



## The History of the Formation of Artillery Troops, Weapons, Structure and Future Development

*Mukhitdinov Shukhrat Obidjonovich*

*Student of the Academy of the Armed Forces of the Republic of Uzbekistan*

**Annotation:** The appearance of artillery troops, their weapons and their development, their current status and the tasks assigned to them, their place and role in modern combat operations, and the directions of future development of the army are revealed.

**Keywords:** Artillery, cannon, rad, oil, Amir Temur, Zahiriddin Muhammed Babur, Central Asian khanates, automated control development prospects, local war and armed conflicts, control of artillery fire.

The armies of the nations of the ancient world were armed with cold weapons and protective equipment, and vehicles were also used. With the development of production forces, weapons and protective equipment improved in the armies of Babylon, Assyria, Egypt, China, and Central Asian countries. The mobility of troops increased, the technique of occupying and besieging fortresses improved, and warships began to be built. For the first time in the ancient Chinese army, a new throwing cold weapon-crossbow was introduced, gunpowder was discovered and used.

If we look at the history of the emergence of artillery, two thousand years ago there were machines of the past, the generation of modern cannons. However, they were so large and rough that they were mainly used for the defense and siege of castles.

In the armies of the ancient Eastern states, a projectile weapon (modfa) was created to conduct battles from a distance.

By the Middle Ages, the Mongols had learned the use of gunpowder (gunpowder) from the Chinese, and would use firecrackers, oil bottles, or grenades to set fire to enemy defense structures.

In the army of Amir Temur, there were special gunners who ensured the continuous operation of fire-throwing weapons-radijayat, which threw jugs filled with flammable substance-oil. Although the Arabs used kerosene (kerosene) for this purpose from the seventh century, Europe, Central Asia, and the Middle East became acquainted with gunpowder in the thirteenth and fourteenth centuries. Incendiary bullets, made by attaching slow-burning gunpowder to the tip of the rockets, were capable of igniting any combustible material. stones could be thrown by burning gunpowder.

Artillery appeared in Europe at the end of the 13th and the beginning of the 14th century. This type of army, for example, appeared in Russia in the XIV century.

Central Asian countries, especially Muinnidin Natanzi, noted that incendiary weapons were used by Amir Temur's troops during the siege of Gurganj in 1379. At the Battle of Delhi in 1399, Nizamuddin Shami compared the Indians' primitive flying arrows with Amir Temur's "raads (cannons) reminiscent of the bloom of thunder" and considered Amir Temur's cannons superior. These machines are probably the ones mentioned in the Chinese annals as "Thunder Throwers", throwing stones and firebombs weighing a ton or more. According to Nizamiddin Shami, the number of cannons controlling the rad, which is considered an effective weapon in besieging strong



fortresses and fortresses and destroying enemy forces, reached 10,000 people. The Radandoz were first brought into battle by Amir Temur in 1379 during the siege of Urganch.

It should be noted that the Arabic word raad actually means "thunder". The reason why the ball is called a rad is that it makes a strong booming sound when the projectile is fired.

According to Zahiruddin Muhammad Babur's "Baburnoma", we witness that Babur deployed infantry and other forces after the gunners (artillerymen) on the battlefield near Panipat, thinking about the survival of his army during the battle. As a skilled general, he did not like to move towards the enemy until this plan was completed, leading to victory. "Boburnoma" has many such examples that can be included in military manuals and textbooks.

Ibrahim Lodi's nearly two thousand war elephants gave Babur a lot to think about. Therefore, he works seriously on making a war cannon (weapon). His extensive research with the master Aliquli gave a great result: unprecedented balls capable of hitting a target up to 1500-2000 meters were created. The soldiers of Ibrayi Lodi, who did not see the cannon, panic from this weapon, and the forces of the ghanim are dealt heavy blows from the cannons.

The war was decided in Babur's favor, and he won a victory over Ibrahim Lodi with a very small army of about two hundred thousand warriors, powerful military weapons and equipment. Babur's military theoretical views prove once and for all that the number of the army is not important for winning the battle, military literacy, courage and bravery, perception and creativity, as well as the high human qualities of the general and the skill of using the available weapons effectively.

If we look at the organizational structure of the armies of Amir Temur and Zahiriddin Muhammed Babur, we can see that artillery units were formed as an independent type of army in those times, like cavalry and infantry.

In European countries, especially in Russia, artillery as a type of army was fully formed by the 16th century and became the main firepower of the army.

In general, we do not see a real revolution in the military industry during this period, but we do see some changes in practice. For example, we see the complete separation of light and heavy cavalry and the introduction of standards for their weapons, the separation of infantry from cavalry, and how its armor was assigned, or, as we said before, the development of cannons began based on the production and development of a new type of metal alloys.

By the 16th and 17th centuries, the foundations of artillery science (field of weapons development and artillery tactics) appeared. By the 18th century, the calibers of weapons and the organization of their development were established. Now artillery regiments were divided into field, siege and fortress artillery weapons, and artillery regiments and brigades were formed.

In the 18th and 19th centuries, the armies of the Central Asian Khanates (Bukhara, Khiva and Kukan) had very few artillery tools. They did not have lathes and wheel-mounted cannons at all, and artillery units had small cannons mounted on camels.

The Ashtarkhanid armies lacked modern means of warfare - firearms and cannons, and the military art was at the level of the Shaibonikhans. The absence of a regular army, the lack of modern weapons made the Ashtarkhanid state much weaker.

Daniel's army had artillery - five wheeled nine-pounders, two five-pounders, eight three-pounders and five mortars.



Big balls were carried on carts with oxen. For shooting, piltas were tied to long poles, and gunpowder was ignited at a distance. The balls were tied tightly to the carts, and in many cases the ropes broke and the balls fell to the ground. Each ball could be shot 5-6 times in one day.

By the middle of the 19th century, the transition to rifled artillery began, which in turn increased the speed, range, and accuracy of firing guns. For example, in the Russo-Japanese War of 1904-05, fire from closed firing positions was used for the first time, when mortars were developed and used in practice.

Artillery has made its due contribution to victory in all wars and negotiations. Before the start of the First World War, artillery was divided into field (light, cavalry, mountain), heavy and large (siege) field artillery. During the war, artillery observation, anti-aircraft artillery, anti-tank artillery appeared and mortars were developed. The Second World War influenced the development of artillery in all aspects, especially anti-aircraft, anti-tank, jet and self-propelled artillery, with large and high power.

At the beginning of the 21st century, various military operations, including special (anti-terrorist) operations, were conducted in many regions of the world. In these operations, troops were used in new, unique styles and forms. The experience of the operations of the federal forces of the Russian Federation in Syria, and the operations of the US and multinational forces in Iraq and Afghanistan show that the position and role of artillery units, units and units in destroying the enemy by fire has significantly increased.

In modern times, it is important to destroy the enemy by opening fire. In many countries of the world, the ban on the use of weapons of mass destruction in combat has led to an increase in tasks performed with ordinary weapons.

In past armed conflicts, illegal armed groups have widely used guerilla warfare techniques. The specifics of the combat operations and the lack of a clear line of conflict between the parties on the battlefield created a number of difficulties in the tasks of destroying the enemy by opening fire. Among them, the location of illegal armed formations in a scattered position inside the front, the small size and large number of targets and objects, the presence of civilian residences, production facilities led to the limitation of the use of fire means.

Based on each non-traditional situation in armed conflicts and the goals and tasks set by the command, the specific characteristics of the combat use of artillery were determined.

The organization of artillery groups in special (anti-terrorist) operations focused on the features of the capacity of the operational lines and the width of the territory, the general (for the operation) and the tactical lines of the direct troops. In these special (anti-terrorist) operations, artillery groups were used to inflict losses on the enemy only by direct fire.

The experience of armed conflicts and local wars in the second half of the 20th century and the beginning of the 21st century showed that up to 70% of the tasks of destroying the enemy by fire were assigned to artillery, and the rest to other means of fire. 80% of the tasks assigned to artillery to destroy the enemy by opening fire in the close tactical range.

Broadly speaking, according to the order and provision of troops (forces), artillery weapons include fire and cold weapons, grenade launchers with measuring devices for firing, and barrage rocket systems, various types of equipment and RLS. At the same time, mobile artillery repair shops, equipment of arsenals, bases and ranges, stock of instruments and materials, materials for the use of artillery weapons, etc., which are not part of the artillery complex.

The word artillery comes from (Old French atillier - to prepare, to fire), which means:



type of army;

type of weapon and set of weapons;

the science of the device, characteristics and combat use of artillery weapons.

At present, artillery has the ability to deliver strong and accurate blows, open fire at long distances, perform large-scale maneuvers, and act quickly and quickly in any situation. The availability of armored self-propelled artillery systems, anti-aircraft missile systems, cluster and high-precision ammunition in any weather conditions, day or night, open or sheltered, mobile and immobile, observed and invisible, armored, single, group objects (to targets) allows you to inflict damage with less ammunition.

Coordination of staffs and professional training of officials of administrative bodies, joint and military units is being improved during command-staff, staff training and exercises, as well as field skills of personnel - artillery camp meetings and field trips. All activities of combat training are carried out on the basis of a single idea and plan together with units of the general army, in cooperation with units of the engineer, chemical and communication troops in conditions of strong radio-electronic influence. In the development of artillery weapons and military equipment, the main focus is on the reasonable and reasonable allocation of available resources to the most important areas.

Taking into account the developed weapons system, the analysis of the military conflicts of the beginning of the 21st century shows that in them the main role was separated from the "collision" forms of combat operations, which are the strikes of the combined forces of the land forces, from the "collision" forms, which are increasingly deepened, and the loss by opening fire plays a major role, without a conflict or reconnaissance-fire. opening and transition to forms of electronic fire is observed.

Artillery has been, and will continue to be, the primary firepower of the Ground Forces. In this army, the main role is assigned to barrel artillery and rocket launchers.

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