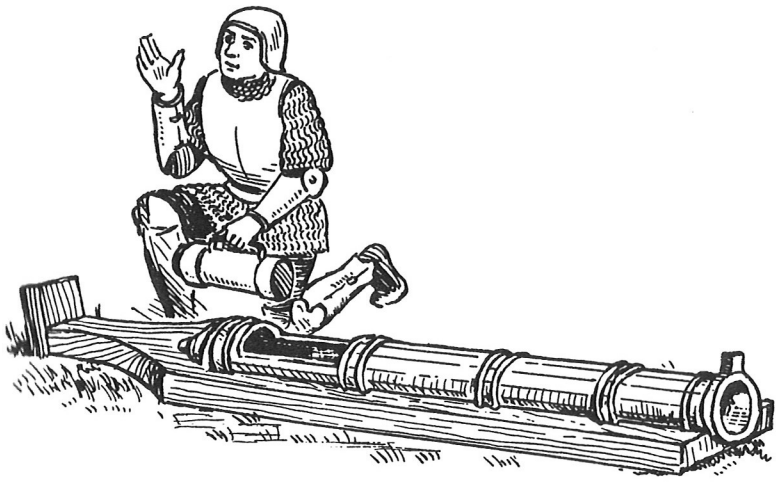
WASC 2245
WA1 608

8 Images of
Guns
1 of Shells

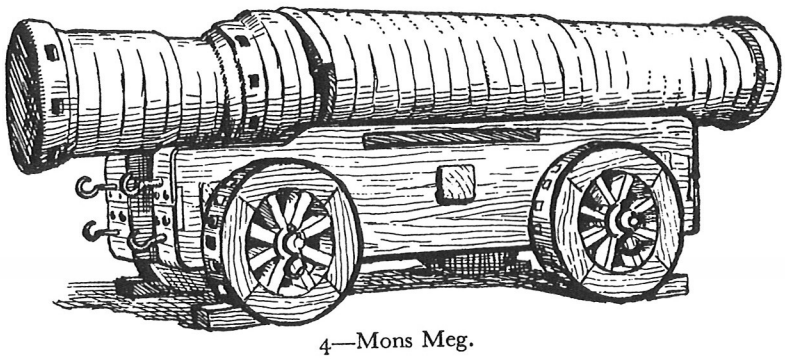


3—Breech-loading cannon, 1417.

forged out of a single ingot and quite strong. The barrel acted as a guide for the shot to go on its allotted task. Several breech-pieces could be used and the shot made ready in advance. The principle had much in its favour. The weakness was the join between the chamber and the piece. It is curious to note that long after this type of ordnance disappeared, the chambers continued in use. As late as the nineteenth century, at the Tower of London, twenty chambers were loaded and fired when the necessity arose for a forty-one gun salute as on Royal occasions.

The method of forging cannon led to large cannon being made and these were, of course, cumbersome. The brass and other founders sought their own solution. We know that small firearms were cast, but the necessity for larger items made the craftsman improve his work and cast cannon were not slow in appearing.

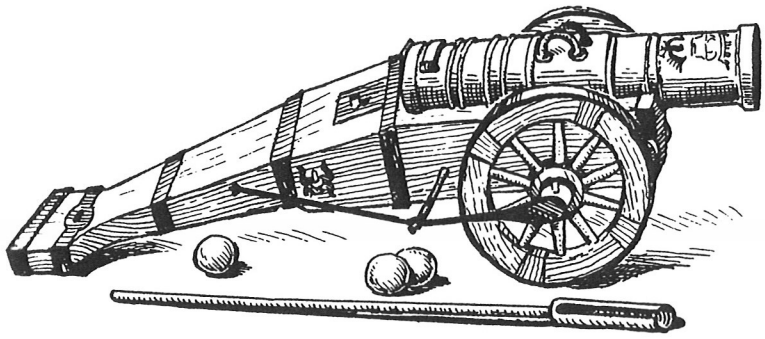
Whether the cannon paid for in 1338 French accounts by the War Treasurer, Barthelmy du Drach, was cast is not known; but further French accounts for Cambrai on 8th October 1339 for ten cannon, five of iron and five of metal for the defence of that city lead us to think that they were in production.



4—Mons Meg.

foregoing giant cannon, but exactly when and by whom is in doubt. The tradition is that when James the Second of Scotland and his army arrived at the Dee in 1451 to besiege Threave, the last stronghold of the Douglases, the M'Lellans presented him with this gun. Molise McKim, hereditary smith of Thrien, was supposed to have fashioned it at a temporary forge. As a reward the smith was given the estate of Mollance pronounced 'Mowans'. The gun, named after his loud-speaking wife, was called 'Mowans Meg', later 'Mons Meg'.

Sir Walter Scott, antiquarian as well as novelist, was satisfied with this story but others have criticized it, pointing out that Mons Meg was never its title in ancient days. In 1489 an account of the Lord High Treasurer of Scotland recorded eighteen shillings being paid for gunners' drink when they 'cartit Monss, by the King's Command'. 'Monss' is the name given in other accounts and it is not until 1650 that there appears a mention of 'the great Iron Murderer, called Muckle Meg' written by no less than the hand of Oliver Cromwell himself. It is a newspaper of 1660 that at last uses the expression 'Mounce Meg'. It is suggested that as Flanders was the main home of early cannon the name 'Mons' refers to the Town of Mons. We know that Scotland imported her cannon, for when James the Second in 1460 besieged the castle of Roxburgh he employed his 'new bombarde, lately cast in Flanders, called the Lion'. We also know that James the First of Scotland had a giant bombard cast for him in Flanders in 1430. This weighed 3,000 pounds and was called the 'Great Lion'. Whether this is meant for the same cannon, is not clear. But an interesting

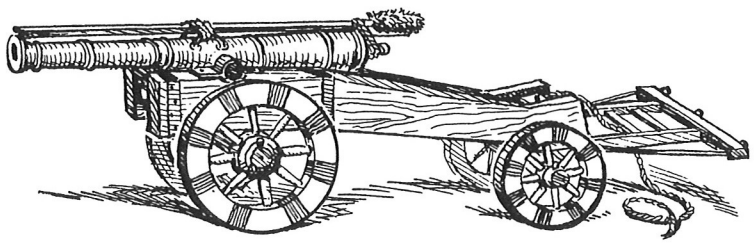


5—Cannon, early sixteenth century.

water-colour drawings, exquisitely finished of the cannons, the mortars and the other weapons in the arsenals of his various castles. These 'Zeugbuchs' were made by different artists in the early years of the sixteenth century.

Huge cannon fixed to wheelless beds bear the arms of Burgundy, showing that the old weapons of Charles the Bold were still in use. But most cannon are shown with wheels and trunnions for elevation. Many of the medium-sized guns have the new device of lifting handles. Curved bars of metal placed near the point of balance on the barrel were used for moving the metal piece from place to place. The simple loose rings placed on the sides were no longer in use, no doubt because of their weakness, and the new artifice had some unusual modes of expression. For example a cannon dated 1508 had the projecting knobs finish as dogs' heads. Another of 1535 used two human heads and others continued the idea of dogs. The fancies are shown in ancient French works but the German books show evidence of a more simple and practical nature—plain pieces sometimes bowing over to join at both ends. The invention remained in use until the middle of the nineteenth century.

The invention of trunnions meant that the barrel could rise upwards unless some method of fixing was applied. In some cases a wedge of wood between the end of the barrel and the carriage was sufficient; but in some pictures the presence of a square socket in the trail and a key or handle on the ground shows that some mechanical means may have been employed.

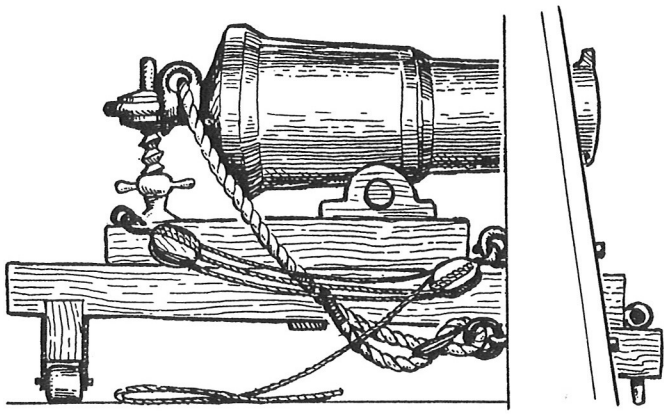


6—Cannon, early seventeenth century.

him much thought in military matters. The first trouble saw a train of artillery being raised with sixteen brass pieces, and another with eight pieces (four iron and four brass) from Portsmouth. The warrants for the raising of these trains are still in existence and they are full of details, even down to needles and bottles of ink. The artillery arrived in time to do its duty at Sedgemoor but it needed the assistance of the carriage horses and traces of the Bishop of Winchester (an old soldier) to get the guns into place. Even when in position the dearth of skilled gunners was felt; Sergeant Weems of Dumbarton's Regiment, now the Royal Scots, helped to lay several pieces and for such services received £40.

James's next train melted away before William's army which was equipped with wagons loaded with tin boats to make an artificial bridge. But no striking developments took part. The old names of pieces based on birds and animals were gradually giving way to names which described the weight of the shot, and the howitzer was a weapon increasing in popularity. Mortars were employed to make an indirect fire to clear intervening obstacles. Field pieces fired more or less directly. Howitzers came in between. Having a carriage like a field piece they could keep up with the normal army, and having a wide bore could fire shells and bombs like mortars but with more precision.

One English howitzer of which details are available was captured at the Battle of Neerwinden in 1693 when England fought with the Dutch against the French. The bronze barrel was over a yard long and the carriage, made as strong as those for cannon, was strengthened by iron bands and straps. It is

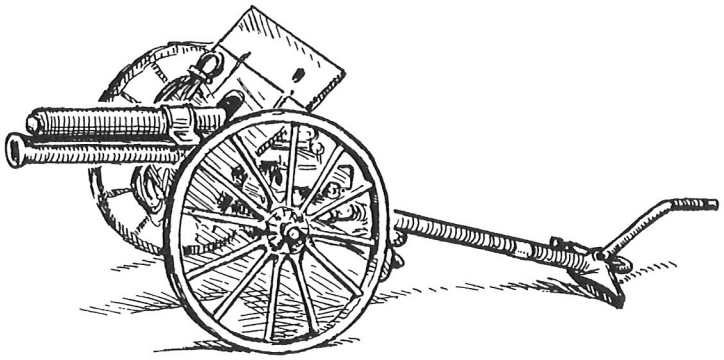


7—Carronade, late eighteenth century.

horizontal, otherwise extra wads would be necessary to stop the round shot from rolling out.

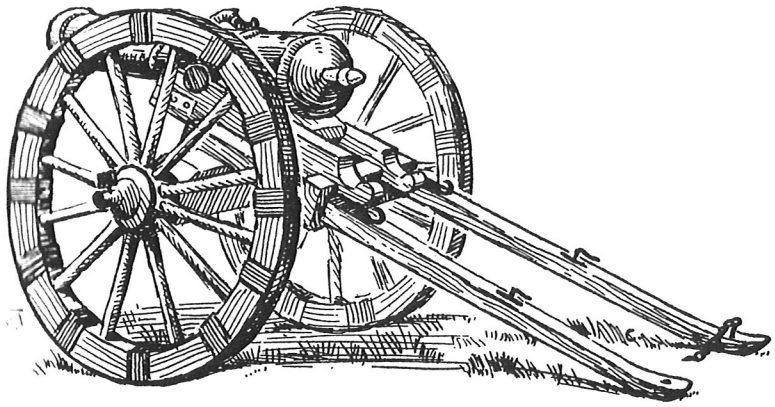
About 1780 a refinement was being added to the wedge. A horizontal screw ran through the quoin and forced it either in or out when it was turned. But by 1790 a better method was being employed. This was a capstan-headed screw mechanism fixed to the central transom of the trail. A long screw through the trail and going below the barrel was made turnable by means of a movable plate. Thus the barrel rose or fell by direct action. But the heavier eighteen and twenty-four-pounder guns retained the old wooden wedge well into the nineteenth century. In the fifteenth century a German manuscript depicted a gun not only elevated by a vertical screw but operating laterally by another long screw placed horizontally through the trail. It is a pity that such an idea did not develop, but remained lost until modern times.

A very advanced gun was the one-pounder produced by Dr. James Lind and Captain Alexander Blair. A book written by Lind in 1776 gives details of this weapon which weighed about a hundredweight. It was rifled with six channels semi-circular in section, which made one complete turn in the length of the barrel. The special lead projectile was spherical but had six studs cast on it so as to engage with the rifling. This gun was also designed with a telescopic sight. Unfortunately the gun, like other inventions, was in advance of its time and was



8—Thirteen-pounder, twentieth century.

Artillery had now entered its stages of development as used in the First World War. The Krupps breech was in the form of a sliding block which entered the square breech traversely, but the British system had a hinged breech-plug which engaged by means of ingenious half threads and a half turn. The principle of a buffer and recuperator eased the recoil shock. A piston attached to the barrel or piece was connected with a cylinder and by means of springs, water or oil, slowed down the backward movement. A shoe to fit between the wheel and the ground also acted as a brake, as did the spade-recoil fitted below the carriage. The spade-recoil was also connected to a cylinder which acted on the buffer principle. The rapid improvement of instruments for sighting and laying guns, the disappearance of the wooden carriage and the changes in the pattern of the projectiles cannot be dealt with here. Garrison pieces, guns on railway mounting, anti-aircraft carriages, heavy howitzers and mountain guns could each have a chapter of their own, so complex is modern artillery. They must be left for another and much larger work.

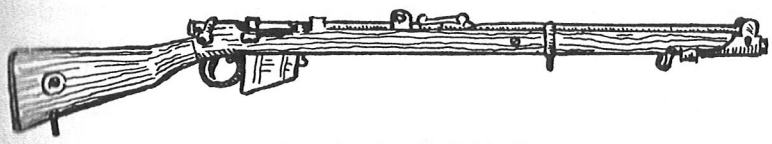


10—Galloper gun, eighteenth century.

of these carriages on official trials and although they endured rough handling, all tests were carried out successfully. Despite this success the idea was not generally adopted.

A peculiar gun was the Schuwalow, brought out by the Russians in the eighteenth century under Empress Elizabeth and named after the inventor Count Schuwalow. Small, chambered six-pounders were made with an eliptical bore. The object of this peculiar bore was to have the widest part placed horizontally so that the discharge of grapeshot or canister would spread in a horizontal direction against advancing humanity, and not be wasted either up in the air or down in the ground, Even in those days much fear was felt for the unknown powers of the Russians and thus when Frederick the Second of Prussia captured twenty-nine of this type in 1758 he attempted to dispel this fear by exhibiting them in public in Berlin to 'reveal the great Mystery of the Russians'. They were not considered of much practical value in Europe but a Dutchman made some for the Ruler of Kutch in India. These were cast in native iron and had a bore only 3¼ inches high but 28 inches wide. They were intended to fire canister, stones or iron bars but became no more than show pieces to be seen at Woolwich.

The siege of Gibraltar gave an opportunity for inventiveness on the part of the gunners. The Spanish floating batteries and fleet were constantly in the offing. The English guns fired from

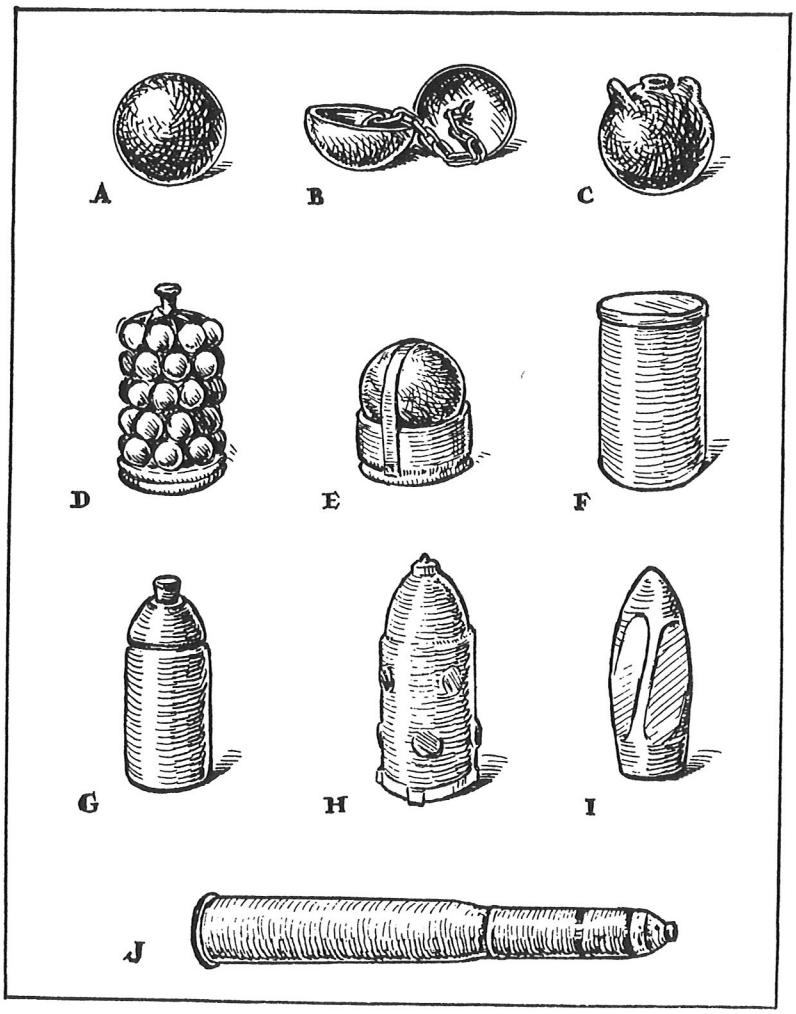


21—Magazine Lee-Enfield rifle.

convenient to have about five cartridges held in a steel spring clip. These could be arranged over the body in pouches made for the purpose, instead of being loose in a large pouch or mounted single through loops in a bandolier. To load a magazine, a clip was placed over the top opening and the cartridges pressed into place. Ferdinand Ritter van Mannlicher of Steyr in Austria was responsible for this improvement. The Germans introduced this clip to a service rifle in 1888, when it was officially accepted for the Mannlicher gun. The clip was left in the foreign rifles until all shots had been fired and then it dropped out. Larger and more complicated clips were used later, especially on the automatic weapons.

To invent a weapon that discharged all its ammunition automatically was the aim of certain inventors. This meant that instead of the soldier doing most of the work for the firearm, the firearm was to be designed so that once the soldier pressed the trigger, the cartridges would fire themselves until all were expended. There are still debates on the desirability of this type of action, some people holding that it encourages a waste of valuable ammunition without achieving a result. Others hold to the opinion that a single aimed shot has much more value.

The first stage, to being semi-automatic, came fairly easy. This meant extracting the used shot and making the next one ready. The bolt-action had produced this result, but it was manual and not produced by the weapon. It may be that something of this sort had been invented in 1663, according to the description given to us, but it is difficult to say. It was nearly another 200 years later before E. Lindner devised a means by which a piston placed below the gun-barrel was forced by gases to raise a breech-block. There were always more gases created from an explosion than were necessary to drive the bullet forward. The problem was to use them to advantage rather than let them be spent in the recoil which did



28—Artillery Projectiles—A. Cannon ball. B. Chain shot. C. Shell. D. Grape-shot. E. Shot in wooden shoe. F. Canister shot. G. Armstrong shell. H. Studded shell. I. Whitworth projectile. J. Fixed ammunition.