Solvent a Combat Problem at the Individual Level:
The Cutts Compensator

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For innovators, properly scaling solutions is a recurrent challenge. Frequently, when solving a tactical or operational difficulty, well-meaning problem-solvers look for comprehensive systems which do away with a whole class of problems. The World War II German Air Force, for example, introduced jet and rocket engines into aircraft, but delayed their use by trying to develop both fighter and bomber versions. Desperate for a solution to their loss of air superiority, the Germans overcomplicated problems, and deployed small numbers of Me-262 and -163 airplanes, which reached the skies over European skies far too late to influence the war. Today, the U.S. sea services also seek complex systems which take much time to deliver, cost more than intended and need added time to fix. Simpler is often easier, cheaper and better.

During the 1920s, U.S. Marine Corps Colonel Richard M. Cutts faced a small arms challenge. Infantry weapons had evolved quickly during World War I, a conflict Cutts missed due to his Pacific Ocean duty with the Fleet. But he knew the Marine Corps prided its members’ ability to shoot, regardless of where they served. New automatic weapons, however, challenged an individual Marine’s control of a weapon, led some to flinch while firing, and needed more ammunition—meaning weight—to supply the gun. Existing machine guns used heavy mounts including water-cooled jackets for their barrels, but were quite heavy and needed large crews to move them. In contrast, Browning Automatic Rifle (BAR) and Thompson Submachine Gun were hand-held, and new in 1918. The BAR, in particular, used the powerful Springfield .30-06 cartridge, which when fired rapidly ruined the firer’s aim and made the rifle’s muzzle climb.

Cutts solved both the accuracy and wasted ammunition problems by creating a “compensator.” The device fit onto the end of the weapon’s muzzle, and used the gas of each bullet to ease recoil and reduce climb. By venting the gas outward and upward, Cutts let the
weapon stabilize itself, keeping a Marine’s aim more precise. Writing in a 1926 issue of *The Marine Corps Gazette*, he noted the compensator cut BAR recoil by 62% in foot-pounds, allowing more use of rapid fire. With it attached a service-member shot more accurately, kept their aim more reliably, and actually used less ammunition. That his modification came cheaply, at a time when the Marine Corps and Navy were short of money, meant Cutts had created win-win-win modification to an existing family of weapons.

Whether trying to suppress opposing infantry, or shoot down an airplane, the Cutts Compensator made bursts of fire possible from a hand-held weapon. Despite his dying in 1934, Colonel Cutts’s invention allowed Marines and Sailors to use the BAR and Thompson Submachine Gun in combat as intended. During World War II and the Korean War the automatic weapons of U.S. Marines consistently matched or bested opposing infantry in ground combat. A modest addition to existing weapons made individual service members more lethal, and literally imposed a lighter burden upon them, at minimal cost.

Golden Gate National Recreation Area, CA. Thompson Submachine Gun, Model 1928, serial number 5678, Cal 45 ACP with a 50 round magazine drum and detachable butt stock and Cutts compensator. Manufacturing marks include "US Navy." (National Park Service Photo)