

This informal portrait of a Gatling crew during the Philippine Insurrection provides a good look at the standard box magazine, an inefficient device that was eventually replaced by the Accles drum. Credit: US Army Signal Corps/National Archives

Doctor Gatling's Enduring Legacy

by Robert Bruce

"The object of this invention is to obtain a simple, compact, durable, and efficient firearm for war purposes, to be used either in attack or defense, one that is light when compared with ordinary field-artillery, that is easily transported, that may be rapidly fired, and that can be operated by few men."

Gatling Revolving Battery Gun Patent Application, granted 14 Nov 1862

Right: Fort Bragg, NC, Summer 1982. The M167 towed air defense gun is a radar-aimed 20mm M61 Vulcan on a trailer mount as used by the 82nd Airborne Division. It can fire bursts of 10, 50 or 60 rounds at either 1000 or 3000 rounds per minute. Credit: Robert Bruce

While John M. Browning's .50 caliber M2HB machine gun has the distinction of the longest continuous service of any weapon in the US Armed Forces, Doctor Richard Jordan Gatling's revolving guns stand out as the oldest type currently in

use. Characterized by multiple barrels spun by external power, modern Gatlings from .223 caliber to 30 millimeter serve around the world on land, sea and air, unmatched for their combination of extreme reliability with astonishingly high rates of fire.



Any second now, a sea-skimmer the diameter of a football may come out of nowhere at Mach 2. And another one seconds behind.



Goalkeeper.

Vulcans, Warthogs and Goalkeepers

Now built by General Electric on a novel operating principle dating back more than a century to the American Civil War, some of the best known of today's Gatling-type weapons include the diminutive 5.56mm Six-Pak (Experimental only), the incomparable 7.62mm Minigun as first used on "Puff the Magic Dragon" flying gunships in Vietnam (Now manufactured by Dillon Aero), the 20mm Vulcan aircraft and air defense gun, and the formidable 30mm GAU-8 in tank-busting A-10 Warthog fighters.

US Navy warships are protected from sea-skimming Exocet-type guided missiles by the GE/Signal Goalkeeper (now known as the Phalanx) that can send out a radar-guided stream of 30mm lead at the incredible rate of over 4000 rounds per

minute.

Remarkably, many military armaments specialists say that no other conventional ammunition bullet-hose on the horizon seems likely to replace the Gatlings' deadly efficiency anytime soon. As a result, it may not be absurd to expect this archaic instrument to still be going strong on the 200th anniversary of its patent!

Yankees and Indians

Dr. Gatling himself, a North Carolinian who studied but never practiced medicine, implicitly named against his Southern brethren when he sold his first hand-cranked Revolving Battery Gun in 1862 to Abraham Lincoln's Navy for testing. Oddly (and we Rebels take some comfort in this), by the end of the War of Northern Aggression the Federals had bought only about a dozen more despite favorable test

results and vigorous efforts by the good doctor and his influential friends and financial backers.

While some are reported to have been used by the notorious General Benjamin "Beau" Butler against Confederates in the horribly inhumane siege of Petersburg, Virginia, the guns were mostly said to be not much more than an amusing novelty and no effective tactical employment resulted.

Despite what should have been obvious potential for battlefield efficiency and mechanical reliability thanks to newly developed metallic cartridges, Gatling's "bullet organ" apparently failed to impress Union generals in the field or the War Department in Washington. Undaunted, Gatling managed shortly after the war's end to sell about 115 of the improved .58 caliber and one inch (25mm) Model of 1865 guns for use on the American frontier. The Army was in a tight spot and needed these to protect intrusive forts and illegal settlements on the sovereign real estate of Native Americans (insensitively called "Red Indians" at the time) who were understandably upset with the Euro-imperialists for overrunning their ancestral homeland.

Curiously, reliable reports of actual combat use of Gatlings out West are virtually non-existent and they are perhaps most famous for their absence at the massacre of General George Armstrong Custer's 7th Cavalry at the Little Big Horn in 1876. Not wanting his column slowed down by the somewhat cumbersome horse-drawn guns, Custer chose to leave all four behind. The



A full-scale mockup of the General Electric GAU-8 30mm cannon next to a Volkswagen dramatizes the size of the gun system which provides a major increase in firepower of the A-10 Close Support aircraft. Credit: Fairchild Republic Co.

An 1893 photo portrait of Dr. Richard Jordan Gatling with the little Model 1893 "Bulldog" version of his remarkable gun, chambered for the .45/70 Government cartridge. Credit: US Naval Historical Center



rest, as they say, is history.

Machine Gun Parker

Although neglected and even disdained by senior military leaders at the time, at least one junior officer kept Gatling's rotating machine rifle alive. 1st Lieutenant John H. Parker made such a nuisance of him-

self in pressing his Army superiors for consideration of his ideas on tactical employment that he soon earned the derisive nickname of "Machine Gun Parker."

However, the young lieutenant soon got the last laugh in the most famous engagement of the Spanish-American War when he superbly positioned his section of five .30 caliber Gatlings in support of Teddy Roosevelt's assault of San Juan Hill. Spraying the forward slope with an almost continuous torrent of lethal lead raindrops, Parker's Gatlings helped keep the well-dug-in enemy from effectively firing on the attacking Rough Riders. This victory — heralded in banner headlines

around the world — vindicated the persistent Parker and finally bestowed battle honors on the long-suffering doctor's invention.

Alas, the "automatic machine gun" (operating on the power of each cartridge

fired) invented by Hiram Stevens Maxim, was to capitalize on the Army's new found interest in the combat utility of rapid fire rifle-caliber weaponry. The old-fashioned, hand-cranked Gatlings were relegated to defense of stateside forts and were finally declared obsolete at the end of WWI, falling into nearly total obscurity for decades.

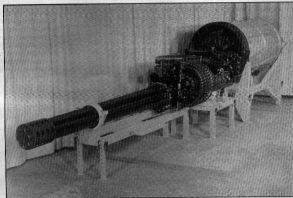
Electric Power

In an interesting aside to the historical record it should be noted that the indefatigable Doctor Gatling had conclusively demonstrated the astonishing firepower potential of his device in 1890 by rigging it with one of Mr. Edison's new-fangled electric motors. It reportedly fired at the amazing rate of 1500 rpm, with subsequent tests yielding bursts of up to 3000 rpm. Problem was, nobody at the time really needed this costly and dizzying volume of fire so the experiment soon faded away. Ah, but things change...

Jet Age Gatlings

Introduced toward the end of WWII, Germany's fast and nimble jet-powered fighters made propeller driven combat air-

The 30mm General Electric GAU-8 is an externally powered seven-barrel Gatling weapon designed for optimum combination of size, weight, drive power and rate of fire required for the A-10 "Warthog." Credit: GE/Fairchild



craft obsolete virtually overnight. The incredible speed of America's postwar jets far exceeded the capabilities of existing conventional machine guns and auto cannons, limiting their effectiveness in dog-fights and strafing runs. Most simply put, even when the fastest firing single barrel guns were crowded into multiple mounts, they just couldn't put out enough lead in the fleeting seconds of target exposure. What to do?

As luck would have it, somebody in the program remembered Gatling's electric motor experiments more than a half-century before. By 1950, the General Electric company was well along in development of what was soon to become colorfully known as the VULCAN, a 20mm revolving cannon capable of firing bursts at 100 rounds per second!

Officially adopted in 1956 as the M61 Automatic Gun, the Vulcan was first installed in the F-104 Starfighter and went on to distinguished service in many other airframes. It also found enthusiastic acceptance as a radio-aimed anti-aircraft gun and rides in many different helicopters as primary armament and smaller versions in flexible door mounts. Various models in a range of calibers and applications carry inspiring names like Avenger, Equalizer and Phalanx in American and allied service worldwide.

Colonel George M. Chinn, perhaps the free world's most respected authority on automatic gun systems, gives this product of the good doctor's inventive genius a ringing accolade in the last of his monumental five-volume series THE MACHINE GUN:

"Surely Richard J. Gatling deserves the first and foremost acclamations for his insight of modern military weapon needs when he nurtured his famous invention with conceptual and persevering skills as that twentieth century man could take his gifts and build on them as has been done in the defense of our grateful country and of our friends throughout these last forty years."

Primary Reference Sources

THE MACHINE GUN, By Chinn, US Navy, 1951

THE GATLING GUN, by Wahl and Tappell, Arco 1965

THE GATLING GUN, by Joseph Berk, Paladin 1991



The business end of this A-10 Close Support aircraft with its awesome 30mm GAU-8 Gatling gun, firing depleted-uranium ammunition to kill enemy tanks. Credit: Fairchild Republic Co.

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