valley up until the depression era of the 1930s when TVA exposed the region to the modern world that had developed all around them.

Part 4 The Plains Rifles aka. Hawken

No discussion of American rifles is complete without discussing the rifles popularized by Jake and Samuel Hawken, gunsmiths who hailed out of St Louis Missouri. The brothers grew up in Harpers Ferry, West Virginia, learning the skills of gun making from their father. Jake is believed to have worked at the Harpers Ferry Armory from 1807 until 1818, before he headed west, eventually becoming a partner in a gun shop in St Louis. Samuel had started his own shop in Ohio but joined his brother in 1825 after his wife died.

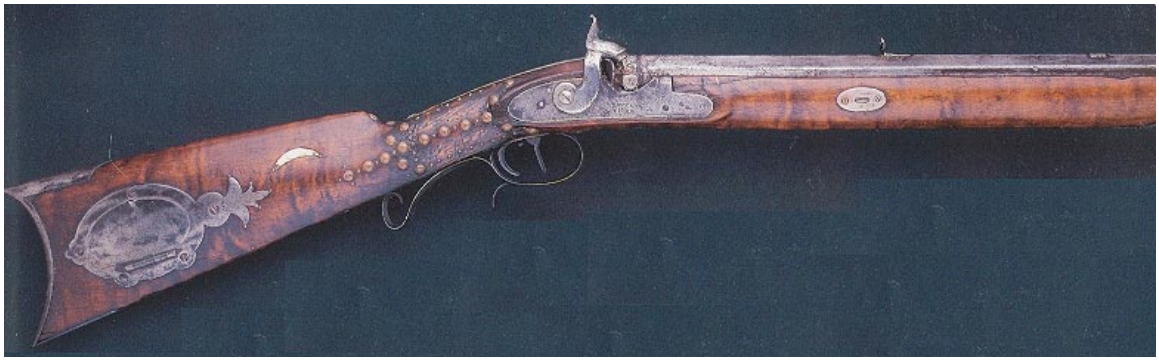


Photo of Hawken Rifle in the Smithsonian Museum from early to mid 1850s.

The earliest Hawken rifle appears to date around 1823 which coincides with this general timeframe. The Hawken's shop was not a production facility but more of a general purpose gun-smithing shop for repairing rifles that were already in use. At their peak during the gold rush they were only building about 150-200 rifles a year. They made rifles in a variety of styles, which included those designed for use as buffalo and big-

game guns. These are the one we think of as “Plains Rifles” which came in both full-stock and half-stock versions.

Photo of 1803 Harpers Ferry Rifle, from Dixie Gun Works,

The half-stock Hawken Rifles are patterned after the Harpers Ferry rifles which makes sense considering that the brothers grew up there and Jake worked at the Harpers Ferry factory. The Hawken rifles share some characteristics with Kentucky Rifle and possibly even the Tennessee. These rifles came in .50 - .54 caliber, similar to the larger calibers seen in Tennessee Bear Rifles, but had heavier stocks and barrels than either the Kentucky rifle or the Tennessee. The barrels were much shorter, measuring 33 to 36 inches in length which allowed the rifle to be carried easily across the lap on horseback, and could be fired while still mounted in the saddle.

According to John Baird, “Hawken Rifles: The Mountain Man’s Choice” (1968), the butt plate and other trim were made from iron, not brass as depicted in many modern reproductions. This would suggest some influence from the Tennessee and Southern Mountain Rifles that the brothers may have been familiar with, or from the rifles produced at Harpers Ferry. The choice though afforded the same ease of repair if something ever broke. In this case however, the choice of iron likely was because of durability since a Hawken rifle was by no means a cheap gun.

Like the mountain men who carried these rifles, there are a lot of “tall tales” about the Hawken. The first point to understand is that these were fine rifles, which explains their “legendary” ruggedness and accuracy. They were also expensive, at six times the cost of trade guns that were in common use at the time. From a practical perspective, these were just too expensive for most of the mountain men who headed west. There is much folk lore surrounding these rifles that give an impression that every mountain man owned one. Unfortunately this was not the case.

Relatively few Hawken rifles were being built during the mountain-man era, which ended long before the over-landers and gold rushers of the late 1840s and early 50s sought out these rifles. Much of the hype seems to focus around a couple of books written by George Frederick Ruxton following his travels along the Santa Fe Trail in 1847. The first book, a historical account of his travels, doesn’t mention the Hawken rifles at all. In a later “fictional” piece, the hero of his book, “Life in the Far West”, an International best-seller, stops by the famed St Louis gun shop to replace his squirrel riffle with a “regular mountain rifle”. The International success of this book made an indelible link between Hawken and the Mountain Men who by then had already come and gone.

Those men relied on the rifles already at hand, the Pennsylvania's, Kentucky Rifles, and Tennessee's and a good many Indian trade guns that were carried into the mountains after the fur trade.

A footnote of particular interest is that when the Hawken's shop closed in the late 1850's, it was sold to J.P Gemmer who continued producing rifles of the same quality until about 1900. The original equipment survived and was acquired by a family who has recently committed themselves to preserving this piece of American history – meaning that one can purchase a rifle that still bears this revered pedigree.

Likewise there are many contemporary builders of fine American rifles for those who may find an interest in this important part of our history and culture.