HISTORY OF FIREARMS

By Jim Keefe

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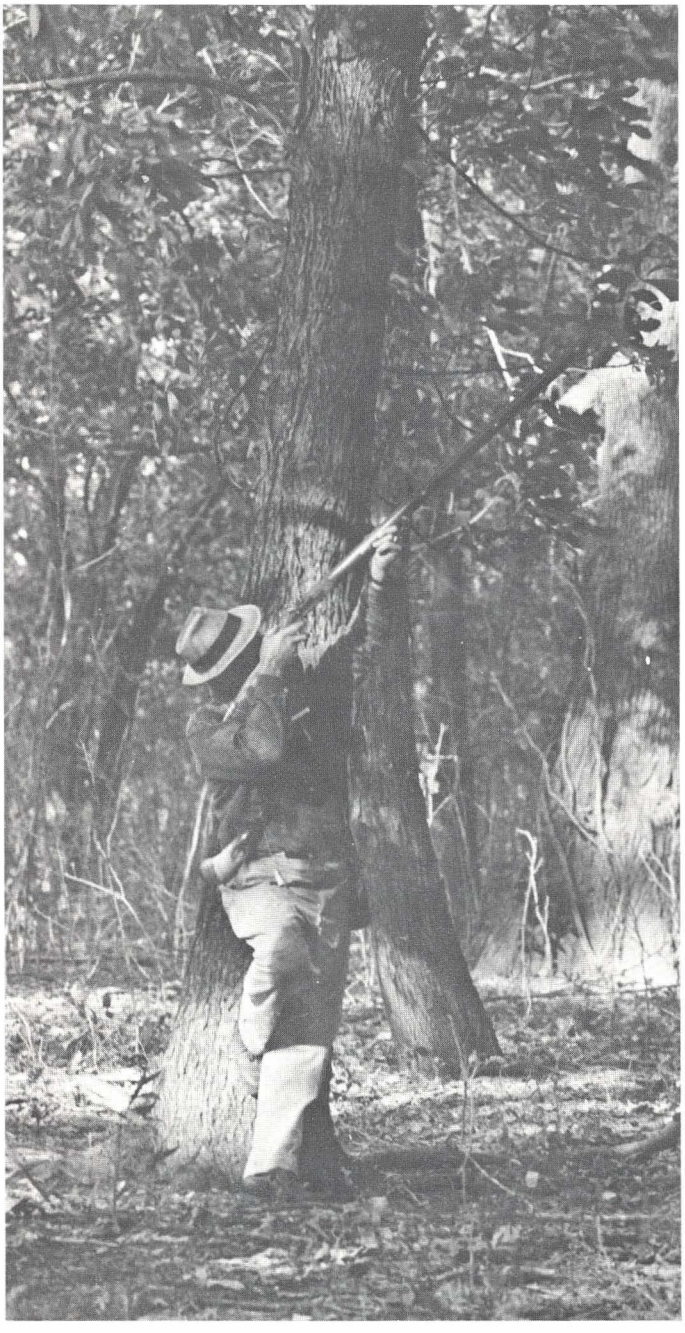


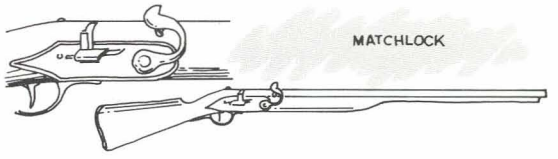
IN HIS mind-stretching book *African Genesis* author Robert Ardrey proposed that the designation "man the tool-maker" more properly should be "man the weapons-maker." For, while tools distinguish man from the lower animals, weapons also are a unique human attribute. Along with the earliest tools made of flaked rock, archeologists have found obvious weapons in the form of clubs.

Thus, through the ages, man's weaponry has developed right along with his other implements and the history of firearms is as fascinating a story as the development of the tools of agriculture.

As in the case with most inventions, origins are usually obscure. Quite often an idea is conceived long before it comes into practical use. For example, breechloading cannons were known as early as 1400 A. D., though the first really practical breech-loading system did not occur until about 1776 and was not in widespread use until much later.

Following is a chronology of events leading up to modern firearms. There were numerous side excursions and overlapping, and only rarely does the real inventor get the credit that is due him.

1250 *ca.*	Roger Bacon wrote of gun powder he had made. Although the Chinese are usually credited with the invention of gun powder and Marco Polo with its introduction into Europe, Polo was born about the time Bacon was noting his experiments with the stuff. Possibly Bacon got his ideas from old manuscripts of the Arabs. It will probably never be known with certainty who invented gun powder but Bacon is our first written clue.
1300 +	"Guns" already in use. One legend attributed their first use to hurl a projectile to one Black Berthold about the year 1355.
1326	A manuscript of an order for cannon at Florence, Italy. They apparently looked like vases or bottles and were fired through a touch hole with a hot wire. Projectile was of iron and arrow-like in appearance. Balls of stone were soon known, though.
Aug. 26, 1346	Battle of Crecy in which cannons were used. Probably first documented use in warfare.
1350 *ca.*	Hand guns in use. Simple iron or brass tubes fired by hot wires through a touch hole.
1374 *ca.*	Wooden poles added because heating of the tubes made handling uncomfortable.



1400 *ca.* Invention of the "match" followed by the "serpentine" which held the punk or match.

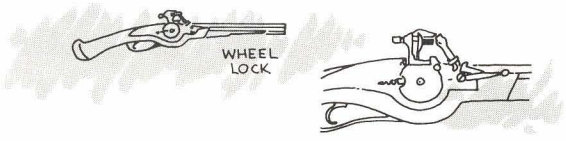
1475 *ca.* Matchlock invented. Now had lock, stock and barrel and readily recognizable as a gun. The matchlock consisted of an arm (also called "serpentine") which held a glowing "match." When depressed by a trigger mechanism, it touched the hole at the breech, igniting the powder. The matchlock was the first firearm brought to the New World. This was the arm that confounded the Indians in the early encounters between explorers and aborigines.

1500 *ca.* Rifling of barrels in some use.

1550 "Corned" powder discovered. This was the first major improvement in gun powders making for more consistent operation. Previously powder was merely mixed dry—saltpeter, charcoal and sulphur—which was dangerous to handle, often not homogenous, and absorbed moisture and formed lumps, some of which did not explode. "Corning" or granulation of powder was done by wetting the mixture and forcing it through screens to produce hard little grains which burned quickly and cleanly. This was black powder's fullest development, essentially the same process used today.

1600 *ca.* Lead ball in almost universal use.

1508 *ca.* Wheel locks invented (and were in use until at least 1829!). This freed one hand, making it possible to aim a weapon more precisely and made invention of pistols or hand guns possible. Also made

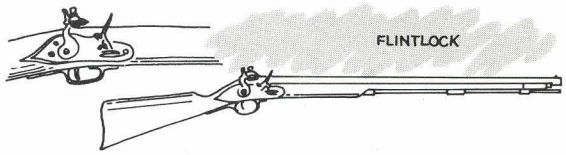


invention of booby traps possible. The match lock was the first type of firearms used in America, but the wheel lock soon supplanted it. The wheel lock worked on the same principle as our cigaret lighters—a serrated wheel spinning against an iron pyrite "flint" throwing a shower of sparks. These were directed into a pan of powder, which in turn ignited the powder in the barrel. It required a key or spinner to wind the spring which turned the wheel and was an unusually sophisticated mechanism for the time.

1510 *ca.* Cartridges of a type were in use, instead of loading with loose components. The wheel locks were losing favor because they were expensive to make, temperamental in operation and subject to malfunction. A lost key or spanner was a real tragedy.

pre-1550 Snaphaunce lock invented (and was in some use until about 1885!). "schnapphahn" = "pecking rooster." The snaphaunce was a primitive flintlock with a fixed steel that was struck by the cock, which held the flint. It had a separate cover for the pan which held the ignition or priming powder. The pan cover had to be manually pushed back or actuated by a push rod before the gun could be fired.

pre-1550 Miquelet lock invented. Steel and pan cover the same. The mainspring was outside the lock and held and released the cock. Uniting the striking steel and pan cover enabled the flint to rock back the steel-pan cover exposing the powder in the pan.



1600 *ca.* The patched ball was known. The significance of the patched ball is that it permitted use of rifling without deforming the ball while driving it down the barrel. Previously, bullets were driven down the barrel and deformed to fit them into the rifling. Now the patch gripped the rifling, imparting the stabilizing spin to the ball.

1610 *ca.* The flintlock invented, probably by Marin le Bourgeoys of Lixeux, Normandy, France. The flintlock enjoyed a longer use than any other type of ignition, some 200 years. The true flintlock differed from the snaphaunce by having a pan cover and striking steel in one piece that rocked back on being struck by the cock, similar to the miquelet lock. It differed from the miquelet in having a tumbler and main spring inside, which actuated the cock.

From this period until shortly after our Revolutionary War, only minor improvements on existing firearms were made. About 1750 the Pennsylvania-Kentucky rifle came into being.

1807 — Alexander Forsyth invents fulminate priming.

1818 *ca.* — Prelat patented a percussion cap of copper. Others had experimented with various types of caps previously.

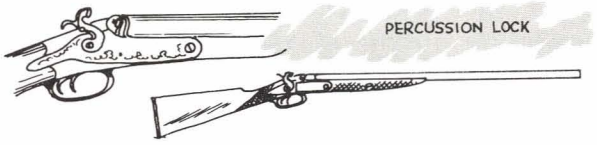
1825 — Derringer switches from flintlocks to percussion system.

1836 *ca.* — Cylindrical-conical bullet with a hollow base devised by Captain Delvigne, improved by C. E. Minie and J. H. Burton. This permited faster loading of muzzle loading guns, since the hollow base expanded on firing to grip the rifling, doing away with necessity for patching the bullet.

1803 — U. S. Army adopted the rifled musket.

1841 — U. S. Army adopted the percussion cap, although sportsmen had been using them for nearly 20 years.

1862 — Telescopic sights in use.



1776 — British Army officer James Ferguson invented a practical breech-loading flintlock rifle, but not until

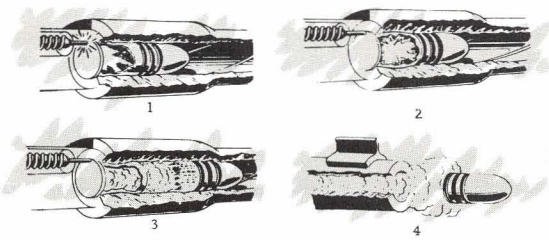
1819 — was John Hall's breech-loading rifle adopted by the U. S. Army, though he patented his rifle in 1811!

1812 — J. S. Pauley invented a breech-loading arm using metallic cartridges. Note this is before the invention of the percussion cap, but attracted little attention.

1837 *ca.* — Johann N. von Dreyse invents the "needle" gun, a breech-loading cartridge weapon fired by a firing pin.

1848 — Sharps patented a cartridge for breech loaders. About the same time LeFaucheux in vented the pinfire cartridge, which is basically the modern firing system.

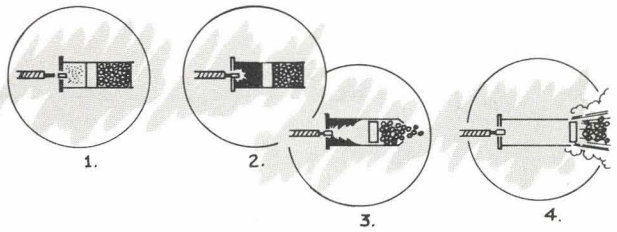
1858 — Rimfire cartridges were brought out by Horace Smith and Dan B. Wesson.



1852 *ca.* — Center-fire cartridges known, and were perfected in

1886 — by Berdan. There have been only slight changes in cartridges since.

Note that all these improvements are prior to our Civil War (1861-65), although that war was fought almost entirely with muzzle-loading weapons.



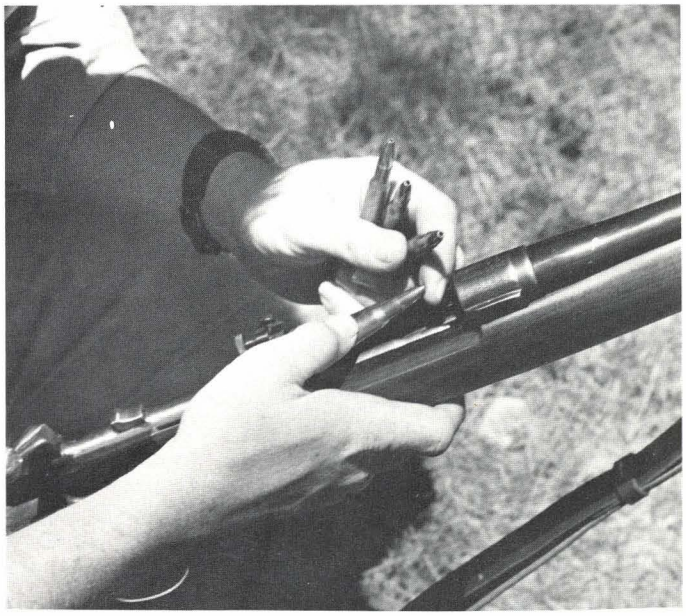
by 1870 — Breech-loading systems were in widespread use and muzzle-loading systems were obsolete. By or close to 1870 all our present systems of operation were known —bolt action, trap door, rolling block, drop block and tip-down.

While attempts to devise repeaters had been known since the earliest times, development of the metallic cartridge made possible practical repeating arms.

1830-35 — Sam Colt perfects the first practical revolver, patented 1835-36.

1857 — Smith and Wesson adapted the revolver to metallic cartridges.

1858 *ca.* — B. J. Henry perfects the repeating rifle which was first marketed in 1866.



Despite all the advertising ballyhoo, no basic changes have been made in firearms since about 1870, only improvements and refinements.