



2018-04

Weapons — Long Rifle

The Pennsylvania / Kentucky long rifle was a uniquely American weapon crafted between 1700 and the 1880s. Its origins started with German Jaeger (hunting) rifles brought by immigrants. As these weapons wore out, the need for replacements inspired local gunsmiths to develop their own.

Hunting weapons require accuracy, for a hunter generally gets only a single shot. Longer barrels provide a better sight pattern and increase the muzzle velocity of the ball (decreasing the drop). Rifling causes the projectile to spin increasing accuracy. By the 1750's the average barrel length was 44 inches with 48 inches common. With that length, balance and weight became an issue. The average long rifle weighed 14 pounds. To offset balance issues, the earlier models had a very thick butt stock. Earlier models also had 'swamped' barrels, meaning the barrel tapered from the breech toward the muzzle, flaring outwards the last 10-12 inches.



The initial weapons averaged .64 calibre. A hunter could mould 16-17 balls from a pound of lead. To reduce the cost of operating to hunters, and lighten the weapon, some gunsmiths reduced the calibre. The same pound of lead produced 37 balls of .50 calibre and 51 balls of .45 calibre. Adding more powder to the charge could make those smaller balls fly faster and further, something necessary when hunting larger animals such as deer, but not required when after smaller game. In the southern states where hunting small game was more common, calibre sizes dropped to .32 or .28.

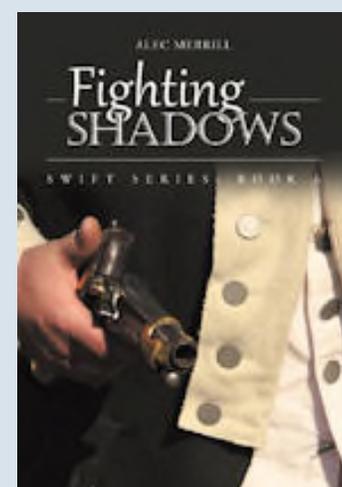
Most gunsmiths produced octagonal barrels. Two metal manufacturing methods were common. The first involved 5-6 foot long ribbon or 'skelps' of iron approximately a 1/2 inch thick and 1 inch wide. After hammer-welding them together at one end, they were wrapped around a mandrel and hammer-welded into an octagonal shape before removing the mandrel. The second method involved folding a thick single piece of metal around the mandrel and hammer-welding a single seam along the bottom. After removing the mandrel, both methods were rifled. The single method resulted in more barrel splits if the shooter used too heavy a powder load.

Wood stocks were most often made of maple, as it was plentiful in Pennsylvania. It is a tough, light wood, nearly white in its natural state. The application of several coats of boiled linseed oil allowed the grain of the wood to appear.

Several styles called 'schools' appeared based on geographic location. These styles involved changes in the butt stock (thinner and curving), butt plates (from straight to various degrees of curve) and in ornamentation. These latter changes most occurred after 1800.



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