



Antique Firearms  
The Classification  
Problem

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## Introduction

The sole function of the Firearms Act 1968 is the regulation of the possession of firearms for the purposes of public protection. To that end firearms are classified according to the potential threat that their ownership poses to the public. This threat is not merely that posed by the legitimate owner of the weapon but the threat posed should that weapon fall into criminal hands by theft.

Some weapons are considered so dangerous or anti-social that their possession is prohibited. With others control via Firearm and Shotgun Certificates is considered adequate. Low powered air weapons are considered sufficiently inoffensive that they may be possessed by any person of good character without control.

However one group of weapons is considered to present such a low risk to the public that they can be possessed by any person whatsoever, even those with serious criminal records. Section **58(2)** of the Firearms Act 1968 exempts entirely from the provisions of that Act antique firearms kept solely as a curiosity or ornament. This Section was a carry over of Section **33(5)** of the Firearms Act 1937 and indeed Section **13** of the Firearms Act 1920.

None of these Acts defined what is meant by an "antique firearm". The only statutory attempt was in the Pistols Act 1903 which defined an antique pistol as a "pistol which there is no reasonable ground for believing it is capable of being effectively used". Consequently it is left to a Court to decide on the facts and degree in each case.

This has resulted in several recent Court decisions where weapons have been held by a Court to be antiques which are of very considerable threat to the Public and indeed similar weapons have been used to commit the most serious offences including murder.

This paper attempts to explain the issues raised in light of the history, usage and design of firearms and why I believe that this issue raises serious concerns of public safety that if not addressed will almost certainly lead to a tragedy.

## Firearms History & Development

The earliest firearms were simple tubes, closed at one end and with a touchhole at 90° to the bore at the blocked end. They were simply loaded with a quantity of gunpowder, some wadding and a missile(s) such as stones, pieces of metal or even an appropriate lead projectile. Some form of ignition was then applied to a small amount of gunpowder placed on the touchhole, which then ignited and flashed through to the main charge, thereby firing the weapon.

The first significant improvement on this firing system was the use of slow match, cord soaked in a solution of Saltpetre (Potassium Nitrate), which burnt in a slow and predictable manner, hence slow match. An example of such a weapon being fired is shown in Figure 1 below.

Figure 1 English Handgunner, War of the Roses Period



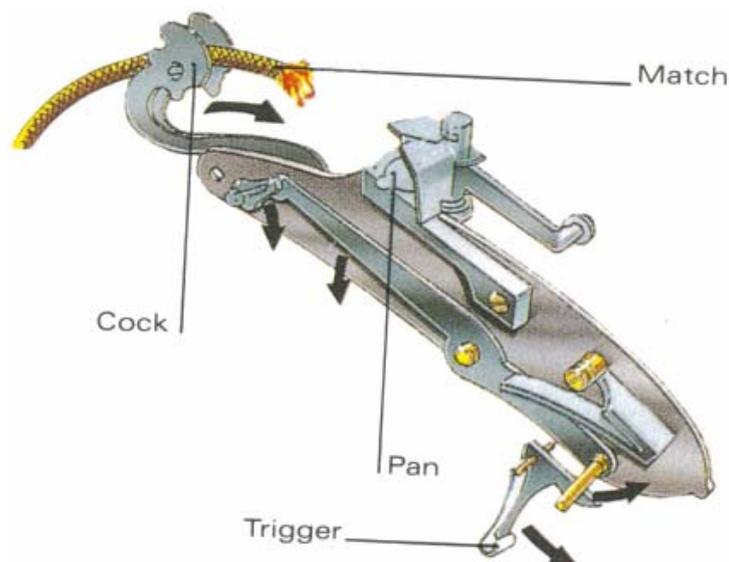
Initially used just as an ignition source this match could be held in some form of trigger mechanism. Eventually this led to the first lock operated weapon where one

had to first cock the mechanism against spring pressure and on pulling the trigger the lock snapped shut.

This caused the glowing match end to come into contact with powder, now held in a pan which flashed over into the main charge through the flash hole. As might be expected this often failed to work just causing the gunpowder in the pan to ignite, hence our modern term "a flash in the pan".

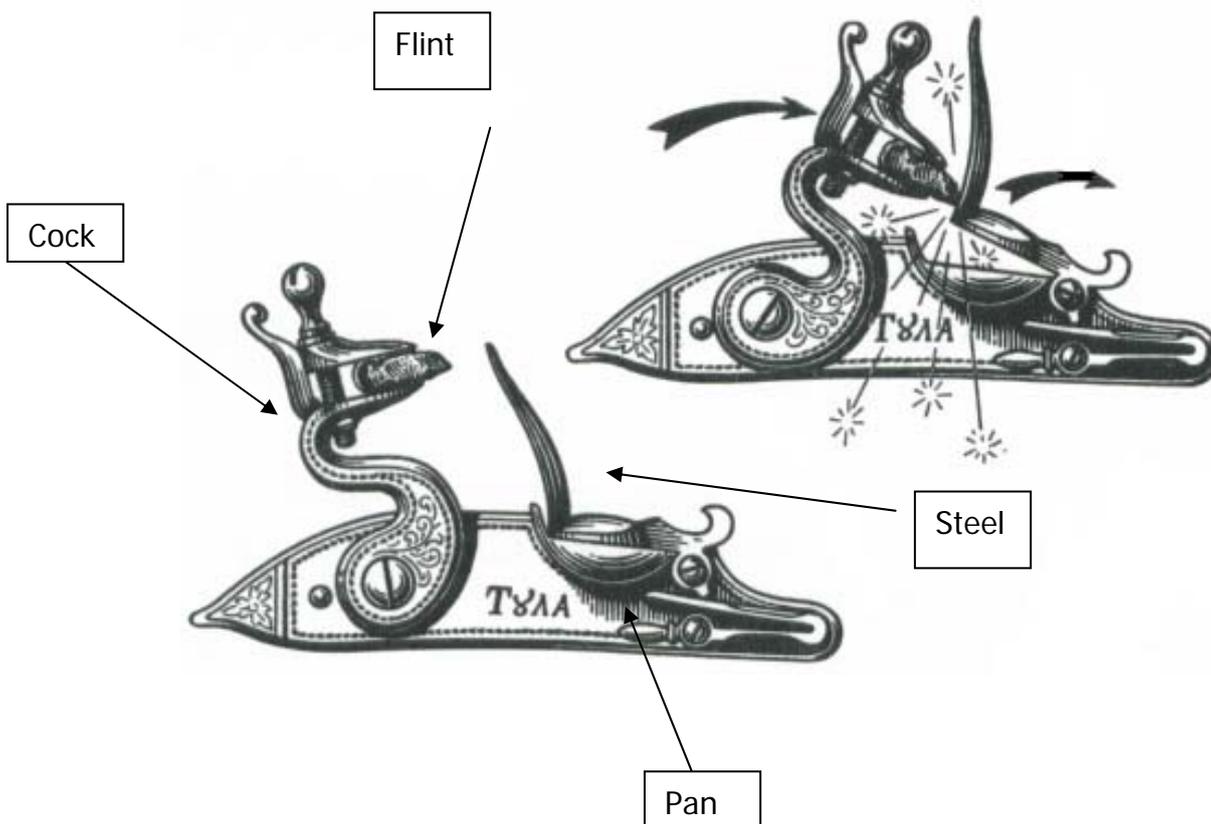
A further more reliable firing system called Wheel lock was also used at this time but to a much more limited degree due to its cost.

Figure 2 below shows an example of the lock mechanism of such a weapon dating from the period described above.



This form of weapon dominated the European battlefield until the start of the 18<sup>th</sup> Century when it was eventually replaced by the flintlock. This used a piece of flint held in the jaws of the cock which, when the trigger was pulled, flew forward to scrap the flint on a piece of metal called the steel resulting in sparks which struck the powder in the pan igniting it. The entire French revolutionary/Napoleonic Wars were fought with such weapons.

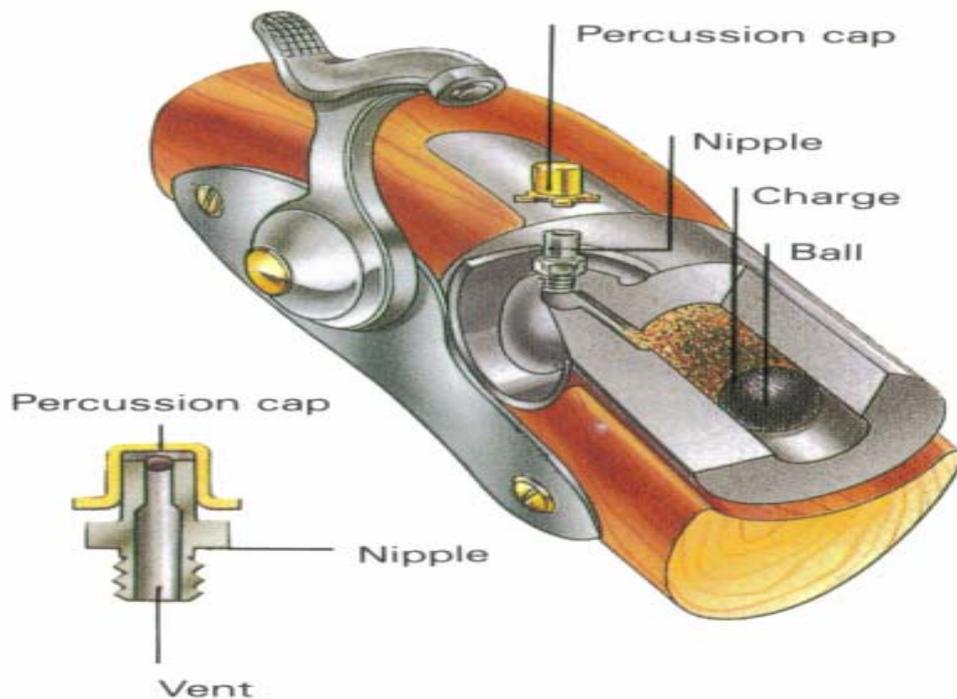
Figure 3 below shows the operation of such a flint lock mechanism.



The flintlock was a considerable improvement upon the matchlock for numerous reasons. However it was still vulnerable to misfires. Early in the Nineteenth Century a Scottish minister with an interest in chemistry and shooting developed the first percussion system where a percussive material was struck by a hammer which sent a jet of flame into the main charge.

This led eventually to the development of the percussion cap which as a means of ignition was superior in every respect to that of the flintlock system; particularly in reliability and weather resistance. This type of weapon was the primary arm used in both the Crimean War and the American Civil War.

Figure 4 below shows a percussion lock system with a charge of powder and ball loaded.



The development of the percussion cap system led to the first successful revolvers, weapons that could fire several shots before reloading.

Until the end of the Napoleonic wars the vast majority of the weapons used were smoothbore muskets; the sole significant exception being Baker rifle carried by the British Rifle regiments during that period and popularised by the books and films concerning the fictional character Richard Sharpe. Consequently effective ranges for all but the rifle-equipped regiments were very short, typically less than 100 yards.

Technical improvements in projectiles meant that the vast majority of weapons used in the Crimean War and the American Civil War were rifled barrel weapons of considerably greater accuracy and effective range, typically several hundred yards.

However these weapons were **ALL** muzzle loading (for revolvers loaded at the front of the chambers) and all required pouring powder separately into the barrel, followed by the projectile; with some wadding to hold it in place for the smoothbores. Then either powder had to be poured into the pan (matchlock/flintlock) or a percussion cap, which is a small and difficult to grasp object, placed on the nipple. Only then could the weapon be raised and fired.

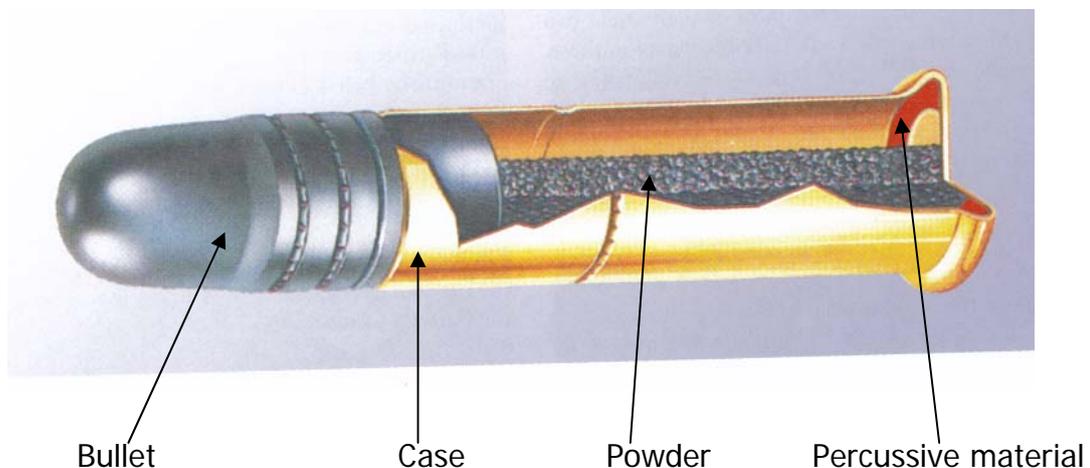
Consequently the rate of fire of such weapons was very low. For Napoleonic era muskets three rounds per minute was the very best that could be expected by

trained troops and in practice two was considered very good. Crimean and American Civil War rates of fire were little better. Percussion revolvers could fire their (typically) six shots in just a few seconds but then took more than a minute to reload to fire again in ideal conditions. Furthermore the loading process was complicated and required thorough and extensive training.

The development, which might be considered as that which, separates “modern” weapons from those that went before is that of the self contained metallic cartridge.

This cartridge contained in itself the form of ignition, the propellant charge and the projectile all contained in a conveniently carried metal case. The first such cartridges were rimfire cartridges as shown in Figure 5 below where the percussive material is contained in a hollow rim and the firing pin of the weapon strikes the rim crushing it against the breech face thus detonating the percussive charge; hence the term “rimfire”.

Figure 5 Sectioned rimfire cartridge (0.22" Long Rifle)



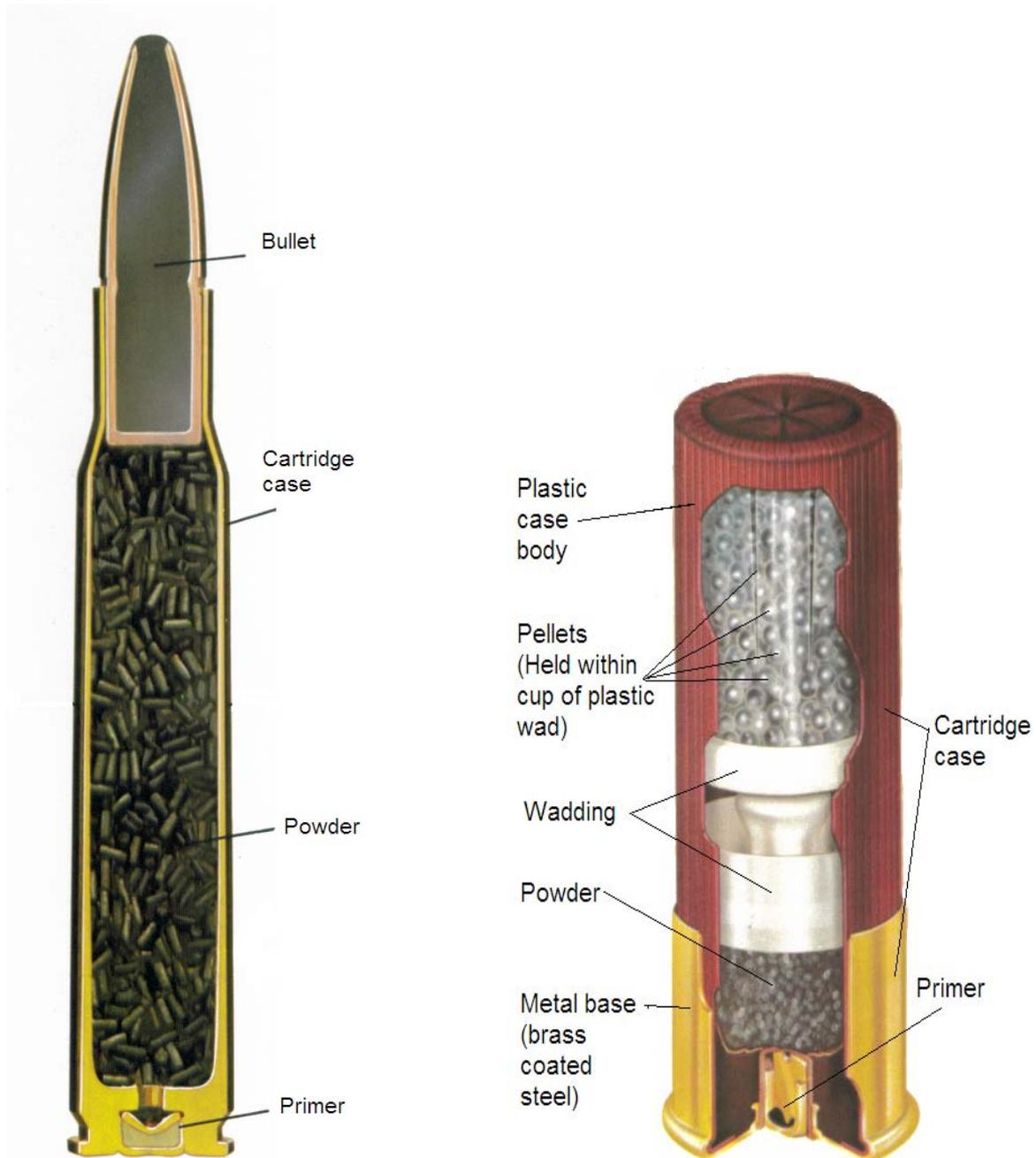
The difficulty with such cartridges was that the power of the cartridges is constrained by the thickness of the brass that can be used that would also allow the rim to be crushed by the firing pin. If made sufficiently thick to resist high pressures then ignition would be unreliable or not possible at all. If too thin the case would burst.

This led to the next significant development, the centre fire cartridge, where the percussive material was held in a separate primer contained in the centre base of

the cartridge case. This primer was struck by the firing pin detonating it and allowing the flash to pass into the case through a flash hole or holes. Figure 6 & 7 below each show an example of a sectioned centre fire cartridge.

Figure 6 Sectioned centre fire  
bulleted cartridge (0.308 Winchester)

Figure 7 Sectioned centre fire  
shotgun cartridge (12 gauge)



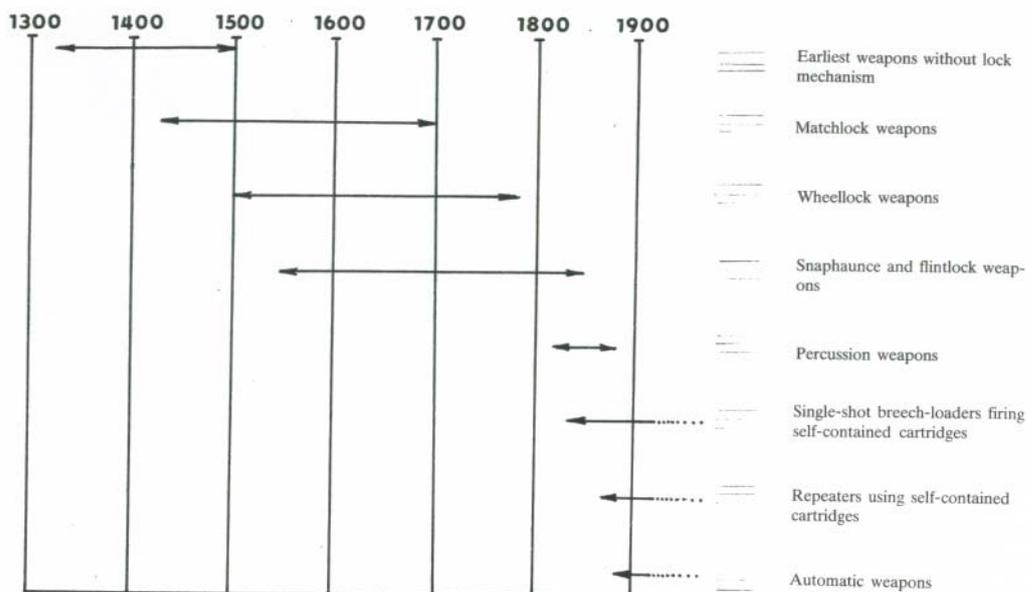
The final development that led directly to the weapons used today was the synthesis of modern smokeless propellants. Cartridges loaded with such propellants became available in the 1880's and were first deployed by France in the model 1886 "Lebel" bolt action magazine rifle carried by the French during World War 1 (WW1).

The first true machine guns (as opposed to hand operated mechanical weapons such as the Gatling) appeared around the 1890's the Maxim guns originally using cartridges loaded with gunpowder but really came into their own with the introduction of smokeless propellant cartridges.

Progress was then very rapid and by the outbreak of WW1 all the firearm operating systems and many of the calibres used today were known and many are still used to this day.

For example the 0.22" rimfire and 12 gauge shotgun cartridges date in their earliest forms from 1857 and 1866 respectively. The 0.308" Winchester is the civilian form of the 7.62mm NATO round which dates from 1957. However that round is itself ultimately a derivation of the 7.92mm (8mm) Mauser which dates, again in its earliest form, from 1888.

Figure 8 below gives a visual representation of the developmental history of firearms



## Discussion

At the time of the introduction of the Firearms Act 1920 the end of era of muzzle loading percussion weapons in first line military service was only some 60 to 80 years distant in time. Virtually all weapons using self contained metallic cartridges were still only some 60-70 years old and their efficacy and especially their ease of use by comparison to muzzle loading weapons, would have been obvious to anyone familiar with firearms.

The wording quoted above of the Pistols Act 1903 is perhaps instructive. A person could be easily shown, or work out for themselves, how to fire a pistol and particularly a revolver or bolt action rifle, that used self-contained cartridges but how many would be able to work out how to load and fire a muzzle loaded weapon. Even if they could their rate of fire would be so slow as to pose a very limited threat.

Therefore it has always been held that weapons using such obsolete methods of ignition as described above should be regarded as antique firearms for the purposes of the Firearms Acts. Additionally as time progressed weapons chambered for other increasingly obsolete ignition types such as Pinfire and Needle fire became to be regarded as antiques as ammunition could not be obtained for them.

Since that time many of the early self contained centre fire cartridges, especially those originally intended to use black powder, had also fallen into disuse and had not been commercially manufactured in many years. For this reason the Home Office introduced in 1992 a list of obsolete cartridges. Weapons chambered for the centre fire cartridges on this list were also to be regarded as antiques as the chance of a criminal being able to find ammunition for them was considered very small.

Thus using these principals it was possible to reasonably separate weapons capable of rapid, sustained and accurate fire irrespective of their age, from those which were not, or for which there was little prospect of ammunition being found. These latter weapons posed no significant risk to public safety as either they could not be fired at all (no ammunition or suitable modern alternative) or were difficult and slow to fire

(muzzle loaders). For these reasons it was considered safe to regard them as antiques and thus for them to be held without Certificate procedures.

However recently there have been several Court decisions where weapons have been held to be antiques merely on the basis of their age. This has involved several WW1 handguns but most seriously a British WW2 military issue Lanchester Sub Machine Gun (SMG) dating from 1940; albeit one missing its firing pin.

This weapon is chambered to accept 9mm Parabellum (9mmP) ammunition. This cartridge is widely available today as it is the NATO standard pistol cartridge and probably the most popular civilian defence cartridge, despite being originally designed in 1902 for the Luger pistol!

The Lanchester SMG was a copy of the German, Bergman, Model MP28/II 9mmP SMG itself a minor improvement of the first true SMG the Bergman MP18/I first used by the Germans in 1918 during their spring offensives on the Western Front.

Design of this weapon (MP18/I) began in 1916 as a direct response to new tactical requirements of the German Army formulated in light of their wartime experience. The weapon used an operating principal known as simple blowback that was well known in 1900 and the only reason such a weapon was not available at the start of WW1 is that no one had formulated a military requirement for one.

The Lanchester was a British WW2 emergency expedient as no British design of SMG was initially available and the urgent need for such a weapon had been highlighted by the devastating use of such weapons by the Germans during the fall of France and before at the start of WW2. Hence a known effective design was copied and put into production.

Almost immediately however the Famous "Sten Gun" was designed and as this was much cheaper and easier to make, largely from metal pressings rather than using expensive machine tools, became the preferred SMG of the British Army, some 2 million being produced. Lanchester production ran to only some 50,000 and these were issued to the Navy and remained there until replaced by the Sterling SMG in the 1960's.

However in functional terms the Lanchester was every bit as effective as the Sten, it was simply much more expensive in time and materials to make, an important consideration in wartime.

In fact a Lanchester is little inferior in term of function to any modern SMG. It is in fact more potentially dangerous than the weapons used in Cumbria and Dunblane and overall at least equal to those used at Hungerford.

Furthermore if the Courts accept that this weapon is an antique based solely on its age, then it must follow that contemporary weapons are also antiques. This would include weapons such as the British "Bren" light Machine Gun (LMG), The American "Thompson" SMG, the Russian "Tokarev" pistol and the German "MG42" General purpose machine gun (GPMG) to name but a few. These weapons are all current service issue somewhere in the world. I would also point out that the original Kalashnikov assault rifle design dates from 1947 (AK 47).

I need hardly point out the potential consequences were one of these weapons to be used in the UK in an attempt at mass murder.

Conversely any such attempt with a muzzle-loading weapon is unlikely to result in mass casualties. Any such attempt with weapons chambered for the obsolete cartridges on the Home Office list could not be made without a supply of ammunition. Such ammunition has only appeared recently in a limited number of calibres as a result of a criminal conspiracy to supply that ammunition for those weapons to sell them to criminal gangs.

With that exception there has only been two positive instances that I am aware of since I joined the Forensic Science Service in 1986 where a weapon using an obsolete method of ignition (percussion cap) was possessed with a view to its potential criminal use. Both these weapons were in fact modern reproductions.

### **Appendix 1: List of high profile incidents using old weapons**

(1) Murder of the schoolboy Rees Jones in Liverpool in 2007. Weapon involved was a WW1 British military issue 0.455"/0.45" Smith & Wesson revolver manufactured in 1915.

(2) Murder of the Derwentshire Council Planning Officer Harry Collinson by Albert Dryden in 1991. The weapon used was an old British Military issue revolver dating from the 19<sup>th</sup> Century loaded with modified 0.410" shotgun cartridges. The murder became notorious as it was filmed on National TV. A police Officer and a reporter were also wounded.

(3) The Hungerford Massacre in 1987. One of the three weapons carried by Michael Ryan was a WW2 American military issue M1 Carbine responsible for the first shots fired and the first fatality. This weapon was a contemporary of the Lanchester.

In addition to the above there have been numerous, lower profile murders involving weapons such as the Luger P08, Colt 1911, Walther P38 pistols and Webley revolvers and many others dating from WW1 & 2. Shotguns dating from the late 19<sup>th</sup> and early 20<sup>th</sup> Centuries have commonly been encountered.

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