Use of Machine Guns in First Army during World War I

Co-writer: Major General Chris Gentry

“No matter how many people you kill, using a machine gun in battle is not a war crime because it does not cause unnecessary suffering; it simply performs its job horrifyingly well.”

Sebastian Junger

“It is the most dreadful instrument that I have ever seen or imagined.”

Austrian Field Marshall

By the late 1890s, as Hiram Maxim distributed his relatively new rapid firing machine guns across the continent of Europe, one American newspaper wondered whether the invention would deter nations from going to war based on its devastating rate of fire. By the eve of World War I Maxim was fully aware of the killing potential he had delivered to the world but perhaps still could not foresee the hundreds of thousands of casualties he had enabled through his invention. By the later stages of World War I, machine guns became capable of firing 445-600 rounds per minute, consuming 90% of the German forces’ small arms ammunition and creating a new chapter in the evolution of arms.

In April 1917 American war planners determined that to achieve parity with Allied and German small arms firepower, so well-developed in the previous years of war, American infantry divisions would require 260 tripod-mounted machine guns, each. A division’s field artillery brigade would receive 36 of the 260 for anti-aircraft defense. Machine gun companies organic to each infantry regiment and three machine gun battalions would receive the remaining distribution. Accordingly, as the American Army initiated plans to expand to 102 infantry divisions, requiring a minimum of 26,520 machine guns (possessing only 1,448 guns at the time). In the same month, German manufacturers produced 14,400 Maxim MG 08 machine guns a month, totaling 225,000 MG 08’s and variants. To match that firepower, or even come close, the United States needed to catch up, and quickly. This article discusses the two primary heavy and the three major light machineguns produced and used during the war by First Army.

Light Machine Guns

The three chief light machineguns used by the American Army included the French Chauchat, the American-designed, English-produced Lewis machinegun and the Browning Automatic Rifle (BAR). Initially chambered for ammunition specific to their country of origin,
The Lewis gun, invented by US Army Colonel Isaac Newton Lewis in 1911, was not initially adopted for use, perhaps due to political differences between Lewis and General William Crozier, the chief of the Army Ordnance Department. Like the Chauchat, the Lewis gun experienced mechanical issues during pre-war Army testing that led to a jamming rate of 206 per 20,000 rounds fired. Gas operated with a unique air cooled design, the Lewis first saw service with the Belgium Army in mid-late 1914 as added protection for a handful of touring and armored cars and against German patrols and troop columns. Germans soldiers consequently nicknamed it "The Belgian Rattlesnake." Additionally the Lewis gun was one of the four machine gun designs the US possessed prior to the war. The Belgian and British Government investments improved the design in 1914-1915. Eventually, the Army purchased 47,000 of the modern Lewis guns, completely consuming production until the war ended in 1918.

The Browning Automatic Rifle (BAR) or Model 1918 BAR, designed and produced in the US by John Browning prior to the war, represented the American solution to replace the Chauchat. As a shoulder-fired rifle capable of both semi-automatic and fully automatic fire, the BAR proved to be the first weapon in WWI sufficiently light enough (weighing approximately five pounds less than the Chauchat) to actually be fired from the shoulder while sufficiently heavy and rugged enough to permit sustained bursts of full automatic fire. The gun's design also enabled the technique of "walking fire" or firing from the hip during the advance across "no mans" land in an effort to
Heavy Machine Guns

While light machine guns were slowly working their way into the hands of First Army Soldiers, heavy machine guns served as the main infantry small arms weapon for offensive and defensive operations. In WWI a heavy machinegun was typically defined as a belt-fed, tripod mounted weapon, usually water cooled or equipped with a sophisticated air cooled system for extended periods of fire. Gun crews carried additional water and ammunition needed to fire them.

The British Vickers, one of the first designs employed by the US, received thorough testing by the Ordnance Department prior to the war and was later designated as the US Model 1915 Vickers. Originating from the original Maxim series guns designed in 1889, the Vickers weighed 35 pounds with a full water jacket with the tripod adding an additional 35 pounds. Sustained firing would evaporate 1.5 liters of water per 1,000 rounds fired, firing 450 to 500 rounds per minute. The Vickers Model 1916 would be described as one of the most reliable machine guns of the war, exemplified when the British 100th Machine Gun Company expended more than 1,000,000 rounds out of seven Vickers in less than 12 hours without any significant mechanical failures, stopping only for shortages of either ammunition or water to cool the guns.18

John Browning delivered the purely American heavy machine gun with his Model 1917. Similar to the Vickers, the Browning 1917 featured a simplified action for more efficient manufacturing and simpler maintenance. The gun weighed 35 pounds with water, close to 50 pounds with tripod, and fired at a rate of approximately 500 rounds per minute fed by cloth belts of 250 rounds each. The few weaknesses identified following fielding were quickly corrected with field modifications. Primary manufacturers included Colt (9327 guns) and Westinghouse and Remington (71,019). Unfortunately, while 30,582 Brownings shipped to Europe only 1,200 actually saw service with the AEF prior to the Armistice. The report from the commanding officer of the 78th Division’s machine gun detachment to Gen. John J. Pershing stated: “During the five days that my four guns were in action, they fired approximately 13,000 rounds of ammunition. They had very rough handling due to the fact that the infantry made constant halts, causing the guns to be placed in the mud. The condition of the ground on these five days was very muddy, and considerable grit and other foreign material got into the working parts of the gun. The guns became rusty on the outside due to the rain and wet weather, but in every instance when the guns were called upon to fire, they fired perfectly. During all this time I had only one malfunction, and this was due to a broken extractor.”19  LTG Hunter Liggett commented on the M1917 Browning’s performance in his post-war memoirs, “The American Army used the Hotchkiss bought...
from the French, until our Browning’s arrived. The Browning was the most dependable and foolproof of all—French, German or British … and the best machine gun that appeared in the war.”

While a vital component of the AEF small arms inventory, the machine gun in World War I, aided by its equally lethal artillery brethren, accounted for a significant number of the 9 million dead and 26 million casualties of the war. Its effectiveness cannot be denied. Nor can the Nation’s ability to rapidly expand the inventory of weapons, serving as a further example of the capability and adaptability of its manufacturing base. American Soldiers, too, despite a steep learning curve, proved adept at applying this latest evolution in military technology. Lethal capability, in depth, combined with skillful application across the battlefields of Europe led to victory for Allied forces, but at a tremendous human cost borne by all the belligerents of the Great War.

As we continue with this series of newsletters reporting on the activities of the First Army in World War One and World War Two we would like to extend the invitation to all First Army friends to invite former First Army members (Soldiers and civilians) to read and contribute to this newsletter as well. You are additionally welcome to request articles that interest you such as the continuing article on small arms in WWI which was requested by a Soldier within First Army.

These newsletters are intended to be a means to educate our First Army family about our own history and to inspire discussion as well as to commemorate the First Army Centennial. We are additionally searching for World War Two First Army veterans. If you know of any please contact us.

If you have a request for additional information or you would like to have a specific topic covered please contact 1st LT. Kevin Braafladt kevin.d.braafladt.mil@mail.mil for story submission requirements. All stories are subject to editing by the First Army Historian.

British Soldiers using the “Volley Fire” tactic with their Vickers water cooled machine gun during WWI.

Westinghouse Factory 10 May 1918 displaying newly produced M1917 Browning water cooled machine guns destined for the AEF.