

## **The Development of the Automatic Weapon/machine Gun and How It Impacted the Conduct of War between 1776 and 1918**

One of the biggest weapon advancements which differentiated the First World War from past wars was the machine-gun. In 1884 Hiram Maxim developed the world's first automatic, light, portable machine-gun. Maxim designed the gun as to use the recoil energy given off by each bullet to advance the next cartage out and load the next bullet into the chamber. This meant that a person no longer had to reload a gun or waste time re-aiming the gun. Each machine-gun had the fire power of 100 rifles, and were manned by a team of 3 to 6 men, making it more labor efficient than a rifle also. With this efficiency the machine-gun was able to fire unprecedented 400-600 rounds of ammunition per minute. The machine-gun would therefore fire until the entire belt of bullets was used up.



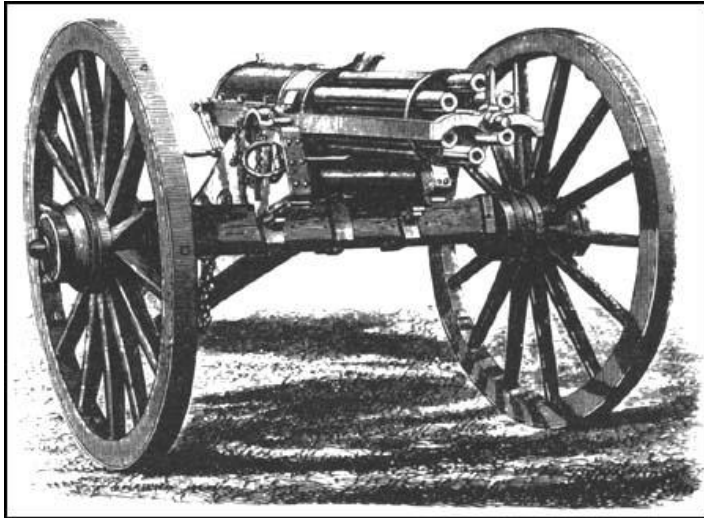
In World War 1 machine-guns were set up all along the France/Germany border, known as the Western Front. Germany decided to protect its much needed machine-gunners in concrete blockhouses. Machine-guns were so deadly and efficient that they soon appeared on just about every vehicle. In order to protect and support the machine-gunners and infantry, artillery was placed behind to give support and long-range firepower. Famous artillery such as the howitzers were the most common on the battle field. The main artillery for the British Army was this long-barreled field gun. This advancement through technological eras showed man's relationship with this technology and how well we dealt with the responsibility of the awesome power of the automatic weapon. No metals that could with stand the pressures of regular mass or

sustain fire. Technology was not good enough to make detailed, accurate, small pieces necessary for machine guns. Americans found themselves as one of the front runners of the industrialized world. This was always associated closely with small arms. The main reasons that the machine gun appeared when it did: The Civil War. The first modern war in which the effect of technology truly made themselves apparent.

Organ Gun was the first intro of a machine gun to the world. It was first employed into combat in 1382 in the battle of Ghent and changed very little until about 250 years later. The organ gun by today's standards is not a machine gun but is capable of multiple shots at once. It was a moveable platform consisting of approximately 50 barrels aligned in a circle. Even assuming that all the barrels fired it was still took a great deal of time to load the gun and the initial shock of the blast was soon gone, and the shock of the weapon soon dissipated. With the added weight of the weapons 50 barrels it made it very heavy and cumbersome to move around, making it very hard to position effectively on the battlefield. The type of ignition in place in the gun was flint and roughened steel, which produced a spark and ignited the gunpowder. The weapon proved to be highly unreliable. (Montross)

In the mid-17th century a member of the Royal Society named Palmer redesigned the organ gun using the same idea making one slightly less cumbersome. His new idea was more along the lines of what we use today. It had a single barrel that was loaded with one charge after another, each aligned with touch holes that ran up the barrel. Each was ignited again and again as it moved up the adjustable fuse holding devices, until they were aligned with the touch holes. Palmer also had an idea that was about two hundred years ahead of his time. He drew plans that used the recoil of the gases in the barrel load discharge and reload the weapon, similar to today's

machine guns. But again the technology limits mans ideas because the proper boring of the holes could not be done during this time period.



Up through 1862 (the civil war) most of the machine gun inventors had been torn between making money and feelings of patriotism. Richard Jordan Gatling was no exception. The gun that he invented, the Gatling gun, was the most reliable one to this date. This model incorporated a modern cartridge,

a containing bullet, a propellant and means of ignition. Gatling contrived 10 barrels, each of which was loaded and fired once throughout a complete rotation. The rounds were loaded by gravity and the coming action of the cartridge container, which was on the top of the gun. Each barrel was loaded and fired with in one half of a rotation around the central shaft. The second half of the rotation facilitated means for ejecting the cartridge. Later models could fire about 3000 rounds per minute, assuring that it did not jam. Gatling got his gun patented and put on a demonstration for the Governor of Indiana. He was so impressed by it that he wrote a letter to the Assistant Secretary of War F.H. Watson urging him to allow the Gatling to be given an official chance to prove its worth. This, however, did not work because Gatling had moved from the South to Indiana to try to sell his gun since the north was more adept to Technological advancements. He was thought to be a part of a secret group of southerners posing to be northern sympathizers but aiding in the southern cause with acts of sabotage. After repeated unsuccessful

trips to Washington Gatling finally dropped his partner and contracted with Cooper firearms.  
(Hogg)

The guns being made by then were of much higher quality. At this point was when the Gatling gun finally took off. Gatling was torn by the fact that he was making money by discovering more effective ways to kill his fellow humans. With the advent of smokeless powder in the 1880s we were able to convert from a hand cranked machine gun into a fully automatic one. This type of powder had an even combustion which allowed the gun to harness the recoil so as to work the bolt so that it can expel the spent cartridge and reload itself automatically. The Maxim gun was the world's first true fully automatic weapon. It was developed by Hiram Maxim in 1884. The essential new feature was that it utilized the force of the recoil to operate the ejection, loading, and firing mechanisms. Once the initial round was fired the gun was fully automatic. (Hogg)

Vicker a leading manufacturer of the weapon bought the idea and manufactured the product. This gun being that it was invented when it was, during the start of the Industrial Revolution and the coincidental start of the First World War. It became the product of the Revolution. The only enemy known to the Maxim now was its users. The generals of the day especially British were naive to the possible uses of this weapon. Their past tactical systems: charge would not work against the machine gun. Little tactically had changed since Gustavus Adolphus and Frederick the Great. The machine gun made people think about old ideas in a new light. This would be the end to the old ideas of war. The machine gun threatened the social order of warfare. In Africa this weapon was employed for its designed purpose. A large number of bodies in a charge. "Thank god we have got The Maxim gun, and they do not." Without the use of the Maxim many of British footholds in Africa might be lost British Cavalry Training Manual:

“It must be accepted as a principle that the rifle, effective as it is, cannot replace the effect produced by the speed of the horse, the magnetism of the charge, and the terror of cold steel.”

(Montross)

The Lewis gun was the introduction of the light machine gun, gas-operated, air-cooled, and fed by a rotating drum containing either 47 or 97 rounds. It was designed by Samuel MacLean and developed for the US army. It was widely used by the British, US, and Belgian armies, on the ground as well as



in the air. Purposively it was the weapon used to shot down the Red Baron. In 1918 the machine gun ceases to make headlines anymore, since it was a supposedly peaceful world. This summer, however, brought us the first working model of the Thompson sub machine gun or the Tommy gun. It was developed by Col. John Thompson as a military weapon, though it did not pan out that way. The ‘trench broom’, as he called it, was tested by the Marine Corps and the Army but few orders were ever made. It really gained fame for its use by organized crime members for their dangerous business of bootlegging. The advantages of this gun were that the .45 could be used for fend off police and then the barrel could later be traded for a .22 barrel for quiet basement practice. Organized crime first used this gun on 25 Sept. 1925 when Frank McErlane and Polack Joe Saltis attacked members of the O’Donnell family in Chicago. It took Al Capone a couple of near deaths by the Tommy gun to realize that he needed to order a bunch and from then forward, it has become a piece of the gangster identity. (Montross)

The first widespread use of the Tommy gun (T/CSMG) was in WWII. The troops liked it because it was lighter than its opposition and was quite effective in repelling the enemy. The machine gun was essentially an American invention, not simply because the four greatest names in machine gun history were Americans, Gatling, Maxim, Browning, Lewis, but America was also the first to create such materials that could make automatic fire a feasible weapon. On one hand these conditions fostered new ideas and developments of tools and skills, on another hand they changed the face of warfare, which makes the machine gun must have in combat. Records show us that the tank was the first and most effective response to the machine gun. At first they acted as mere battering rams. They made the existence of trenches almost obsolete and the importance of the machine gun, although vital, declined in importance. Medium machine guns could still be used in repelling infantry assaults. Men were now protected by armor and no longer had to cross no man's land. Men had entered a new military era.

The advent of the machine gun changed the face of war fighting forever. No longer did the outcome of the war depend on the heart and morale of the troops, but whether or not they had enough ammo and water. No longer are we fighting the troops, but now his guns. By 1918 the transition to the new face of war was complete. We were coming up with faster and more sure fire ways to destroy ourselves. The world is changing yet. We as humans are becoming bystanders more and more now. Computers are going to be fighting the wars in years soon to come. With the introduction of nuclear weapons now, there is a logical conclusion in sight. The end of the world will not come with a whimper or a bang, it will come with the statistically inevitable short circuit that will launch the missiles from the silos, and helpless we will stand.

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