

Medieval Warfare

Raising armies

The Saxon armies had consisted of Thaners (landowners) the housecarls (King's bodyguard) and the fyrd (Select and Great) that was made up of peasants and freemen who had to join the army for eight weeks a year. The Early Norman Kings relied on military service supplied by knights, and the fyrd. The loyalty of the knights became increasingly at question and the fyrd were untrained and could not be relied on for a lengthy campaign. The fyrd gradually lost importance, although Henry II revived the fyrd system with the Assize of Arms in 1181. By the 1200's, the feudal way of gathering armies had gone and barons no longer had to provide knights but paid the king scutage or shield tax so that he could hire mercenaries. However, some kings did still rely on trusty friends to provide troops when the need came. From 1270's onwards with the use of pike and longbow, footsoldiers became more important and were cheaper to kit out than cavalrymen. Commissioners of Array conscripted infantry for short periods. Soldiers who served for longer bound themselves to serve for a period of years. (about 1½p a day in 1346) - these were the first professional soldiers.

Movement and supplies of armies

An army once raised, had to be moved to meet (or avoid) the enemy. More often than not, the battle would be decided by an ability to get troops quickly to the right place as much as on the total size of forces or their fighting powers. Moreover they had to be fed and supplied so that when they reached the battlefield they were in a proper condition to fight. A good strategist is skilled at moving his troops and placing them in the best position using the lie of the land and other features such as woods, marshes etc. A good tactician is skilled in the use of his troops once they have been positioned. Speed was limited by wagons and supplies- a broken wheel could hold up a whole army. Fords and bridges were a regular place of ambush and crossing at these narrow points might delay an army a whole day. There were no accurate maps and so scouting parties were vital. The army relied on local people and enemy deserters. On the march, armies moved in columns, with three divisions, the Van, Mainguard and Rear. Moving into battle positions, the Van formed the right wing of the army, the Mainguard the centre and the Rear the left wing. If the road was too narrow then often a reserve division would tuck in behind the other two. Wagons and non-combatants were left behind the army, guarded by a reserve. Coordination of different armies was hard to achieve and often led to armies being cut off.

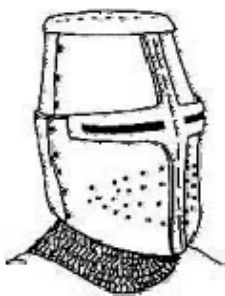
Tactics

There were two basic ways of destroying your enemy's ability to fight. Either inflict heavy casualties or frighten him off the battlefield.

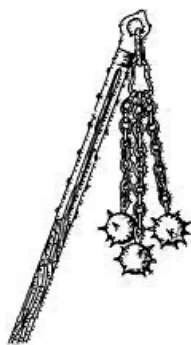
The mounted charge won most battles because early crossbows and shortbows were too feeble to inflict severe damage. The heavy cavalry relied on weight rather than speed. It was the shock of impact (or thought of it) that destroyed the enemy. Their horses (destriers) were not racehorses, but descendents of today's huge dray horses. Often battles were decided on the outcome of simultaneous charges by both sides. A *melée* then followed in which number or determination eventually told. The introduction of the longbow changed everything for it meant that there was no need to leave the outcome to hand to hand fighting. The enemy could be shot down from a distance, it became possible to kill or dismount a charging enemy before he could get to hand-strokes. It was the combination of longbow and dismounted men at arms that caused England's victories at Crécy, Poitiers and Agincourt. Even so, it was important for dismounted men at arms to have their horses available to enable them to chase a beaten enemy.

Whilst the Welsh had invented the longbow, the Scots invented the pike. Circles or squares of pikes couldn't be broken up by cavalry - only the combination of bowmen and heavy cavalry could do the trick. The archers would create holes in the pikemen's ranks, and then the heavy cavalry would crash in through the gaps, or ride down any rush against the archers. Edward I brought both the longbow and pike to use in the English army.

Most medieval battles were fought on a frontal attack. Outflanking was rarely used, although when it was it usually won the battle (Evesham 1265). Ironically, very few Medieval armies had the coolness and discipline to avoid panic when the enemy suddenly changed from a frontal to side or rear attack! It is true to say that most battles in the Middle Ages were head-on slogging matches. Orders and messages were hard to send for knights encased in steel, surrounded by incessant din and with a limited view through the visor.



Helm



Flail



Knights



Footsoldier

The Longbow - In 1188 William de Braose, an English knight fighting the Welsh, reported that an arrow had penetrated his chain mail and clothing, passed through his thigh and saddle and finally entered his horse. The English now realised that even mail-clad knights were not safe from the power of the longbow. The longbow was soon adopted by the English army. This was one of the weapons used by the English Infantry from the reign of Edward I until the Tudor period. It enabled the English to win the victories at the Battles of Falkirk (1297), Halidon Hill (1333), both against the Scots; and Sluys (1340), Crécy (1346), Poitiers (1356), and Agincourt (1415) against the French.

The bow stave was made of **yew** and measured **6 feet** and had an average range of **250 metres** and could pierce the armour of mounted knights. It could pierce a 5 inch thick plank of oak at 100 metres. A good longbowman could fire 12 arrows in a minute compared to 3 shafts from a crossbow. Although not as lethal as a crossbow it was more accurate. At ranges up to 55 metres the arrow flew straight, and the heavier type known as a 'sheaf arrow' was used, which gave better penetration. At longer ranges a 'flight arrow' was used. This meant that the longbowmen could fire volley after volley of arrows onto the enemy, often with devastating effects. They were particularly effective from a defensive role, firing on charging cavalry.

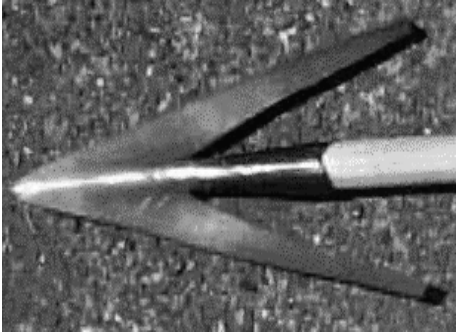
Bow-strings were made of **flax or hemp** and waterproofed with **beeswax**. Each **arrow** was just under a metre long, were made from **deal or ash**. The feather was plucked from the feathers of geese and then coloured. The tip was made from iron. The arrows were carried in a waterproof, **leather quiver** that held 24 arrows, (a sheaf). Bowmen used a mixture of wax, resin and tallow to coat their bows.

Bowmen would often ride a pony to the battlefield and then dismount. Along with their archery equipment they carried a shield and a sturdy wooden post with a reinforced metal tip. Just before battle the archers hammered these posts into the ground with the sharp metal point facing at a 45° angle towards the enemy. They carried a long handled mallet for this job. The archers then positioned themselves behind their shield. From behind this deadly barricade the bowmen were protected from charging cavalry. Many preferred to strip themselves to the waist before the action started.

The archer's fingers were protected from being damaged by the bow-string, by a leather guard called a **tab** and his wrist by a **bracer**. On his head he wore a metal helmet with a leather cap inside.

An archer required years of training in order to use the longbow to its greatest effect. Practice was carried out firing at a butt. In fact, archery was made a compulsory sport by law. In an attempt to make the English the best longbowmen in the world, a law was passed ordering all men earning less than 100 pence a year to own a longbow. Every village had to arrange for a space to be set aside for men to practice using their longbows. Every Sunday, after church, all men between 16 and 60 had to practise. In 1314, Edward II became concerned by reports that young people were more interested in playing a new game called football than practising archery. King Edward's answer to this problem was to ban football in England.

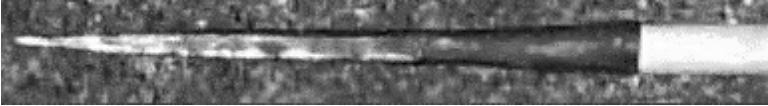
The longbow continued to be a popular weapon for the English army until Tudor times, when the development of firearms (muskets and pistols) and artillery made the longbow obsolete. Although far superior to early firearms in its accuracy and rate of fire, the shortage of trained archers and the expense of employing archers, forced the English armies to abandon the longbows. The longbow was really only effective in a defensive role and was of limited value in attacking. The development of firearms gave more flexibility to military tacticians. However, it wasn't until the American Civil War in the 1860's that a rifle with the same killing range as the Longbow was developed. The French so feared the longbow that if an archer was captured he had his arrow fingers cut off. Before battles, in defiance, English archers used to put up two fingers to the French, the origin of the infamous 'V' sign.



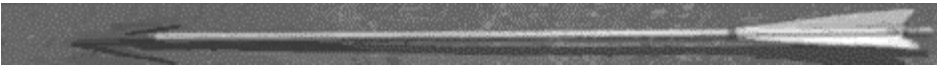
Hunting arrow



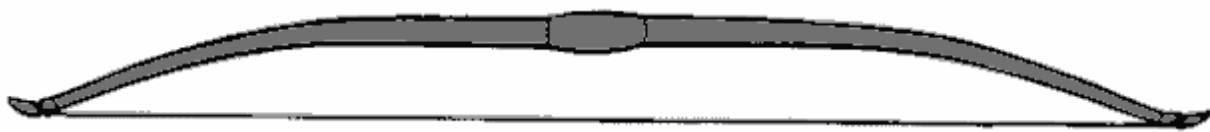
Sheaf Arrow



Bodkin (Armour Piercing)



Arrow



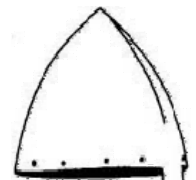
Longbow



Bracer



Dagger



Helmet

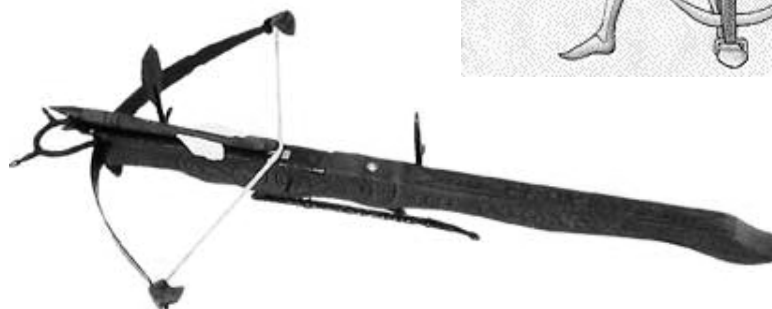
Crossbow

The crossbow needed less strength, skill and training. The crossbow was also more expensive to produce than the longbow and was therefore never going to become a national weapon. It was chiefly the weapon of the mercenary soldier. It was made of yew, and whalebone and later of steel. The bow was pulled back using a series of cogs and pulleys. Crossbows fired 45cm bolts or quarrels unlike the 90cm longbow arrow. The crossbowman could aim straight at his target, sighting with his eye, and had the advantage of being able to preload his weapon and release it quickly with a trigger. However, the slow rate of fire (three per minute) and its weight were major problems. A longbowman could shoot four arrows in the time a crossbowman could fire one! Crossbowmen took to wearing a large shield called a **parvis** on his back. When he had fired, he turned his back to his enemy to reload. The wounds the crossbow inflicted were so severe that the Lateran Council of 1139 outlawed it, as a barbarous invention. The crossbow and its relatives such as the arbalest were prone to jamming and the mechanism often broke. However, the coming of the longbow did lead to improvements in the design of the crossbow, namely the arbalest. Until gunpowder appeared, crossbowmen were as important in continental warfare as the longbowmen were to England.

Type of Weapon	Draw weight	Bolt weight	Speed of bolt
Longbow	68 lbs.	2.5 oz	133.7 fps
Crossbow	740 lbs	1.25 oz.	138.7 fps



Crossbows



Staff weapons

With the development of archery, cavalry charges became pretty pointless and so men at arms fought on foot. Therefore new weapons were needed - long handled weapons came in to use - two handed swords, partisans, halberds, glaives and the pole-axe as well as the pike. The pikes were about 16 feet long and, used in ranks or blocks of men, they kept the enemy at bay.



Bill Hook



Gisarme



Glaive



Halberd



Holy Water
Sprinkler



Poleaxe



Partisan



War-scythe



War-axe



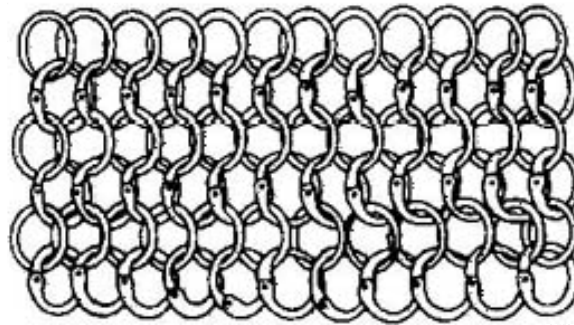
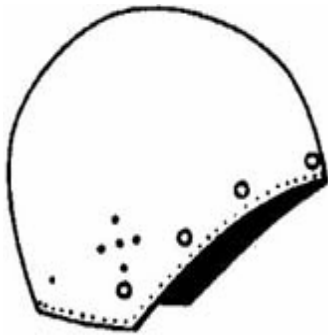
Fork



Sword

Armour

Armour itself changed in the time of Edward I with some plate armour being added to the mail worn up to then. The beginning of the Hundred Years War saw the move toward thicker armour with curved surfaces so glancing blows would do no harm. A new helmet called a BASINET also got rid of edges on which sword blades could bite. Eventually, the shield disappeared so armour of the left grew thicker and sometimes a fixed shield was added. It was heavy but its only vulnerable point was the unprotected right armpit where pikemen aimed at a mounted knight. In such heavy armour, the knight could expire of heat and exhaustion as much as wounds, and if on foot, the knight was unlikely to be able to escape capture and death.



Basinet

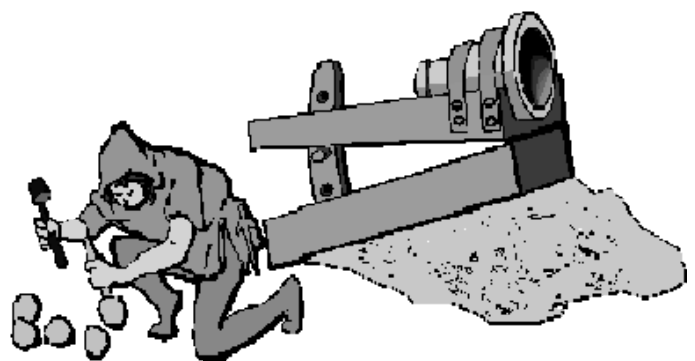
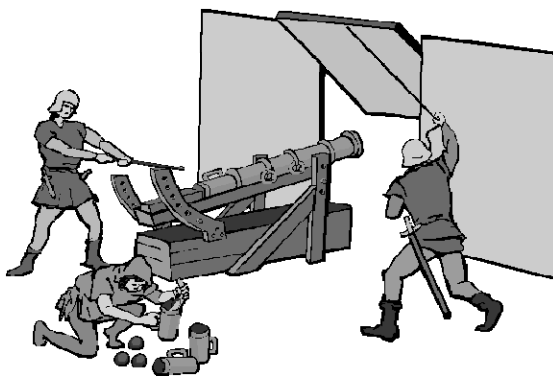
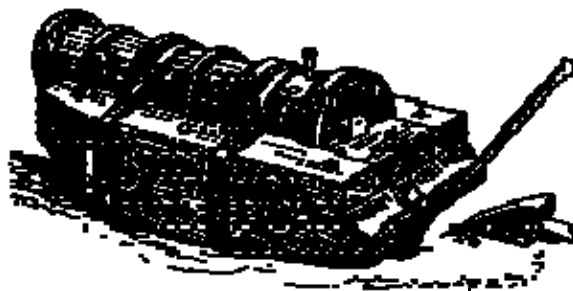
Chain mail



Artillery

Gunpowder was first used in Europe soon after 1300. Edward III used gunpowder against the Scots as early as 1327. Some was used for battering gates and woodwork; others were mankillers firing bolts or pellets. This last sort were often fixed in a row on a wheeled beam to allow the gunner to sweep his match along the touch holes. These cannons were called RIBAUDS and were mounted behind earth mounds at the Siege of Calais 1346. Small cannon could be cast in one piece, but larger ones were made by welding iron bars around a hardwood core and securing them with hoops, after which the wood was bored or burned out. The barrel could be up to 10' long. However, the amount of powder needed to propel a large ball with any force was so great that these cannons used to explode. One of these killed James II of Scotland at the Siege of Roxburgh in 1460. These early weapons were slow to reload and difficult to move in a hurry. Elevation of these cannon was made by driving wedges under the base. They were only of any use when the enemy stayed put. The use of small iron balls from the 1480's onwards made cannon even more effective.

Early mortar consisted of a wide-mouthed short barrel from which exploding powder discharged a hollow metal ball containing an explosive. This ball had a burning fuse attached to it.



Firearms

The first small arms were developed as miniature models of early artillery weapons and were at first called hand cannons. The change-over from bows to firearms lasted over several reigns. The first crude firearms were replaced by the serpentine (S-shaped holder) that applied the burning match -- a length of cord soaked in saltpetre -- to the pan by means of a trigger. Later the butt became a shoulder-piece and the weapon was called an arquebus or harquebus. The effective range of this or of the later caliver was still less than that of the longbow or cross-bow, but when it hit armour the bullet from any of these weapons could penetrate and make a dangerous wound.

The disabilities of weapons of fire were many,

- If there was insufficient saltpetre in the powder or it was damp it furred the pieces and they did not go off. The match must be well twisted and dry. Weapons must be clean and not overcharged.
- Bullets were some- times discharged with only half the powder burnt.
- The men had first to charge their pieces with powder from their flasks, by charges filled with powder or by cartridges. The bullet had to be placed on top of the charge and a plug pressed down with the scouring-stick or ramrod to keep the bullet close to the powder.
- Touch-powder had then to be put in the pan and the match into the cock or serpentine.
- After all this the wind might blow the powder away.
- It might have been added that the arquebusiers' glowing matches gave them away in the dark.

Before the handgunman could fire he might have been hit by several arrows, and even if he escaped injury his bullet would often go wide or not reach the target. How could any handgunner equal the legendary performances of Robin Hood who could split a willow wand at umpteen paces or the deeds of the bowmen of Crécy, Poitiers and Agincourt?

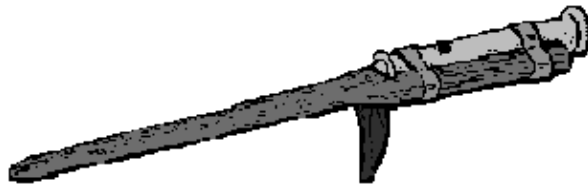
Firelocks - In the first quarter of the 14th century, the firelock was developed.

- A simple, smooth-bore tube of iron, closed at the breech end except for an opening called a touchhole, and set into a rounded piece of wood for holding under the arm.
- The tube was loaded with shot and powder and then fired by inserting a heated wire into the touchhole.
- Later models had a saucer like depression, called a flashpan, in the barrel at the outer end of the touchhole; a small charge of powder was placed in the flashpan and fired by applying a so-called slow match.
- The slow match, consisting of a piece of cord soaked in a solution of potassium nitrate and then dried, smoldered without flaming or becoming extinguished.
- The charge of powder in the flashpan was difficult to ignite, was frequently affected by moisture in the atmosphere, and required repriming just before use to ensure against misfires.

Arquebus or Hackbut

A primitive portable firearm used in the 15th and 16th centuries.

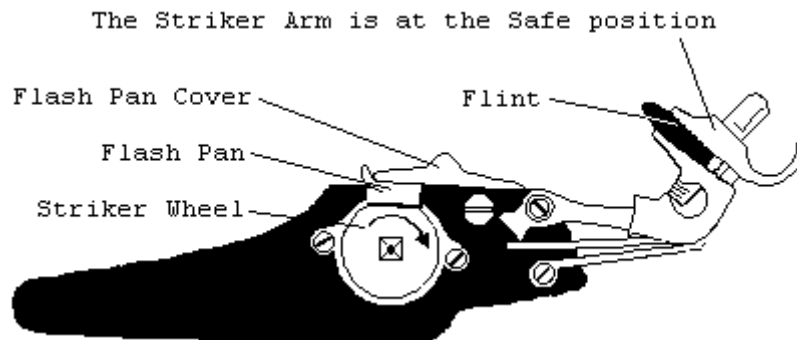
- From Italian 'arca bousa' meaning bow with a mouth.
- Could weigh up to 20 lbs (8Kg).
- It originally consisted of a heavy barrel with a $\frac{1}{2}$ inch bore and a straight stock
- It was so heavy and cumbersome that it required a support for firing. Each gunner carried a forked head staff with him. The butt was held to the gunner's chest and he pressed down the head of the serpentine to reach the priming pan. After firing, he reloaded from a large powder horn and bullet bag slung at his waist.
- The bullets weighed an ounce each, and were made of lead or cut from the end of a red hot rod and forged into a round ball.
- Had a firing range of about 100metres.
- Later improvements included provision of a longer, bent stock, which permitted firing from the shoulder.
- Toward the end of the 16th century the arquebus was superseded by the musket.



Wheel Locks

About 1515 an improvement in the firing mechanism of small arms, called the wheel lock, was invented.

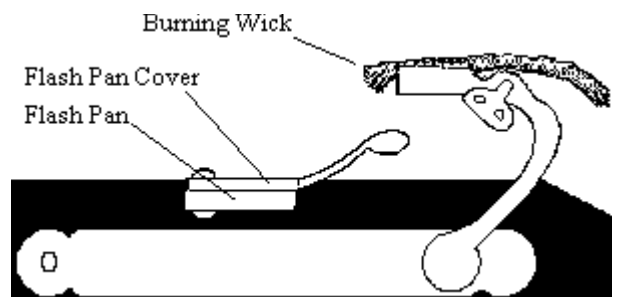
- It consisted of a spring-driven wheel, which, when released by a trigger mechanism, rotated a hardened steel rim against a lump of iron pyrites, throwing a shower of sparks into the powder in the priming pan and thus firing the weapon.
- At approximately the same time as the wheel lock, gunsmiths introduced rifled barrels.
- The wheel lock was too complicated and expensive for general acceptance; early in the 17th century, the snaphance was invented. This type of firing mechanism consisted of a hammer powered by a trigger spring and bearing a piece of flint; when the trigger was pulled, the hammer struck the flint against a serrated steel striker plate located above the priming pan and thus produced a shower of sparks.



Matchlocks

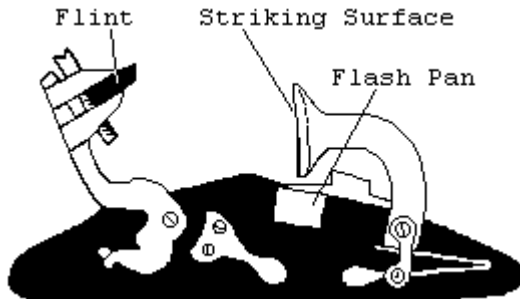
About the middle of the 15th century a type of musket called the matchlock was introduced.

- This weapon was essentially the same as the firelock, except that the slow match was clamped in the top of a device called a serpentine, an S-shaped piece of metal pivoted in the centre.
- Pulling with one finger on the bottom of the serpentine, as on a trigger, moved the top with the attached slow match into the priming pan, which contained the firing charge of gunpowder.
- Because only one finger was needed to fire the weapon, the matchlock left both hands free to hold and aim the firearm.
- A refinement in the shape of its stock to permit firing from the shoulder produced the arquebus.



The Snaphance

First appeared around 1570, and was really an early form of the Flintlock. This mechanism worked by attaching the flint to a spring-loaded arm. When the trigger is pressed, the cover slides off the flash pan, then the arm snaps forward striking the flint against a metal plate over the flash pan and hopefully produces enough sparks to ignite the powder. This mechanism was much simpler and less expensive than the Wheel Lock.



Flintlocks

The final development of the flint-ignition firearm was the flintlock.

- It resembled the snaphance, except that the striker plate was L-shaped;
- the bottom limb of the L was used as a cover for the priming pan, to protect the powder from moisture until the upper limb was struck by the flint of the hammer. This action produced a shower of sparks when the powder in the pan was uncovered.
- The flintlock was the prevailing type of small-arms weapon for both shoulder guns and handguns from the end of the 17th century to the middle of the 19th century.
- Smoothbore flintlock muskets were the primary military weapon for infantry in the armies of the principal European powers

