A HISTORY OF FIREARMS
A History of

FIREARMS

From Earliest Times
to 1914

by

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Glossary

**ARTILLERY**—engines to throw projectiles by explosive or other means.

**BARREL**—the hollow tube of a gun or cannon.

**BLOCK TRAIL**—a trail which is made in a solid block.

**BOLT**—a short heavy arrow.

**BOMBARD**—from the Latin meaning 'hum'. Not necessarily a type or size of cannon.

**BOMBARDELLE**—a small bombard.

**BORE**—the hollow space inside the barrel, also the diameter.

**BRAZIER**—an iron basketwork to hold fire to heat cannon shot.

**BREECH**—part of the barrel which is open to take the charge.

**CANNON**—from ‘cane’, a tube. From early time referred to the heavier firearms.

**CARBINE**—a hand arm mainly used by cavalrmen, shorter than a musket.

**CARRIAGE**—the framework used to support and to transport a gun.

**CASCABEL**—the small projection at the rear end of the gun barrel.

**CHARGE**—the powder or propellent necessary to throw a shot.

**CHASE**—the part of the gun enclosing the bore.

**COCK**—apparatus for holding igniter, as in matchlock or flintlock.

**COIGN**—a wedge used for elevating or depressing a gun barrel.

**DART**—a heavy projectile shaped like an arrow.

**DOG**—another name for cock.

**DOLPHIN**—lifting handles so called because they were made as dolphins.

**FELLOES**—the piece of wood making the outer ring of a wheel.

**FLAMMENWERFER**—German flame thrower.

**FLINTLOCK**—a lock or apparatus to produce fire by means of flint.

**FUZE**—a device for igniting the charge in a shell, etc. The Oxford Dictionary gives ‘Fusè’ but ‘Fuze’ is the common ‘Gunner’ usage.

**GIN**—a wooden framework used for raising a gun barrel.
GLOSSARY

GUN—now taken to mean a weapon discharged by gunpowder but also said to have come from mangonel.
HOWITZER—a short gun firing shells at high angles.
IGNITERS—devices to ignite gunpowder or propellent.
LATON, LATONE, LATTEN—a yellow mixture like brass or bronze.
LIFTING HANDLES—attachments on metal gun barrel used to unship gun from carriage.
LIMBER—a two-wheeled contrivance to take the trail of gun carriage when on the move.
LOCK—a mechanism to hold means of ignition.
MAGAZINE—a storeplace of ammunition, a small compartment to hold ammunition.
MANGONEL—a type of wooden artillery.
MANTELET—a wooden shield to protect artillerymen during operations.
MATCH—length of cotton or other material impregnated to burn steadily.
MITRAILLEUSE—a generic name for French machine guns, from ‘mitraille’ small missiles.
MORTAR—a short wide-mouthed piece for throwing or lobbing projectiles.
MUZZLE—the front opening of a barrel or gun.
PAN—the hollowed portion of a lock used to hold the priming.
PRIMING—a small quantity of detonating compound necessary to set off the charge.
PROPELLENT—the means of propelling the projectile.
QUARREL—a short thick arrow often of metal, capable of being fired by gunpowder.
SPANNER—a lever or key used to wind up the spring in a wheel-lock.
STOCK—the wooden end or butt of a firearm.
TILLER—the wooden bed of a gun capable of being directed.
TOUCH HOLE—the hole through the barrel to the charge.
TRAIL—the long back portion of the carriage.
TRAIN—a group of artillery assembled for a specific purpose.
TRUNNION—projections on the side of a gun barrel to permit elevation.
WHEEL-LOCK—a lock worked by means of a spring, wheel and pyrites.
Introduction

The study of firearms can lead one through a vast range of inventions, and in trying to avoid going gradually away from the subject I have decided to limit my field to the strict definition as given by the *Oxford New English Dictionary* in which it is written that a firearm is 'a weapon from which missiles are propelled by the combustion of gunpowder or other explosive'.

So the narrow interpretation of firearms, as weapons to be carried in the hands or arms, is not accurate and the many varieties of heavy artillery should be included. Once again a definition is needed. Originally ancient artillery included such engines as giant slings, catapults, and espringals, but as the projectile was not shifted by means of an explosion, that branch of artillery is omitted from this work. Thus the major groups will include artillery of a heavy nature, mobile and immobile, lighter artillery including trench mortars; an even lighter group including machine guns which although portable by man are usually placed on the ground for firing; the slightly lighter group of those which are portable but need two hands as for the musket fired from the shoulder; and the last and lightest group, all those weapons carried in one hand such as the pistol and revolver.

If the subject is followed in decades and centuries, the slow development of heavy artillery at one period compared with the rapid changes in muskets seem to present an unbalanced picture; and a more or less continuous narrative dealing with one type of firearm at a time will probably give a smoother and more understandable story.

After grouping the normal firearms, there remain inventions which may begin in the limits of these definitions and then grow out of them. For example a rocket launcher might be considered as a firearm, but the rocket has developed into a
INTRODUCTION

self- or radio-controlled projectile not far removed from a remote-controlled aircraft, which can hardly be considered as a firearm. The many types of automatic pistols and carbines of the present era make for confusion. Thus it has been decided to limit this work to firearms in use up to the end of the First World War, and so avoid a short-sighted view from the present day; and this will allow the changing currents to be described without becoming involved in too many cross-references or too much confusing detail.

Closely allied with the weapon is the projectile and its propellant. These have a direct bearing on the development of firearms and we have therefore to study it carefully. So also, methods of igniting or detonating have an important part to play in the chain of events and these also are included.

The use of the word 'fire' in firearms has a literal interpretation as a noun rather than a verb. 'Explosive' arms might be a better term from some points of view but I would rather base this book on the usual word. So it will not be out of place to discuss the ancient use of fire because this led to the discovery of gunpowder, and later other propellents of better and stronger quality.

Torpedoes are omitted because the tube is the true weapon and as such it is uninteresting. Heavy bombs and blockbusters are also the projectiles rather than the weapons, and therefore not included. Grenades and some types of bombs are included, for although they may be considered as projectiles they are at times fired from artillery and muskets. So much for the scope of the subject.

We cannot always tell who the earliest discoverers were. In some cases the development of a weapon or invention was so slow that several may have helped at important stages and yet not be individually of much interest. Dates are then more important, historically, than people.

The application of gunpowder to firearms took place at the end of a period known as the Dark Ages. The enlightened days of the Greeks and Romans had long since gone and most people were ignorant and superstitious. The learned class was the clergy, the monks who copied ancient manuscripts, who had the time to correspond with other learned men and to experiment in the intervals between religious practices, and
who had the necessities of life supplied and did not have to strive constantly in the battle for existence. But even their search for knowledge was not without trouble. To possess knowledge of new processes and inventions in those days might bring the suspicion of being a magician or agent of the devil. Learned men were imprisoned for their possession of new learning—Friar Bacon was one, and even a Pope suffered this indignity. Thus it can be readily understood that many discoveries were not announced publicly for all to hear and know, but often hidden in enigmatic writings or not committed to paper at all. So the gradual release of the secret would come to mankind in a confused way with the record of the original author often lost. How different from our own times, when the inventor of a war engine is in the courts and newspapers for weeks while a government decides how much, and whether, he is to be paid. Rumour and legend gave names to inventors, often the wrong names.

But I have tried to trace the history of firearms and the pioneers who made that history, step by step from the first stages to the fringe of a complex modern science.
I

THE USE OF FIRE IN WAR

I. EARLY EXPERIMENTS

The modern use of the word 'firearm' brings to mind a weapon which expels a projectile by means of a sudden explosion; the 'fire' part of the word suggests the result of the exploded gunpowder. But long before gunpowder was invented fire and methods of using it had been employed in warfare.

It is true that the first application would be a direct method, such as when a raider applied a flaming torch to the wooden home of a helpless victim or to the inflammable portions of a fortress. The Assyrians and Ancient Greeks knew well how to use fire for both attack and defence, as may be learnt from bas-reliefs and the tales of Homer. The wielder of fire seeking personal protection used various means of projecting the fire. Throwing a torch was elementary, but vessels or pots with inflammable mixtures, and a burning firehead to an arrow were soon developed. Even these had their defects. A Roman historian of the fourth century urges that such arrows must be shot gently, for a rapidly flying arrow would be extinguished by the displaced air.

It may be recollected that the Bible furnishes an early example of fire being conveyed by animals, on the occasion when Samson 'went and caught three hundred foxes and took firebrands and turned tail to tail, and put a firebrand in the midst between two tails. And when he had set the brands on fire, he let them go into the standing corn of the Philistines and