Hands On Learning
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WARFARE & SOLDIERING H123

Two Sling Stones



A sling has a small cradle or pouch in the middle of two lengths of cord. The sling stone is placed in the pouch. Both cords are held in the hand, then the sling is swung and one of the two cords is released. This frees the projectile to fly in a straight line. It flies on a tangent to the circle that the pouch makes. The sling extends the human arm to throw the stones several times more quickly than an unaided throw.

These two stones are thought to have been found at Carthage, the North African state which fought (and was eventually defeated by) Rome. The Roman writer Vegetius, in his work *De Re Militari*, described the use of slings by Roman armies: 'Soldiers, notwithstanding their defensive armour, are often more annoyed by the round stones from the sling than by all the arrows of the enemy. Stones kill without mangling the body, and the contusion is mortal without loss of blood. It is universally known the ancients employed slingers in all their engagements. There is the greater reason for instructing all troops, without exception, in this exercise, as the sling cannot be reckoned any encumbrance, and often is of the greatest service, especially when they are obliged to engage in stony places, to defend a mountain or an eminence, or to repulse an enemy at the attack of a castle or city.'

Ballista Shot

The ballista was a powerful ancient weapon, similar to a giant crossbow, which ejected heavy darts or spherical stones of various sizes. Early machines probably fired arrows from a bow not much stronger than one a man could draw. Catapults were able to fire such projectiles with considerable accuracy. Their fire could easily be concentrated on a single spot with repeated hits, knocking away the protecting battlements on top of a city wall for example. It was possible to aim catapults during the day, when the fall of the missiles could be observed, and then terrorise the enemy by firing at intervals into the same spot at night. At the siege of Avaricum in 52 BC Julius Caesar noted that his catapults had no trouble shooting down Gaulish warriors one after another as they stepped into a highly exposed position that was vital to the progress of the Roman attack.

This example seems to be made from clay and would have shattered on contact with a solid surface.

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Chain Mail



Mail is a type of armour that consists of small metal rings linked together in a pattern to form a mesh. Mail can sometimes be punctured by a spear or shorn by the blow from a heavy axe or sword and its flexibility means that its wearer is still somewhat vulnerable to blunt weapons. Nevertheless, it was an effective and popular defence because of its ability to stop cutting weapons from piercing the skin.

Both Norman and Anglo-Saxon warriors used chain mail at the battle of Hastings. In the later Middle Ages chain mail gave way to plate mail. Due to the triangular points of the rivet heads, which hold the end of the rings in place, many armourers designed their mail with the pointed sides out. This created a very distinct 'inside' and 'outside'. Several patterns of linking the rings together have been known since ancient times, with the most common being the 1-to-4 pattern (where each ring is linked with four others). In Europe, the 1-to-4 pattern was dominant. This example has a 1-to-4 pattern, although it is said to be Berber in origin that is, from the people who inhabit Algeria and Morrocco. Its date is unknown.

Caltrop



A caltrop is a weapon made up of four (or more) sharp nails or spines arranged in such a manner that one of them always points upward from a stable base. Caltrops serve to slow down the advance of horses, war elephants, and human troops.

Caltrops were used by the Romans. Vegetius describes their use: 'The armed chariots used in war by Antiochus and Mithridates at first terrified the Romans, but they afterwards made a jest of them. As a chariot of this sort does not always meet with plain and level ground, the least obstruction stops it. And if one of the horses be either killed or wounded, it falls into the enemy's hands. The Roman soldiers rendered them useless chiefly by the following contrivance: at the instant the engagement began, they strewed the field of battle with caltrops, and the horses that drew the chariots, running full speed on them, were infallibly destroyed.'

Caltrops have been used in every century since. Today the police use similar contraptions to puncture the tyres of stolen cars. It is not known how old this example is.

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Bayonet



A bayonet is a bladed weapon designed to fit on or over the muzzle of a rifle. It is supposed to derive its name from a battle in mid-seventeenth century rural France. Peasants of the Southern French town of Bayonne, having run out of powder and shot, rammed their long-bladed hunting knives into the muzzles of their primitive muskets to fashion impromptu spears.

Early bayonets were of the plug-type. The bayonet had a round handle that fitted directly into the musket barrel. This naturally prevented the gun from being fired. This could lead to problems. The defeat of British army forces by Jacobite Highlanders at the Battle of Killiecrankie in 1689 was due (among other things) to the use of the plug-bayonet. Soon socket bayonets like this one, in which the bayonet attached over the outside of the barrel with a ring-shaped socket, became the norm.

Many socket bayonets were triangular in cross-section in order to provide sideways stability of the blade without much increase in weight. The triangular bayonet also created wounds which were difficult to stitch. Bayonets were fastened onto muzzles in a variety of ways. The mount, which can be found on this example was common in the British army. (Light bulbs which use a similar method of attachment are said to have a 'bayonet connection'). This example is difficult to date, but it may be from the eighteenth century.

Orilux Trench Torch



This leather-clad torch was intended for use by officers on the Western Front during the First World War. It allowed them to find their way around the dark trenches, without exposing too much light and making themselves a target for enemy snipers. An identical example was given to Winston Churchill in November 1915 while he was on active service.

As the name plate on the top makes clear this torch was made by J.H. Steward of London. Steward was an optician. In more peaceful times he also made such devices as magic lanterns, telescopes and solar chronometers.

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Shot Flask



This is not an item of military origin. Shot guns which are used to hunt game birds and small animals do not use a single bullet, but fire a quantity of shot. Traditionally shot was made from lead, although nowadays lead shot is banned as it poisons grazing animals. This flask would have held a supply of lead shot. After gunpowder was poured into the barrel and wadded in place it was time to add the shot. This flask would have been tipped forward with the first of the shutters held in place to stop the shot pouring out. The end of the nozzle would then have been held over the muzzle and the pivot mechanism pressed down to release the shot while, at the same time, stopping too much of it entering the gun. There is an extra slot in the nozzle so that the shutters can be moved to alter the amount of shot to be used. The amount of shot needed depended on the calibre (barrel size) of the gun - the quantity of gunpowder was also adjusted accordingly.

The powder flask was made by W. Bartram and Co., manufacturers of a variety of hunting artefacts, who were based in Sheffield and were active in the mid-nineteenth century.

In the eighteenth century the standard musket in the British army was known as the Brown Bess. The procedure for loading a military musket was similar to that for a hunting rifle, but rather than shot a single lead bullet was used.

Cartridge Case



The lettering on the base indicates that this is the cartridge case for a 37mm M3A1 gun and that it was made in 1942. Military equipment prefixed with the letter M is generally American in origin. The M3A1 was primarily an anti-tank gun. Because of this the shell, which would have been attached to the top of the cartridge case, would probably not have contained explosive material. Shells designed to punch through armour-plating were often simply lumps of hardened metal.

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Shell Fuse



This fuse dates from the First World War period. The arrow mark on the inside indicates that it was British made.

There were different kinds of shell used in the First World War. All of them were made up of three basic parts. At the base was the metal cartridge case. This section was packed with cordite. When detonated the cordite turned to gas which rapidly expanded and drove the bullet or shell towards the target. The cartridge case was left behind and had to be ejected before the next firing could take place. Artillery shells were designed to do different jobs. Armour piercing shells, for example, had a solid tip to batter their way through hard surfaces.

This fuse, however, is from a shrapnel shell. A shrapnel shell contained a small bursting charge and was otherwise packed with steel balls. The fuse at the tip could be set so that the shell would explode in the air above the enemy. The steel balls (shrapnel) would then scatter like hundreds of bullets. The aim was to kill enemy troops sheltering in their trenches.

Each shell of this kind would be set individually by a member of an artillery crew known as a Fuse Setter. The officer in charge of each gun was responsible for calculating how many seconds it would take for the shell to arrive above an enemy position. The numbers around the rim of the base of the fuse indicate the number of seconds available from 0 to 22. The tip of the fuse can be unscrewed to reveal two further sections, which simply drop out. These two sections have a groove running around them that would originally have been packed with gunpowder. Once fired the trail of gunpowder begins to burn much like a fuse attached to a stick of dynamite. The fuse setter lined up the vertical line on these sections with the appropriate burn time. If everything worked according to plan the shell then exploded directly above the enemy.

This artefact has been very carefully and beautifully made for something which is intended to have such a deadly effect.

Hat Badge



This badge is said to have been found on the site of the Battle of Waterloo (1815), fought between Wellington and Napoleon, although it is not known which regiment it belonged to.