

### MODERN WEAPONS OF WARFARE

Big Guns Described And Military Terms Defined

**T**HE modern field gun in all armies is a weapon of about 3-inch calibre (that is to say, firing a projectile of about 3-inch diameter) and it is so constructed that it does not jump back or require to be reloaded each time that it is fired.

To hold the gun steady, it is fitted with a cradle, in which it sits when it recoils, and the force of the recoil is checked by a buffer. The carriage is prevented from shifting by strong brakes, on the wheels, and a spade on the trail of the gun. This buries itself in the ground.

The gunners are protected, while working the gun, by a steel shield, which is proof to rifle or shrapnel shells. The value of these shields was proved again and again during the Balkan wars. Men who kept behind them were safe. Men who showed themselves above the shield were almost instantly wounded when the fighting was fierce.

#### The Cannon.

Close beside the gun when it goes into action is the ammunition wagon, sometimes called the caisson. It is steel plated in front, so as to shelter the men behind it. It contains a large number of rounds, so placed as to be handled easily. In the French ammunition wagon there are seventy-two rounds, and when they have been fired they are replaced by another or sent to the rear to be refilled.

The weight of the shell fired from the British field gun is 18½ pounds; from the French and German guns about 15-lbs.

In most modern field guns, though not in the German, the sights are arranged as not to recoil with the gun, but are kept steadily on the enemy. When the sights recoil the gun-layer loses the target, and delay is caused.

#### Twenty Rounds a Minute.

With good modern guns, such as the British and French, a rate of

twenty rounds a minute can be maintained for a few minutes. But the difficulty in obtaining supplies of ammunition is so great that only in altogether exceptional cases is such rapidity of fire allowed.

The projectiles fired by field guns are two—shell and shrapnel. Shell are cases of steel containing high explosive, usually lyddite, which is a preparation of picric acid. The charge is detonated by a fuse, which may be either time, set to go off a certain number of seconds or fraction of a second after leaving the gun; or percussion, which explodes on striking some object, as the ground or a gunshield.

Shrapnel, so called after their inventor, the British general, Shrapnel, are thin cases of tough steel containing a large number of bullets—in the British artillery, 263, and in the French and German, 300—with a small bursting charge at the base of the projectile. The bursting charge breaks the thin steel case, when the bullets sweep forward with the velocity imparted to the projectile of the gun.

#### Their Value.

Shrapnel are regarded as good man-killers; they are quite ineffective against buildings, where shells are deadly. Against men they are always satisfactory. So far back as the Duke of Wellington's day there were complaints that they caused only the most trivial wounds.

For the attack on field guns and buildings, and for action against troops in trenches, most armies employ howitzers, short, squat guns, which toss their projectiles high in the air (high-angle fire). In the British gun every division has fifty-four field guns and eighteen howitzers.

The howitzers are of 4.5-inch in diameter and weighing 35 pounds. They have a range of 7,200 yards—1000

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yards greater than the British field gun.

The defect of the howitzer is that the shell is very heavy, and consequently much fewer can be carried than with the field gun. There is no security that a single howitzer shell will do twice the damage of an ordinary field gun shell, though it weighs twice as much.

#### Don't Use Them.

The French do not employ a howitzer in their artillery. The Germans have a heavy pattern of 9.6-in. calibre firing a shot of about 90-lb., and a lighter pattern of 4.2 in. calibre. Each army corps has eighteen of the lighter and sixteen of the heavy howitzer, in addition to 126 field guns. Heavy artillery is taken into the field by most of the armies except the French. The British division has with it four admirable sixty-pound guns, which have a range of 9,500 yards and are very effective against buildings and masonry foundations.

Siege artillery of a still heavier type are also sometimes employed, though siege weapons are so heavy and ponderous that they become dangerous to an army which is not certain of being able to advance. Moreover, the supply of ammunition for them is a grave problem, whilst the effect of their fire against armies in the field,

though terrifying at the first to untrained troops, is comparatively slight in proportion to the weight of ammunition used. They are deadly against fortifications.

#### Siege Guns.

The chief heavy siege guns, all of which are howitzers, are as follows: British 9.4, 5½ tons, carriage and equipment 20 tons; German 11.2-inch, 6 tons, carriage and equipment 22 tons; Russian 12-inch, 6 tons, carriage and equipment 28 tons. The troubles of a commander doomed to drag about with him weapons weighing thirty-four tons in wet weather on bad roads may be imagined.

Machine guns are weapons which fire rifle cartridges with great speed by mechanical means, the force of the recoil being generally used to load the gun. They are very portable and exceedingly deadly, and make remarkably good shooting.

In a test forty-two British first-class shots were fired at a target against a machine gun for one minute. The machine gun discharged 228 rounds and scored 69 hits. The forty-two marksmen fired 408 rounds and scored 62 hits. In another test against forty-two marksmen and a machine gun each fired 750 rounds. The marksmen scored 429 hits in six minutes; the machine gun scored 691 hits in 1½

minutes. These figures give a good idea of the deadliness of the machine gun fire.

#### Various Machine Guns.

The British machine gun is the Maxim; the French the Hotchkiss or Puteaux; the German the Maxim; the Austrian the Schwarzlose. In all cases machine guns are attached to the infantry, the proportion in the British, French and German armies being two guns per battalion or 1,000.

A pontoon, used for bridging rivers, is a lightly built punt, usually made of canvas stretched over a steel or wooden frame. The pontoons are conveyed in wagons. There are thirty-two in each British building train, sufficient to build a bridge 100 yards long. The time required is about four hours.

An army corps, a term which constantly recurs in war telegrams, varies in strength according to the various armies, and may not be the same for the same army at all times. The British army corps is about 38,000 men strong; the Austrian is 53,000 men strong; the German, Russian and French vary from 40,000 to 55,000 men.

A division of infantry varies from 14,000 to 18,000 men. A division of cavalry is from 3,000 to 4,000 men. A brigade of infantry is from 3,400 to 4,000 men strong, and a brigade of cavalry from 1,000 to 2,000 men. A battalion of infantry is 1,000, composed of four companies, each 250 strong. A battery of artillery has from four to six guns, and is usually about 200 men strong. A squadron of cavalry is from 150 to 160 men. An army is composed of two or more army corps.

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