

# James Paris Lee and His Progressive Development of the Bolt Action Rifle

By [David Tong](#)

A comparison of the Short Magazine Lee Enfield (SMLE) and the Remington M1899 Sporting Rifle actions is interesting from a technical and historical standpoint, which moved me to write this piece. The British Army adopted the SMLE in 1895. It is a ten-shot, rear locking, bolt action that cocks on closing. The receiver has a slotted bridge, which was common to older designs of the era including the equally old German 1888 Commission rifle, the 1891 Mosin-Nagant, and the 1892 Krag-Jorgensen, to name a few.

The SMLE has several points that are worth mentioning. First, compared to the Mauser type rifles that most other nations adopted with their forward locking lugs, the SMLE action is typically smoother in operation (until the final closing of the action, at least), it's downward curved bolt handle is easier to manipulate and the bolt rotation angle is shorter. This, plus the mechanical advantage of cocking on closing means that the stronger forward thrust of the human arm is used to reload and cock the piece as it goes into battery, rather than the more typical lifting stroke of the Mauser pattern.

The trade off is that the SMLE receiver and rear locking is not quite as strong as the Mauser (though obviously it was strong enough to fight two World Wars and numerous colonial conflicts and was adequate for the 44,000 psi of the .303 cartridge). In the event of a stuck case, the camming effect of primary extraction in the Mauser is superior.

One other thing the Mauser aficionados fail to mention is that the SMLE is FAR easier to maintain in the field, especially in the muddy trenches of WW I or the sand of North Africa in WW II. The reason is that the bolt head is not submerged into a receiver ring, which is both the Mauser system's greatest strength and curse.

It has oft been said of WW I that, "The Germans entered the war with a hunting rifle, the Americans with a target rifle and the British with a combat rifle." In support of this notion, I quote Wikipedia:

*"The rifle was also equipped with a detachable sheet-steel, 10-round, double-column magazine, a very modern development in its day. Originally, the concept of a detachable magazine was opposed in some British Army circles, as some feared that the private soldier might be prone to lose the magazine during field campaigns. Early models of the Lee-Metford and Lee-Enfield even used a short length of chain to secure the magazine to the rifle. Critics also predicted that a repeating rifle with such a large magazine capacity would discourage soldiers from taking careful aim, relying instead on sheer volume of fire to repel the enemy. Both of these concerns were proved to be unfounded."*

*"The fast-operating Lee bolt-action and large magazine capacity enabled a trained rifleman to fire between 20 to 30 aimed rounds a minute, making the Lee-Enfield the fastest military bolt-action rifle of the day. The still current world record for aimed bolt-action fire was set in 1914 by a musketry instructor in the British Army — Sergeant Instructor Snoxall — who placed 38 rounds into a 12" target at 300 yards in one minute. Some straight-pull bolt-action rifles were thought faster, but lacked the simplicity, reliability and generous magazine capacity of the Lee-Enfield. War stories from WWI tell of British troops sending the Germans home reporting they'd suffered withering machine gun fire, when, in fact, it was simply a group of trained riflemen armed with standard-issue SMLE Mk III rifles."*

Despite this, the British had made tentative plans to build their own Mauser-type rifle and this was the Pattern 14 Enfield that featured the usual front locking lugs and non-rotating claw extractor, but kept the cock-on-closing feature, in .276 caliber. Only the onset of WW I caused the British to stay with the .303 SMLE, for it had already been in large-scale production for 7 years by the outbreak of war.

James Paris Lee has often been called "a man without recognition in his own country." First known for his small bore 6mm M1895 Lee-Navy adopted by the US Navy, this was a unique straight pull action with a bolt handle that pivoted to lock the bolt into the receiver. I have only examined one or two of these rifles in my life and it is an odd system that was an evolutionary stopgap, much like the topic of this paper, the Remington-Lee M1899 sporting rifle, based on a military rifle of the same action design. Only some 1,446 of these rifles were ever constructed, starting with serial number 75,001. My example wears serial 75,383. These were chambered for the ".30 U.S. Government" cartridge, more commonly known as .30-40 Krag.

Looking at the two actions, one is immediately struck by the overall design ethos. I noticed that the trigger guard mounted magazine catch, cocking piece design, trigger group design and removable bolt head all shouted, "it's a Lee." However, Lee, being of a progressive bent, did several things to the sporting rifle to make it substantially different from the earlier SMLE.

First, he made the ten shot staggered feed magazine into a single-column five shot, to make the action and stock slimmer (more on that later). Second, the bolt head, which was threaded onto the bolt body on an SMLE and which served to house the non-field-removable extractor and set headspace, was changed to a bolt head with forward locking lugs *in addition* to the safety lug and rear locking of the SMLE. Moreover, the bolt head was simply pushed into place and was retained by a spring steel arm with a protruding pin that held the bolt head within the bolt body.

Lee also dispensed with a manual safety on the Sporting Rifle, instead using a large, knurled cocking piece that afforded a half cock safety as well as some gas deflection capability in the event of a ruptured primer or case head separation. The British used a gas port on the forward left receiver raceway to accomplish something similar.

Lee knew that the future lay in creating an action strong enough to use the then new smokeless propellants for ever-higher velocity, with the steels of the day. He couldn't have known that steels would continue to improve to the point that the Indian Ishapore arsenal would later build thousands of rear-locking 7.62x51mm NATO (.308 Winchester) Enfields and that the Brits themselves would use a refined Enfield as their L42A1 sniper rifle well into the 1980s, also chambering the 7.62mm NATO round.

One significant thing about the Remington-Lee is the total absence of any kind of recoil lug on the receiver, whose bottom somewhat resembles a Model 70 Winchester's in that it is basically cylindrical with a rectangular machined and raised area to accept the detachable magazine. This could not help but cause stock splitting at the wrist and receiver ring and indeed, the butchered original stock of my example is split in many places.

The British Army had a similar problem with their Lee-Enfield rifle and to fix it they adopted a two-piece stock inserted into a butt socket to take the load off the thin wood behind the action and to either side of the magazine. Lee evidently did not take heed of

this, nor does the non-captive extractor and easily lost bolt head inspire confidence in a possible military deployment (M16, anyone?).

There is no doubt that the Lee action would have been very expensive to manufacture, as it is both rear and front locking, and those lugs would have to be lapped to provide proper support. Moreover, it is undeniable that the simpler and cheaper Mauser would have been easier to build in quantity.

My particular example of the Remington-Lee is pretty abused, and I would love to hear from any reader who might know where an original .30-40 barrel (some "gunsmith" had rechambered it to .30-06 without, thankfully, mucking with the bolt head and extractor), stock, and magazine might be found. I'm not holding my breath and it is likely it will be a rather unique wall hanger and historical curiosity.