

# A Windsor Enfield and Robbins and Lawrence

by David Williams



*A cri de coeur for copy from Kim Minshall in the Spring 2008 Black Powder has encouraged me to put pen to paper/fingers to keyboard. I have been recently lucky enough to acquire a Windsor Enfield and have been toying with writing it up....*

As regular readers of these and other pages will know, I do like guns that have something to do with the evolution of the science of manufacturing technology - this is the focus of the day job! The Windsor Enfield is one of the most significant guns in this respect from a UK perspective.

I saw this particular gun when it last came on the market, it was around 2000 and I had just started black powder shooting with a repro Remington revolver. It had stuck in the mind and, when it popped back into the market I knew I should grab it, such interesting and unusual things are few and far between.

The Windsor Enfields were built in the Robbins and Lawrence factory in Windsor, Vermont, USA. Robbins and Lawrence, the engineer, built about 16,000 Pattern 1853 Enfields for the British Government between 1856 and 1858 in the crisis of supply triggered by war in the Crimea. Robbins and Lawrence had been one of the exhibitors in the Great Exhibition of 1851 where their stand simply showed six rifles - "among the best, if not the best of any rifles manufactured in the world". They had subsequently been visited by the "Committee on the Machinery of the United States of America" and this visit ultimately led to both the production of these rifles and orders for machinery for both Enfield and the London Armoury Company. Amongst other rifles including the Jennings and Sharps, Robbins and Lawrence had made the Model 1841 US Percussion rifle, the "Mississippi Rifle". As Fleyderman says collectors view this as "one of the most handsome of all percussion US military rifles". Importantly the 1841 rifle was made under the interchangeable principle - components capable of assembly without adjustment (fitting) - using large sets of gauges. Robbins and Lawrence and their employees made many fundamental contributions to manufacturing technology. Frederick Howe, mentor to Joseph Brown of Brown and Sharpe and inventor of the universal milling machine, was one of the engineers at Robbins and Lawrence and made key contributions to the design of the manufacturing or plain miller and other machines while he was there. Much of the Robbins and Lawrence manufacturing technology migrated to the UK and was extensively copied by UK

machine tool makers, particularly profitably by Greenwood and Batley of Leeds and Archdale of Birmingham. Sadly aggressive contractual arrangements combined with other factors resulted in the closure of the Robbins and Lawrence business during the manufacture of these Enfields. However, as with many businesses, its capability did survive and was subsequently maintained under other ownership including that of the British Government.

The Windsor Enfield rifles consequently were the first of the Enfields to be made under the interchangeable principle. They are second models with spring retained barrel bands and a button headed swell rammer; the locks are distinctly marked "Windsor". Many of the 16,000 made were sold as surplus in America, only part of the order ultimately making it to the UK. The rifles were finished and shipped bright in the manner of many Springfield arms, barrels being ultimately blacked on arrival. The weapons were regarded by the British as second quality (with Belgian and Birmingham Trade arms) and immediately issued. Many were refurbished in Pimlico, Colt's old London factory, and re-issued to militia and volunteers in 1861-2. A look at the Windsor currently in my care shows a bright barrel marked with the correct examiners marks, a Crowned A with a number, and sold out of service marks. It's butt plate is also marked with RSF 63 suggesting service with the Royal Scots Fusiliers some time after 1877. The finish of most of the weapon is good but the screw at the heel of the butt is pretty knocked about suggesting that the service may have involved a fair share of square bashing!

Through the 20th century Robbins and Lawrence attracted more and more attention from those interested in technology diffusion and the history of technology. Most had the objective of teasing out from the rhetoric of Whitney and Colt who actually made the most significant contributions to interchangeable manufacture and the manufacture of small arms by machine - frequently known as Armory Practice or the American System of Manufactures. One of the first of these was Joseph Roe writing on "English and American Tool Builders", in 1916, while a great promoter of Whitney he has a whole chapter on Robbins and Lawrence and their influence. Guy Hubbard writing in 1924 includes Robbins and Lawrence in a series of eighteen excellent articles in the American Machinist on "The Development of Machine Tools in New England". These articles contain many photographs of the people, their machines and, of real interest for



us, guns in Hubbard's collection including a Sharps Cavalry Carbine, Mississippi Rifle and Windsor Enfield - collectable in 1924 - all made at Robbins and Lawrence. Sadly my photocopy of these articles comes from Herbie Woodend's personal library, disposed of piecemeal at arms fairs after his death. Edwin Battison, a curator at the Smithsonian Institution in the 1960's, also had a passion for understanding who made the real contributions making many challenges to the Whitney school. He was founding Director of the American Precision Museum in 1966. This contains perhaps the best collection of machine tools in the United States. Fittingly the American Precision Museum is housed in a building constructed in 1846 for Robbins, Kendall and Lawrence, the immediate predecessors to Robbins and Lawrence.

One of the perennial questions raised by the "second quality" of the Windsor Enfields is of the effectiveness of the definitions of quality used by the Ordnance and by Enfield. David Harding has discussed this in his *Smallarms of the East India Company* comparing the strictness of the East India Company and Board of Ordnance views to show that John Company focussed on "sensible standards of quality" and "a reliable supply of sound weapons" - fitness for purpose. The Robbins and Lawrence Windsors are accurate to gauge (rather than to pattern), well finished and fit for purpose. But there is only one way to judge, and as Mike Noble said when I said how pleased I was with the Windsor "Get it on your ticket and down to the range....."

For those interested in finding out more: Chris Roads (*The British Soldiers Firearm, 1850-1864*, 1964) and De Witt Bailey (*British Military Long Arms 1715-1865*, 1986) tell the fullest story of the guns; Bill Curtis at [www.researchpress.co.uk](http://www.researchpress.co.uk) decodes the markings on military Enfield rifles; Peter Smithhurst of the Royal Armouries has told the story of both Robbins and Lawrence (*Royal Armouries Year Book 2002*) and Greenwood and Batley (*Royal Armouries Year Book 1998*), Peter has also been a Director of the American Precision Museum, see [www.americanprecision.org](http://www.americanprecision.org). The museum is open only during the summer.



*Above: The butt mark*



*Left: View and sale marks on the barrel*