

REVOLVER: SAM COLT AND THE SIX-SHOOTER THAT CHANGED AMERICA

(JIM RASENBERGER)

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Every so often, some cretin threatens me on X, formerly known as Twitter. These soyboy types tend to lead by saying I appear weak and fragile. I doubt I would lose a physical fight, certainly against these degenerate specimens, even though it has been many years since I actually fought. I may be aging, but I am reasonably strong, very fit, and have extremely fast reflexes, and my sociopathic and pedal-to-the-metal tendencies would likely come to the fore in a do-or-die contest. Nonetheless, rather than arguing the point, my usual response, if I deign to make one, is to quote the old aphorism, “God created man, and Sam Colt made men equal.” How Colt accomplished that is the topic of Jim Rasenberger’s excellent biography.

Colt’s name, of course, is immortally associated with his invention, the first successful repeating gun, with each of five or six chambers hand-loaded with black powder, since he lived before the metallic cartridge was invented. Gunpowder weapons have always been a Western specialty, long before Colt, despite the Chinese having been the first to use gunpowder. (In a typical non-Western use of technology, the Chinese made only extremely crude and ineffective weapons, not improved for hundreds of years, which when they fell into European hands were turned into massive forged cannon and usable hand weapons within a few decades.) The idea of a repeating firearm was not new in 1814, when Colt was born, and various men had made attempts. All were either failures or were variations on the pepperbox, where a gun fired multiple bullets from multiple barrels, resulting in a gun that was too heavy for practical use. Colt, however, when only sixteen imagined and then created the first practical single-barrel repeating firearm—not just revolvers, for which he is mostly remembered, but also rifles and shotguns using the same mechanism.

Rasenberger draws a vivid picture of America in the early and mid-nineteenth century. But this is not a technical book about guns, which may disappoint some readers. Rasenberger explains the basics of Colt’s mechanism, and discusses some of the improvements Colt made over

time, as well as lesser competing mechanisms, but does not offer a great deal of detail. Nor does he go into specifics about the cutting-edge factories and machine tools Colt built, beyond basic descriptions. Personally I would have preferred a great deal more information about both, especially the latter. However, mine are niche interests, and Rasenberger, I think, strikes the right balance for the general reader.

Underlining Rasenberger's accomplishment is that the life of someone like Colt, neither politician nor military man, is difficult to recover. Not only is such a man's life encrusted with legend, often generated by the man himself (and also in Colt's case by his wife), but records from nearly two hundred years ago about individuals not given much to personal correspondence or self-rumination are typically largely destroyed or very hard to find. Unsurprisingly, if you read other summaries of Colt's life after reading *Revolver*, most of them are bad, incomplete, inaccurate, or all of the above, and according to Rasenberger the few earlier full-length biographies of Colt are largely tissues of lies. Thus, he was forced to do a very large amount of primary research to uncover the real Sam Colt, hunting down flashes of Colt's life in a variety of obscure places.

Sam Colt died in 1862, only forty-seven years old. He died an extremely wealthy man (worth around half a billion dollars in today's money, though such comparisons are very rough), but all of that wealth was accrued in the last few years of his life. His father, Christopher Colt, was the son of a Massachusetts farmer. The Colts were an extended family in New England and beyond, with no famous men among them but quite a few prosperous branches, which means cousins of Sam Colt pop up frequently in these pages, often offering crucial support. Christopher Colt moved to Hartford, Connecticut around 1800, and began a career in business. Americans were already famously a merchant people, and something that comes through clearly in this book is the ups and downs of a typical American businessman of the time, when credit was easily available but limited liability was not the rule, so men frequently were ruined when business conditions turned against them. Sam Colt's father managed to become wealthy, and fathered eight children. Yet Fortune's wheel then brought him low. In the Panic of 1819, he went bankrupt, and his wife died shortly thereafter.

The Colt family, not just Christopher Colt, was, perhaps particularly unlucky, and not just in business failures, of which Sam Colt had several as well. While infant mortality was far greater in those years, adult mortality was not so different from today. (The Bible, after all, says that in the Bronze Age the normal life of man was seventy years, or eighty by “reason of strength.”) Yet one would not know that from reading about the Colts. Of his seven siblings and two half-siblings, Sam Colt outlived all but one. Of his own five children, all born in the last few years of his life, two died before him (and two shortly after him). Moreover, there was a debilitating thread of mental illness in the family. His sixteen-year-old sister, for example, committed suicide by eating arsenic. One of his brothers killed a man with an axe during a quarrel over a fifteen-dollar printing bill, and committed suicide immediately before he was to be hanged. And Colt became estranged late in life from another manic-depressive brother, to whom he was very close and on whom he had relied (unwisely) in important business matters. Colt himself was a functioning alcoholic, but I’m not so sure I wouldn’t be an alcoholic either, if I had to endure the sufferings he encountered in his life.

In any case, Colt grew up in the Connecticut River Valley, at that time a center of rapidly-expanding American industry. His father, recovering from his bankruptcy, managed a factory for its owners, so Colt was exposed early to manufacturing tools and processes, all driven by water, before the age of steam. In 1829, when he was fourteen, on the Fourth of July, he advertised and delivered a show for locals in Ware, Massachusetts—blowing up a raft on a lake near his home, using a remote electric detonator. He attended Amherst Academy, a well-regarded secondary school, for only a year, before he was expelled, again on the Fourth of July in 1830, for stealing a cannon and firing it repeatedly (with blanks) at dawn. A month later he went to sea, as a common seaman on a merchant vessel bound for Calcutta—because he wanted to, not because he was being punished.

No surprise, being a seaman did not suit Colt’s independent frame of mind. He was flogged for stealing food (a heretofore-unknown fact Rasenberger uncovered in the journal of a missionary who was on the trip, who himself promptly died in India). But what is well known is that that on the return journey, Colt conceived of his repeating mechanism,

and carved it in wood. Most likely it came entirely from his mind, perhaps inspired by the windlass on a sailing ship, although there is a small possibility he saw another, far inferior, English repeating mechanism in India. Why he reified what he imagined, nobody knows. Maybe he was brooding on revenge. Maybe he was just bored. Later he offered various ex post explanations, designed to sell his gun, such as that he thought it would be helpful against Indians or slave revolts (Nat Turner was hanged in 1831). None of those really hold water; my guess is that his was just one of those fertile minds, similar to John Browning's, another famous gun designer, which run in the channels of invention and give off flashes of genius.

Back in Massachusetts, Colt worked briefly in chemistry for a fabric company, while he hired a local gunsmith to produce exemplars of his new gun. The key original feature was his method of turning the cylinder, using a ratchet linked to the hammer, which fit into a divot machined into the cylinder, turning it a precise distance and locking it in place to be fired. In his peripatetic way, he soon quit his job (Rasenberger found his chemistry notebook, which breaks off in mid-sentence), and embarked on a tour all over young America, offering the entertainment of generating and administering nitrous oxide, laughing gas, to Americans hungry for technological novelty, here with a frisson of naughtiness, since nitrous oxide lowers inhibition. At the same time, he kept up a correspondence with the gunsmith he had hired, further developing his invention, and pouring his modest profits into the project. He was only nineteen, and had already developed the boundless self-confidence that would characterize his whole life.

In 1835, he turned to commercializing his investment. This required a factory, which demanded money, lots of money, so he turned to a wealthy cousin in Baltimore, Roswell Colt. Together with another cousin, Dudley Selden, and assisted by the Commissioner of Patents, Henry Ellsworth, a family friend, they patented the invention, both in Europe and America. (Ellsworth estimated the patent was worth \$200,000, maybe five or six million dollars today, or more). They also formed a corporation, then a very new device, often requiring legislative approval, the Patent Arms Manufacturing Company, and built a factory in Paterson, New Jersey.

Setting up manufacturing took more time and money than expected. It always does. Worse, however, was that there was no significant market for the gun, which was very expensive, several times the cost of single-shot weapons of the time. One obvious possible buyer was the United States military, but no war was imminent, and Congress was not in the mood to spend money except if it was needed. At first the Seminole Wars in Florida and the fight for Texas independence seemed like promising conflicts for which to provide guns, even if informally rather than through official procurement channels, but both ended by the time Colt was ready to manufacture. Moreover, testing by the military revealed a problem with “chain fire,” that secondary chambers in Colt’s gun sometimes ignited when the primary chamber was triggered. In addition, the usual sclerotic nature of military procurement, combined with military doctrine that saw no need for an individual soldier to be able to fire multiple times, seeing it as encouraging lack of discipline and unnecessary individual attempts at heroism, meant that Colt could not convince the military to advocate for his guns, despite his best efforts at flattery and near-bribery. (The military was in a sense correct; volley fire, using masses of men formed into lines, was quite effective, as the Napoleonic Wars had recently showed.) And then the Panic of 1837 sent the whole American economy into a tailspin, just when Colt’s new factory went into full production.

The PAMC, in which Colt himself was only a modest shareholder, though with substantial cash advances he blew on high living (after all, he was only twenty-two), did not immediately go bankrupt. His guns were regarded with great interest, but interest does not always translate to sales, and here the sales were not enough to cover costs. Colt tried hard to sell his guns, buttering up Congressmen and military leaders, and when that failed, turned to state militias, selling a few guns here and there. He also continuously improved his design, including addressing the problem of chain fire, and adding clever design elements such as engraving to show them as “authentic Colts” and increase their appeal. But in 1841 the PAMC collapsed—though Colt managed to regain control of his patent, crucial for his future success, and did not have any personal liability for debts.

In 1842, not seeing what else to do, Colt turned to a new line of work, prefigured by his earlier activities—blowing up ships with

remote-detonated gunpowder charges, using very long waterproofed copper wires with galvanic cells generating the spark. Again on July 4, he blew up a sizeable ship, and by the next year, he was blowing up five-hundred-ton ships, to public acclaim. His goal was to sell this weapon to the military. But he was again frustrated by military procurement, which correctly saw that this was not a new invention, and by Congress, which again would not pay money for it. Driven by the internal spring that characterizes all successful entrepreneurs, Colt next turned to the new technology of telegraphs, starting a venture to run a line from Coney Island to Manhattan, in order to more quickly bring news from inbound ships to the city, primarily to sell to financial speculators. This had some success, but again cost more than expected, and brought in less than needed.

Meanwhile, however, unexpectedly Colt's guns had been getting use, and wide publicity, in new areas of actual successful application. The most important was use by the Texas Rangers in their battles with the vicious Comanche, fantastic fighters who were raping and torturing their way across the hill country of Texas. One of them was Samuel Walker, a charismatic young man, who used the revolver to obviate the Comanche advantage given by their rapid fire of arrows from horseback. And then in 1846, finally, Colt's luck began to change. Walker, taking a commission in the regular Army, became a hugely publicized hero in the Mexican War, and credited his exploits, and those of his men, to Colt's revolver. Seeing an opportunity, Colt wrote to Walker, and entered into a partnership of sorts with him.

Walker advised Colt on improvements to the gun, creating the Colt Walker, one of the most famous firearms in history, an accurate, reliable, and powerful (if very heavy) handgun. Walker's public association with Colt broke the logjam with military procurement, resulting in decent-size orders for the first time. Colt was able to build a small factory, returning to Hartford, that he wholly controlled, having had enough of his cousins whining to him about his inadequacies. Walker himself, in 1847, received two of the first pistols manufactured, with a thousand more on their way—but immediately died in an obscure Mexican town after an obscure battle, probably stabbed in the back by a lance wielded by the grieving father of a dead Mexican soldier. But Colt was over the hump, and the California Gold Rush accelerated demand for his guns.

By 1849, Colt was producing a hundred guns a week, and employing a hundred men. This was far from enough to meet demand. Still, he went to Europe, selling his guns to the French, the Russians, and the Turks. He kept expanding his factory, while successfully defending his patent against infringers, and his exhibition of his guns at the Crystal Palace in London, in 1851, was wildly successful, further expanding demand.

Among other manufacturing innovations, many led by his chief manufacturing lieutenant, Elisha Root (who had been present when Colt, at fourteen, first blew up a raft in Ware), Colt was one of the pioneers of the “American System”—an early form of assembly line manufacturing, using parts that were not precisely interchangeable but needed minimal “fitting” to create each gun. He opened a factory in England, and he and his agents sold guns all over Europe. The Crimean War, in 1853, accelerated demand yet further, as did, in America, increasing conflict with the Indians and the rising tensions between North and South. By the mid-1850s, in part due to innovative practices such as paid product placement, heavy advertisement, and the use of early influencer endorsements, Colt “enjoyed the kind of market penetration and brand recognition that few if any other American products had ever known.” He also had a state-of-the art factory of nearly a quarter-million square feet, enormous for the time, now using steam instead of water power, located in what was effectively a company town outside of Hartford, overlooked by his enormous and eclectic mansion, which he called his “shanty.”

Only in 1856, forty-two years old, did he marry. His wife, Elizabeth Jarvis, lived for forty years after his death, and was largely responsible for his legend, emphasizing his accomplishments and retroactively smoothing off the rough edges. Unfortunately, Colt was already suffering from the rheumatoid arthritis (not just gout, as Wikipedia would have it) which would disable and then kill him, exacerbated by his alcoholism, smoking, and excessive eating of rich foods. As the Civil War loomed, then kicked off (John Brown carried Colt revolvers), both South and North had a voracious appetite for more of Colt’s weapons, though he stopped selling to the South when the war actually began. For all his success, happiness, perhaps, eluded him. His first two children died as infants, sending him into depression. By 1862, his factory produced more than one hundred thousand revolvers a year. However, he died

in January of that year, leaving behind not only his technology, but also many men who worked for him as manufacturing experts, several of whom were crucial participants in America's post-Civil War expansion.

Colt's career exemplifies an important point about highly successful entrepreneurial leaders (who are, for very good reason, almost always men, as I have discussed elsewhere). Whatever the talents of such a man, he needs force of will. True, will must serve talent. Will of itself creates nothing, but force of will is necessary for any successful entrepreneur. Will is needed because any entrepreneur faces continual obstacles. As I like to say, business consists of dealing with a rolling series of little disasters, and only the man in charge can ultimately deal with, and must deal with, those disasters. In the face of this oppositional torrent, only a man of iron will can maintain the discipline and decisiveness necessary to succeed. True, many businessmen of great will are nonetheless total failures, because of bad luck, vices and lacks which outweigh their talents, or poor choices. But that does not change that success requires will.

Aside from will, entrepreneurs often have different talents. For some such men, their primary skill is as inventors. Colt is an example of this; all his other work was downstream of his inventions. Some men's primary skill, by contrast, is as organizer and driver; Elon Musk is the prototypical modern example. Musk has invented nothing, or nothing of great importance, but he has created several exotically successful companies through organizing backed by will. If one has to pick, the latter is more important and more useful, and some elements of it are necessary for success. Colt, with the primary talent of invention, came late to this second talent, but acquired it in the end. He also recognized that to be truly successful, an entrepreneur must be king of his castle, which is why a man who hands over control to others, whether to cousins as Colt did at first, or to venture capitalists, hobbles his chances of earthshattering success.

Perhaps the age of firearms invention is over. Gunpowder projectile weapons may be like sharks, approaching evolutionary perfection (although the relatively recent paradigm-shifting success of Gaston Glock perhaps suggests this is not the case). Maybe the future is all drones killing men remotely, and the age of face-to-face war has, as it has long been trending, disappeared entirely. But either way, you can do a lot worse than read this book to pass the time.