UNITED STATES DISTRICT COURT
SOUTHERN DISTRICT OF NEW YORK

J. MARK LANE and JAMES SEARS, Plaintiffs, - against - STEVEN G. JAMES, in his official capacity as Acting Superintendent of the New York State Police, and MIRIAM E. ROCAH, in her official capacity as District Attorney for the County of Westchester, New York, Defendants.	:	Case No. 22 Civ. 10989 (KMK)

DECLARATION OF PROFESSOR BRIAN DELAY

I, Brian DeLay, declare pursuant to 28 U.S.C. § 1746 that the following is true and correct:

BACKGROUND AND QUALIFICATIONS

1. I am Professor of History and the Preston Hotchkis Chair in the History of the United States at the University of California, Berkeley. I received my B.A. from the University of Colorado, Boulder (1994), and my M.A. (1998) and Ph.D. (2004) from Harvard University. My first book, *War of a Thousand Deserts: Indian Raids and the U.S.-Mexican War* (Yale University Press, 2008), won best book prizes from several scholarly organizations. Since 2010, I have been working on three interrelated projects about the historic arms trade: a monograph about the arms trade in the era of American Revolutions (under contract with W.W. Norton and scheduled to be published in 2025); a second monograph about guns, freedom, and domination in the Americas from 1800-1945 (also under contract with W.W. Norton); and a database tracking the global trade in arms and ammunition between the end of the Napoleonic Wars and the start of World War I. These projects are grounded in primary-source research in archives in the United States, England, Spain, and Mexico. "The Arms Trade and American Revolutions," a 20,000-word, peer-reviewed scholarly article previewing some of this research, appeared in the September 2023 issue of the *American Historical Review*, the flagship journal of the history discipline in the United States. In 2024, that article won the Vandervort Prize for outstanding article in military history from the Society for Military History. In February 2025, the *California Law Review* will publish my 35,000-word article "The Myth of Continuity in American Gun Culture."

2. I have delivered around three dozen presentations on firearms history at universities in the U.S. and abroad, including Harvard University, the University of Chicago, Stanford University, Oxford University, Cambridge University, the University of Melbourne, Doshisha University in Kyoto, Japan, and the Zentrum für Interdisziplinäre Forschung (ZIF), in Bielefeld,

Germany. My research on the history of firearms has been supported by grants from the American Philosophical Society, the British Academy, the American Council of Learned Societies, and the Stanford Humanities Center, among other organizations. In 2019, I was awarded a Guggenheim fellowship.

3. I have been retained by the Office of the Attorney General of New York to provide expert testimony in litigation challenging the state's regulation of assault weapons. I have reviewed the provisions of the Act being challenged in this case. I am being compensated at a rate of $250/hour for research, writing, and consultation; and $400 for deposition and testimony.

4. In addition to my work on this case, I've served as an expert witness in *Hartford et al. v. Ferguson, et al.*, No. 3:23-cv-05364-RJB (W.D. Wash.); *Banta, et al. v. Ferguson and Batiste*, No. 2:23-cv-00112-MKD (E.D. Wash.), *Guardian Arms, et al., v. State of Washington, et al.*, No. 23-2-01761-34 (Wash., and County of Thurston); *Hanson v. District of Columbia*, 22-cv-02256 (D.D.C.); *Arnold v. Kotek, et al*., No. 22CV41008 (Harney Cty. Cir. Ct.); *Oregon Firearms Federation, et al., v. Kotek, et. al.*, 22-cv-01815 (D. Ore.)[1]; *Wiese, et al., v. Bonta, et al.*, 2:17-cv-00903 (E.D. Cal.); *Sullivan, et al., v. Ferguson, et al.*, 3:22-cv-05403 (W.D. Wash.); *Brumback, et al., v. Bob Ferguson, et al.*, 1:22-cv-03093-MKD (E.D. Wash.); *Rocky Mountain Gun Owners et al., v. The Town of Superior et al*., 22-cv-2680 (D. Col.); *Association of New Jersey Rifle & Pistol Clubs, Inc., et al. v. Platkin et al.*, 3:18-cv-10507 (D.N.J.); *Cheeseman et al. v. Platkin et al.*, 1:22-cv-04360 (D.N.J.); *Ellman et al. v. Platkin et al.*, 3:22-cv-04397 (D.N.J.); *Rigby et al. v. Jennings et al.*, 1:21-cv-01523-MN (D. Del.); *National Association of Gun Rights et al., v. Polis*, 24-cv-00001-GPG-STV (D. Colo.); and *Palmer et al., v. Sisolak et al*., 3:21-cv-00268-MMD-CSD (D.

[1] *Oregon Firearms Federation et al., v. Tina Kotek et. al.*, has been consolidated with three other actions: *Fitz v. Rosenblum et al.*, 3:22-cv-01859 (D. Ore.), *Eyre v. Rosenblum et al.*, 3:22-cv-01862 (D. Ore.), and *Azzopardi v. Rosenblum et al.*, 3:22-cv-01869 (D. Ore.).

Nev.). The only cases in the last four years in which I testified are *Oregon Firearms Federation, supra*, *Arnold v. Kotek, supra*, and *National Association of Gun Rights v. Polis*, supra. A true and correct copy of my curriculum vitae is attached as Exhibit A to this report.

SUMMARY OF OPINIONS

5. New York's definition of an assault weapon includes "a semi-automatic rifle that has an ability to accept a detachable magazine" and at least one of several other enumerated characteristics. Rifles that meet New York's criteria of "assault weapons" have only been significant consumer items in the United States for a generation. That said, there is a much deeper history that may be relevant to the Court, particularly concerning the evolution of repeating firearms and the nation's history and tradition of firearm regulation. I have been asked to provide my understanding of that context. My most important conclusions are easy to summarize. Despite centuries of experimentation, repeating arms remained flawed curios when the Second Amendment was ratified and were exceedingly rare in the United States. I am unaware of a repeating arm ever being used in combat or for personal self-defense in the U.S. prior to the nineteenth century. By the time reliable repeating firearms began entering the consumer market, all the men who signed the U.S. Constitution were dead save James Madison (who passed away a few months after Samuel Colt secured a U.S. patent for his new revolver). These new repeating firearms represented dramatic technological changes, changes that provoked unprecedented social concerns. Legislatures across the nation responded to these concerns with new regulations. Importantly, state and local authorities frequently exempted the military and law enforcement from these regulations.

6. Reliable repeating firearms with capacities greater than ten rounds only became available in the 1860s, and only accounted for a tiny percentage of the nation's firearms when

the Fourteenth Amendment was ratified. Even these impressive new weapons were different from those at issue in the current case, in one very critical regard: they were slow to load. Semi-automatic firearms with detachable magazines that allow shooters to fire rapidly with only brief pauses to reload first began making inroads among U.S. consumers in the early twentieth century. Once again, dramatic technological change provoked unprecedented social concern, leading to a wave of regulatory legislation across the country. This new wave of regulation made explicit distinctions between civilians and agents of the government (military and law enforcement).

7. This report is separated into four sections. Section I explains why repeating firearms were merely experimental and, consequently, vanishingly rare in the United States in 1791, and discusses the extent of firearms regulation in America leading up to 1791. Section II describes how reliable repeating firearms with fixed magazines holding more than 10 rounds first came on the market in the 1860s and explains why they still accounted for a tiny percentage of total guns in the U.S. in 1868. Section III explains that automatic and semiautomatic firearms with removable large-capacity magazines began coming under state and federal regulation soon after they first became commercially available throughout the United States in the 1920s and 1930s. Finally, Section IV explains the historical and legal distinctions made in the U.S. between military and civilian firearms, from the colonial period through the twentieth century.

I. Repeating Firearms Were Flawed, Experimental Curiosities in 1791

8. Inventive gunsmiths had been trying to design dependable, effective firearms capable of shooting multiple rounds without reloading since at least the sixteenth century. Evidence for their efforts can be found in personal and public archives, in patent records, and occasionally in actual weapons still preserved in museums and private collections today. But such weapons were flawed, experimental curiosities prior to the founding of the United States.

They were both dangerous (to the shooter, as well as to the target) and highly unusual. Most of these weapons never advanced beyond proof of concept. Few repeating firearm inventions ever moved past the design or prototype stage, and none achieved commercial significance or military relevance prior to 1791. This centuries-long history of inventive failure has a context, one that ought to be borne in mind when evaluating claims about the historic regulation of firearms—or lack thereof.

A. The elusive quest for reliable repeating firearms prior to the nineteenth century

9. Europeans began engaging with gunpowder and its potential military applications in the thirteenth century. By then, European states had long been in competition with one another for military and economic advantage. As the design and efficacy of artillery, bombs, and handheld firearms improved, and as these improvements forced leaders to reconsider venerable military traditions, states began spending more and more on their militaries. Intensifying competition between sovereigns created powerful incentives for craftspeople and inventors to improve on existing military technology.[2]

10. Sovereign competition helped fuel innovation. Three of the most important innovations in the seventeenth and eighteenth centuries were: (a) gradual improvements in gunpowder corning, a process that made powder burn more evenly and enabled producers to better modulate its power; (b) the substitution of the cumbersome matchlock ignition system for the more reliable flintlock system in the late seventeenth century; and (c) the development of the socket bayonet (also in the late seventeenth century), which, for the first time, enabled

[2] Geoffrey Parker, *The Military Revolution: Military Innovation and the Rise of the West, 1500-1800*, 2nd ed. (Cambridge University Press, 1996).

infantry to act both as musketeers and pikemen. All three breakthroughs had significant consequences for the development and use of firearms around the world.[3] Still, most improvements to firearms technology were incremental during the Renaissance and early modern era. Meaningful breakthroughs were very rare.

11. Because of the military benefits associated with repeat fire (including increased killing potential), it was probably the most coveted but elusive of the gun-making world's aspirations. Safe and reliable increased rate of fire would have been an invaluable force multiplier for militaries before the nineteenth century. States would have paid handsomely to acquire such a comparative advantage, and that prospect helped incentivize centuries of experimentation. Four basic solutions had come into view as early as the sixteenth century. Each attracted generations of talented gunsmiths, and each had distinct virtues and limitations. The first solution achieved repeat fire with a revolving breech; one innovative design along these lines emerged in Germany in the early sixteenth century. The second approach employed multiple barrels. A seventeenth-century Scot built a gun with a single, fixed breech and fifty barrels arrayed around an axis, for instance. A third design incorporated an internal magazine housing enough powder and (sometimes) balls for multiple shots. Most such arms employed a rotating breechblock to cycle a single powder charge and (sometimes) a single ball into the chamber, before sealing the chamber for firing. [4]

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[3] These and other developments are clearly described in Bert S. Hall, *Weapons and Warfare in Renaissance Europe: Gunpowder, Technology, and Tactics* (Johns Hopkins University Press, 1997).

[4] M. L. Brown, *Firearms in Colonial America: The Impact on History and Technology, 1492-1792* (Washington: Smithsonian Institution Press, 1980), 50 (Germany), 100 (Scotland). Of early magazine repeaters, a respected authority says "as all were basically impractical and many quite hazardous to use they were produced in extremely limited quantities and hence all are considered great collector's prizes." Norm Flayderman, *Flayderman's Guide to Antique American*

12. The fourth approach, the so-called superposed load or stacked charge method, fired multiple rounds loaded into a single barrel. This was probably the earliest method for achieving repeat fire, and it had two basic types. The first functioned like a roman candle. Lead balls would be drilled through, like beads. Their central canal would be filled with gunpowder or another, slower- burning compound. A regular gunpowder load would then be packed into the barrel of the gun, followed by one of the tightly fitting pierced rounds, then more gunpowder, then another pierced round, and so on, the loader being exceedingly careful to perfectly align the canals of the individual rounds. Upon firing, the first round (the one closest to the muzzle, would ignite the material inside the bore of the second round, which, a fraction of a second later, would communicate flame to the second powder charge (behind the second pierced ball), and so on, until all shots had left the gun. The second type of superposed load design also employed a barrel loaded with multiple rounds but allowed the shooter more control over the pace of firing. This was achieved either through multiple locks or of a sliding lock that would enable the user to fire the load in two or more different bursts.[5]

13. Master gunsmiths made exquisite varieties of repeating arms from the sixteenth through the eighteenth centuries, at high cost. Designs with rotating breeches or multiple barrels seldom exceeded a ten-round capacity, but early magazine or superposed firearms could. Regardless of type, gunmakers often decorated multi-fire weapons lavishly, and sold or gifted them to a tiny stratum of elite consumers across Europe. But most of these weapons remained

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Firearms and Their Values, Ninth edition (Iola, WI: Gun Digest Books, 2007), 691.

[5] Lewis Winant, *Firearms Curiosa* (New York: Greenberg Publisher, 1955), 166-93. For discussion of some particularly ingenious superposed load designs, see M. L. Brown, *Firearms in Colonial America: The Impact on History and Technology, 1492-1792* (Washington: Smithsonian Institution Press, 1980), 104–6.

gorgeous curiosities, usually more suited to admire than to shoot. Prized more than used, early repeating firearms survive at far, far higher rates than do the era's ordinary, single-shot firearms that did actual work in the world. While produced in very small quantities annually, therefore, they accumulated over the centuries of production so that today the world's museums and collectors possess many intriguing specimens. Writing about early magazine arms, W. W. Greener, one of the nineteenth century's preeminent authorities on firearms, remarked that "the peculiar complication of the various mechanisms, and the general inutility of the weapons themselves, render a detailed description of little value to the inventor or the general reader; but the connoisseur will find several varieties in the Paris Museum."[6]

14. Notwithstanding often brilliant work, then, no repeating firearm design functioned well enough to become militarily and commercially significant before the nineteenth century. If early repeating arms had worked well, militaries had all the incentives they needed to adjust tactics, bureaucracy, and budgets to incorporate them. But the ideas behind repeating firearms were simply too far ahead of their times. Greener put it this way: "The advantages of the repeating principle thus appear to have been observed at an early date, and the inventive genius of the gun-maker would have been equal to producing weapons of the desired type if only the skill and tools of the workman had allowed of a perfect mechanically fitting joint being obtained."[7] Most rotating breech mechanisms were complex and exceedingly difficult to make well before moving parts could be built with machine precision. Long-guns festooned with several barrels were too heavy and cumbersome to be practical handheld weapons. Early

[6] W. W. Greener, *The Gun and Its Development*, 9th ed. (London: Cassell and Company, LTD, 1910), 81.

[7] *Id.*, 80.

magazine guns demanded an even higher level of craftsmanship to create a perfect seal between

Fig.1. Lorenzoni Repeating Flintlock Pistol, c. 1690-1700. The Metropolitan Museum, NYC (Accession Number: 2018:856.11). Note the lever used to chamber new rounds.

the rotating breechblock and the stored powder, lest the combustion in the chamber ignite the magazine. The best, like those made by the Florentine Michele Lorenzoni in the late seventeenth and early eighteenth centuries, minimized these dangers through slow, precise craftsmanship. But early magazine guns were perilous even in the hands of expert gunmakers. Lorenzoni's countryman, the famed gunmaker Bartolomeo Girardoni, reportedly lost his left hand in a magazine explosion.[8]

15. As for muskets with superposed loads, they were mechanically simpler than the alternatives. But roman-candle style bursts of fire had limited utility on the battlefield and no utility off it. Worse, like all but the best-made magazine arms, superposed load systems were

[8] For Girardoni's accident, see Eldon G. Wolff, *Air Guns*, Milwaukee Public Museum Publications in History 1 (Milwaukee, WI: North American Press, 1968), 27.

notoriously perilous to the shooter on account of having so much explosive gunpowder packed into a single firearm. If the sequencing between rounds was off, the barrel could explode like a tubular grenade in the shooter's hands. Hence one scholar's conclusion that "the dread of misfires was reason enough for the lack of sustained enthusiasm for any of the superposed load guns."[9] Still, if more reasons were needed, smoke was another one. In the gunpowder era, even regular, single-shot muskets produced clouds of acrid white smoke that obscured battlefield targets. Firing a superposed load just once made that problem five, ten, or twenty times worse (depending on the number of loads). Superposed load firearms were painfully slow to load, with the practical consequence that a shooter could only expect to fire one barrel full of rounds before having to abandon the weapon during battle. The final major drawback to most superposed load designs was that even when everything went according to plan, the shooter had little or no control over the pace of firing. All he could do was point the gun, say a prayer, brace himself for an epic recoil, pull the trigger once, and hope that the eight or ten or twenty charges inside the barrel went in the right direction. Such weapons had little utility outside of formal warfare, and their dangerous drawbacks meant that they were seldom used in martial combat, either. Lewis Winant, an authority on historic firearms from the mid-twentieth century, put it well when he wrote that "of all the ideas for producing multishot firearms the scheme of superimposing loads in one barrel is probably the oldest, the most discredited, the most frequently recurring, and also the most readily accepted as new."[10]

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[9] Winant, *Firearms Curiosa*, 178.

[10] *Id.*, 166.

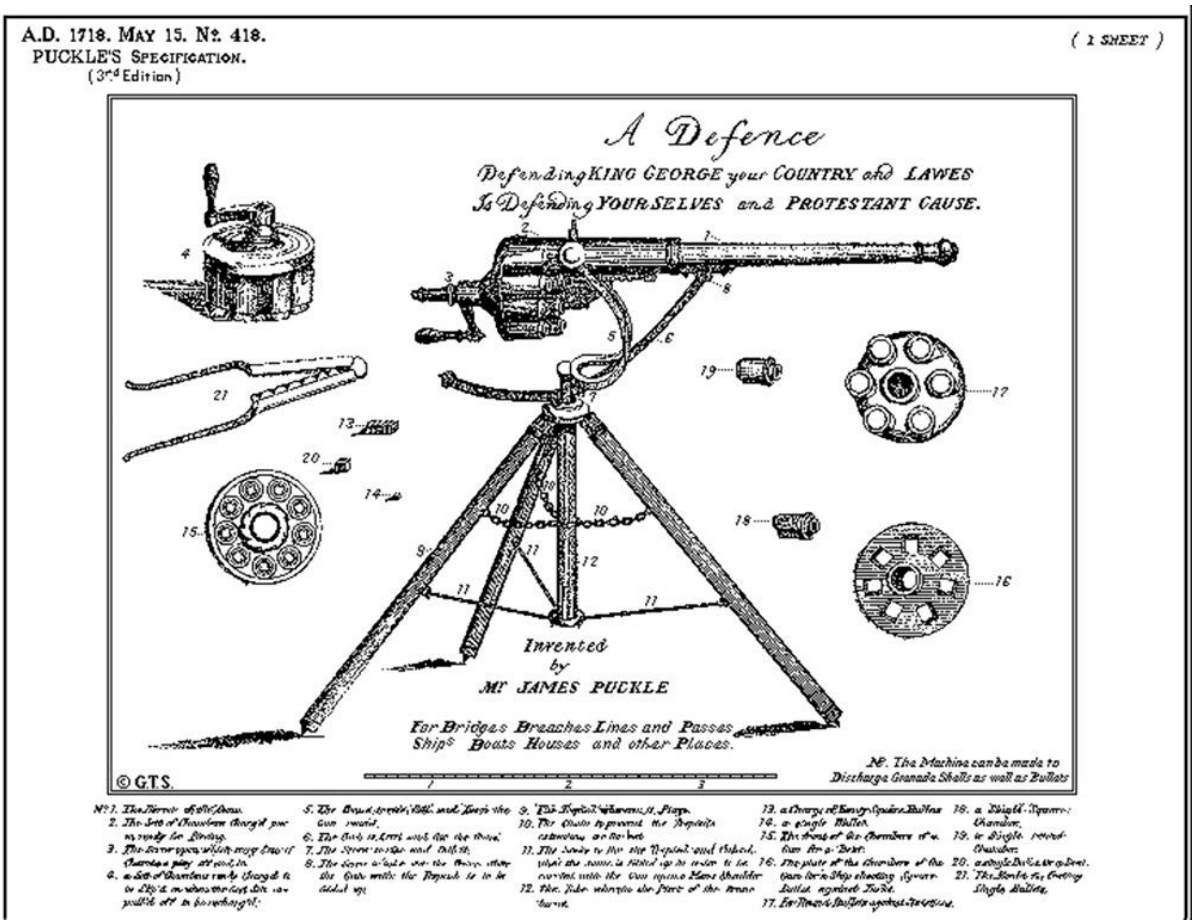

Fig. 2. Sketch of James Puckle's Gun, c. 1718

16. Few early repeating arms have provoked as much modern interest as the "Puckle gun," a weapon which exemplifies both just how strange and flawed most examples of early repeaters really were. Elaborating on what by the early eighteenth century were established rotating breech designs, James Puckle devised a clever multi-fire, flintlock ignition gun in 1718. It consisted of a long barrel mounted to a tripod, and three removable, rotating breeches. Each of the three breeches had different purposes. One was designed for shooting "grenadoes," by which Puckle apparently meant shrapnel; one fired standard round balls; and one fired shots cast in the shape of ice-cubes. Puckle intended the balls to be used on Christians, and the cubes to be used against Muslim Turks. Needless to say, this was a design that privileged mystical sectarian posturing over battlefield effectiveness (and aerodynamism). The bulky gun required

at least two men to carry and position, making it more like light artillery than a handheld firearm. Sometimes misleadingly billed as the first machine-gun, Puckle's exotic firearm was not self-loading – the user had to reposition the breech with a hand crank in-between each round. Compared to actual machine guns, it had an extremely slow rate of fire. Once it had discharged its seven cube-loads, for example, the breech had to be removed; each chamber had to be re-loaded with powder, wadding, and shot; the breech had to be carefully re-attached to the gun; and the touchhole of each chamber had to be re-primed as it came into position prior to each shot. Under serene conditions, a practiced operator would theoretically have been able to fire all seven cube-shots in a chamber in under a minute. But given that an average soldier fired two or three shots a minute from a smoothbore musket, the Puckle Gun hardly represented a revolution in firearms technology.

17. And that modest assessment assumes that the firearm reliably worked. Charles Ffoulkes, the researcher who re-discovered the Puckle Gun in 1936, had his doubts. Like all rotating breech designs made before the Industrial Revolution, the breech of the Puckle Gun could not be fully gas-proof. In fact, Ffoulkes found the design even more faulty than others with rotating breeches, because the closeness of the chambers heightened the risk of a chain-fire (one charge prematurely igniting the others). The British military seems to have shared Ffoulkes' skepticism. The inventor formed a company to raise investment around his gun, but it never got off the ground. "Fear not, my friends, this terrible machine," quipped one wry contemporary, "they're only wounded who have shares therein."[11]

[11] Charles Ffoulkes, *Arms and Armament*, 1945, 82–85. Quote is from W. Y. Carman, *A History of Firearms: From Earliest Times to 1914* (Mineola, N.Y.: Dover Publications, 2004), 80. Final quote from Winant, *Firearms Curiosa*, 221.

18. To be fair to James Puckle, the fundamental material and technological hurdles were beyond anyone's solving in the eighteenth century. To be durable, reliable, affordable, and safe enough to achieve popularity, the experimental designs required metallurgical techniques and a level of machine precision unknown until well into the nineteenth century. Not until the advent of these and other breakthroughs (including the adoption of percussion-cap ignition in the 1830s and metallic cartridges in the 1850s) could repeating firearms become practical weapons of mass production, widespread military adoption, and commercial viability.[12]

19. Neither hustling arms inventors looking to make a fortune nor military and political leaders hunting for battlefield advantage knew that, of course. Hope sprung eternal, on both sides. That is why numerous historic designs for repeating firearms exist, despite the technical and material limitations that prevented any of them from achieving commercial or military relevance.

B. Repeating arms in the colonies and early United States

20. Advances in repeating firearm technology arose in Europe prior to the nineteenth century, and few of these rare weapons left Europe. Very occasionally, however, repeating firearms appear in the documentary record of early America. Gun rights activists arguing that repeating firearms were well-known to the founding generation frequently invoke two such weapons: a repeater designed by Joseph Belton and a Girardoni air rifle. Put into

[12] For a summary of the basic technological hurdles and how they were finally overcome in the nineteenth century, see Joseph Bradley, *Guns for the Tsar: American Technology and the Small Arms Industry in Nineteenth Century Russia* (DeKalb, Ill.: Northern Illinois University Press, 1990), 12–19.

proper context, however, these two guns make it clear that the founding generation could only have thought of repeating firearms as flawed curios.

21. Philadelphian Joseph Belton saw an opportunity for military contracts with the outbreak of the American Revolution. In 1775 he pitched an idea for a submersible with cannons that he claimed would sink British ships. Benjamin Franklin recommended Belton and his submersible idea to George Washington, but still the proposal went nowhere.[13] In 1777, Belton tried another approach. He informed the Continental Congress that he had "discover'd an improvement, in the use of Small Armes… which I have kept as yet a secret." Surviving correspondence suggests that Belton was pitching a superposed load design. Intrigued, Congress placed an order for 100 of these "new improved" guns. Congress cancelled the order a few days after extending it, however, and refused to ever reconsider notwithstanding Belton's increasingly desperate appeals.[14]

22. Congress changed its mind once it heard Belton's exorbitant demands for compensation. Belton requested £1000 from each state, a significant sum at the time (though

[13] See Benjamin Franklin to Silas Deane, Philadelphia, Aug. 27, 1775, and editors' footnote #2, available here: https://founders.archives.gov/?q=joseph%20belton&s=1111311111&sa=&r=1&sr=, accessed Jan. 27, 2023; Benjamin Franklin to George Washington, Philadelphia, July 22, 1776, and editors' footnote #1, available here: https://founders.archives.gov/?q=joseph%20belton&s=1111311111&sa=&r=3&sr=, accessed Jan. 27, 2023; and George Washington to Benjamin Franklin, New York, July 30, 1776, available here: https://founders.archives.gov/?q=joseph%20belton&s=1111311111&sa=&r=4&sr=, accessed Jan. 27, 2023.

[14] The relevant correspondence has been digitized and transcribed, and is available here: https://en.wikisource.org/wiki/Correspondence_between_John_Belton_and_the_Continental_Congress, accessed Jan. 27, 2023.

he hastily cut the price in half as soon as Congress balked).[15] But the Continental Congress issued about $200 *million* in currency during the Revolutionary War (worth somewhere between $5 billion and $22 billion today).[16] It clearly had the wherewithal to hire Belton if it had wanted to. Congress could and would have paid his price *if* it believed he and his guns would deliver a meaningful military advantage. That delegates evidently didn't believe this tells us much about the quality of the arms on offer. Buying 100 superposed load arms for a reasonable price might have made sense. Anything more than that was clearly not worth Congress's time.

23. Given the technical challenges afflicting repeat-fire gunpowder weapons, whether rotating breech-, multi-barrel-, magazine-, or superposed load-designs, it is little wonder that one of the only repeating weapons from the period that enjoyed even limited, experimental military use in a European army wasn't a true firearm, but rather an airgun. Using highly compressed air as the propellant, rather than gunpowder, eliminated many of the problems that had long bedeviled the quest for repeating arms. It was a relatively simple enhancement to attach a fixed tubular magazine to the side or underside of the air-gun's barrel, and to feed balls into the chamber (using gravity, by tipping the barrel up), one-by-one with a lever. The shooter could then fire as many rounds as the magazine would hold before needing to reload the fixed magazine. Depending on the size and pressure of the compressed air

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[15] See Joseph Belton to John Hancock, Philadelphia, May 8, 1777, at https://en.wikisource.org/wiki/Correspondence_between_John_Belton_and_the_Continental_Congress, accessed Feb. 4, 2023.

[16] For wartime currency, see Stephen Mihm, "Funding the Revolution: Monetary and Fiscal Policy in Eighteenth-Century America - Google Search," in *The Oxford Handbook of the American Revolution* (Oxford; New York: Oxford University Press, 2013), 334. For present-day value, see https://www.measuringworth.com/calculators/uscompare/relativevalue.php, accessed Jan. 27, 2023.

reservoir, the shooter might even be able to empty the magazine more than once before needing to refill the propellant. As with other categories of repeaters, airguns had been produced since at least the sixteenth century and probably earlier.[17]

24. The most impressive airgun of the period was developed in Vienna by one-handed Bartolomeo Girardoni, shortly after the American Revolution.[18] Following his gruesome accident working with magazine firearms, he decided he'd had enough of gunpowder weapons and transitioned to air-guns. Girardoni made improvements to existing designs, most especially an elegant breechblock mechanism for chambering balls from the attached magazine. Multi-shot air-rifles of his design saw limited service in the Austrian military between the 1790s and 1810s, a special corps of hundreds of snipers being equipped with the weapon. Air-rifles had numerous advantages over gunpowder weapons. In addition to the ease with which they were configured for multi-fire, they required no gunpowder (not always easy to obtain), and the absence of gunpowder meant that their bores required little cleaning and that shots produced no smoke and little noise.[19]

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[17] Wolff, *Air Guns*, 5–13. Girardoni's name is commonly misspelled Girandoni. For background on his air rifle, see the learned essay by Robert D. Beeman, "New Evidence on the Lewis and Clark Air Rifle – an "Assault Rifle" of 1803," http://www.beemans.net/lewis-assault-rifle.htm, accessed Feb. 4, 2023.

[18] Wolff, *Air Guns*, 5–13. Girardoni's name is commonly misspelled Girandoni. For background on his air rifle, see the learned essay by Robert D. Beeman, "New Evidence on the Lewis and Clark Air Rifle – an "Assault Rifle" of 1803," https://www.beemans.net/lewis-assault-rifle.htm, accessed Feb. 4, 2023.

[19] For advantages, see Wolff, *Air Guns*, 25–30.

Fig. 3. Austrian Military Model 1780 Girardoni Air Rifle. Note air cannister stock.

25. Nonetheless, airguns had major drawbacks that consigned them to the status of military oddities and niche consumer items, notwithstanding their significant advantages. Period technology made it difficult to achieve air pressures commensurate with black powder, so power was one concern. As an article in the *Sportsman's Cyclopedia* from 1831 put it, "for buck or deer shooting the best air gun is not sufficiently powerful; for rook shooting it is very well calculated."[20] The weapons were time-consuming and onerous to prime. Girardoni's air-rifles had to be pumped fifteen-hundred times to fully pressurize one reservoir. Cannisters of pressurized air can explode, much like early gunpowder magazines, producing grenade-like effects. The craft and expense involved in building reliable airguns greatly exceeded even the considerable skill required to build fine firearms. Air-tight reservoirs, pumps, valve housings and valve seats had to be made with a degree of precision unknown in most manufactured goods from the era. These material and technical demands greatly increased costs. Moreover, even a craftsman of Girardoni's caliber did not yet have the materials or tools necessary to build the critical components of his design durably and with absolute precision. The air-gun's various delicate parts could easily fall out of order, as for instance when leather gaskets failed or any of the system's metal threads (necessary for attaching the removable air-reservoir to the

[20] Cited in *Id*., 22.

valve assembly and the valve assembly to the gun) came out of alignment. Competent repairs were hard to secure because the requisite skills were so unusual. According to one of the few book-length studies of historic airguns, the high cost of these arms and their various limitations made them "a novelty used by people of wealth who had sufficient funds to go in for the unusual."[21]

26. For all these reasons, airguns were exceedingly rare in eighteenth-century America. Indeed, they were so rare that owners could charge people to see them. Two months after the Second Amendment was ratified, a museum proprietor in New York named Gardiner Baker took out ads in the city's newspapers to promote his latest acquisition: "an air gun, made by a young man, a native of Rhode-Island." According to its new owner, the gun would "do execution twenty times, without renewing the charge," suggesting that it was a single-shot weapon capable of firing twenty individually loaded rounds before needing to renew the compressed air supply. Baker explained that he had purchased the gun "at a very considerable price, with a view eventually to make it the property of the American museum." To recoup his investment, he announced that he would "exhibit it to the examination of all persons desirous of viewing it, and of discharging a shot, for which they shall pay six-pence."[22]

27. Meriwether Lewis brought a Girardoni Air Rifle on his famous expedition across the continent with William Clark for a similar purpose. The Corps of Discovery seems never to have fired the gun offensively or defensively. None of the more than twenty references

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[21] For disadvantages, see Wolff, 30–33. Quote from p. 31. See also John Paul Jarvis, "The Girandoni Air Rifle: Deadly Under Pressure," March 15, 2011, https://www.guns.com/news/2011/03/15/the-girandoni-air-rifle-deadly-under-pressure, accessed Feb. 4, 2023.

[22] "To the Curious," *The Weekly Museum* (New York, NY), Feb. 11, 1792.

to the air-rifle in the expedition's journals involve combat.[23] Instead, like most repeating firearms from that period, this unusual weapon was employed as a show piece. Lewis brought the air-rifle on the expedition precisely because it was so uncommon. He hoped a gun that would fire multiple times without powder, flash, smoke, or much noise, would impress Native Peoples. It did. He happily reported that it "excited great astonishment," which is itself a testament to the weapon's novelty.[24]

28. But Indigenous people weren't the only ones fascinated with this exotic airgun. At the very outset of the expedition near Pittsburgh, "some gentlemen" asked for a demonstration. Lewis obliged, firing the airgun seven times. But when one of the men took hold of the weapon, he accidentally squeezed off an eighth shot that hit a woman forty yards away, in the head. To his great relief, Lewis found the woman's "wound by no means mortal, or even dangerous."[25] That the gun's eighth round inflicted only a minor flesh wound at forty yards suggests it lost pressure quickly and might not have been able to fire more than ten effective rounds.

29. Airguns remained rare curiosities elsewhere in the U.S. in the early nineteenth century. Just a few months before Lewis and Clark set out, the museum in Connecticut's State House advertised an airgun as one of its three prime attractions (the others being a wampum

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[23] For a discussion of the air gun and the expedition, see Jim Garry, *Weapons of the Lewis and Clark Expedition* (Norman, Okla: The Arthur H. Clark Company, 2012), 91–103.

[24] April 18, 1806 entry by Meriwether Lewis, *Journals of the Lewis & Clark Expedition*, https://lewisandclarkjournals.unl.edu/item/lc.jrn.1806-04-18#lc.jrn.1806-04-18.01, accessed Feb. 4, 2023.

[25] August 30, 1803 entry by Meriwether Lewis, *Journals of the Lewis & Clark Expedition*, https://lewisandclarkjournals.unl.edu/item/lc.mult.1803-08-30kloefkorn, accessed Feb. 4, 2023.

cloak and a sixteen-foot-long snakeskin from South America). In no sense were these weapons commonly used at the time.[26]

30. In sum, notwithstanding the great desire of states for military advantage, the great incentives that they held out for inventors who could deliver it, and the centuries of skillful effort that went into chasing those incentives, repeating firearms remained militarily and commercially irrelevant throughout the eighteenth and early nineteenth centuries. On those very rare occasions when such weapons were deployed by European militaries, they were issued to dozens or hundreds of men in wars involving tens or hundreds of thousands of combatants. Commercially, the best (and most expensive) examples of repeating firearms circulated among a paper-thin slice of Europe's political and economic elite. For almost everyone else at the time, these guns were unknown and irrelevant.

31. I have spent the past fifteen years researching the historic international arms trade in the archives of multiple countries. I have never come across any evidence in primary sources that repeating firearms were anything other than exotic curios in this era. Few alive at the time had ever laid eyes on one. Single-shot muzzle-loading smoothbore muskets, rifles, and pistols remained the only handheld firearms that the vast majority of people ever owned, used, or encountered in the late-eighteenth and early-nineteenth centuries. That fact ought to be borne in mind when assessing the absence of laws regulating repeating firearms and ammunition capacity at the time the Second Amendment was adopted.

[26] James Steward's advertisement "Museum," in *The Connecticut Courant*, April 27, 1803.

C. Firearms regulation in America prior to 1791

32. We have an incomplete understanding of the history of firearm regulation in the United States. Electronically searchable compendia of historic laws have only captured part of our legal tradition. They are particularly lacking when it comes to local ordinances, where (as today) much regulation and enforcement originated.[27] Still, even the incomplete record reveals a rich regulatory tradition in pursuit of public safety – safety as authorities at the time defined it. Authorities in British North America and in the early United States passed hundreds of laws that directly or indirectly regulated firearms prior to 1791. Nearly all of them were motivated by concerns for public safety. Sometimes they anticipated laws in our own times. For example, colonies and states passed laws regulating the carrying[28] or brandishing[29] of particular weapons; forbidding discharge in sensitive times[30] and places;[31] and sentence

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[27] Joseph Blocher & Eric Ruben, *Originalism-by-Analogy and Second Amendment Adjudication*, 133 YALE L.J. 158 (2023).

[28] *See, e.g.*, An Act Forbidding and Punishing Affrays, ch. 49, 1786 Va. Acts 35 (1786), *available at* https://firearmslaw.duke.edu/laws/1786-va-laws-33-ch-21-an-act-forbidding-and-punishing-affrays/ (last visited June 1, 2023).

[29] *See, e.g.*, An Act to Prevent Routs, Riots, and Tumultuous assemblies, and the Evil Consequences Thereof, 1786 Mass. Sess. Laws (1786), *available at* https://firearmslaw.duke.edu/laws/1786-mass-sess-laws-an-act-to-prevent-routs-riots-and-tumultuous-assemblies-and-the-evil-consequences-thereof/ (last visited June 1, 2023).

[30] *See, e.g.*, An Act to Prevent Firing of Guns and Other Firearms within this State, on Certain Days Therein Mentioned, ch. 81, 1784–1785 N.Y. Laws 152 (1785), *available at* https://firearmslaw.duke.edu/laws/1784-1785-n-y-laws-152-an-act-to-prevent-firing-of-guns-and-other-firearms-within-this-state-on-certain-days-therein-mentioned-ch-81/ (last visited June 1, 2023).

[31] See the 1788 Ohio Law 42, "An Act for Suppressing and Prohibiting Every Species of Gaming for Money or Other Property, and for Making Void All Contracts and Payments Made in Furtherance Thereof, ch. 13, § 4, 1788–1801 Ohio Laws 42 (1788), *available at* https://firearmslaw.duke.edu/laws/1788-1801-ohio-laws-42-an-act-for-suppressing-and-prohibiting-every-species-of-gaming-for-money-or-other-property-and-for-making-void-all-contracts-and-payments-made-in-furtherance-thereof-ch-13/ (last visited June 1, 2023).

enhancements for crimes committed with arms.[32] Regulations of all these types were enacted in the decade before the ratification of the Second Amendment, and they reflect public safety concerns familiar to twenty-first century Americans.

33. But regulating gun violence between subjects (or, after independence, citizens) was not as significant a policy concern in early America as it is today. Prior to the widespread availability of breechloading weapons and metallic cartridges in the mid-nineteenth century, firearms were awkward tools either for perpetrating or resisting crimes of passion. They were notoriously inaccurate at range and had to be muzzle-loaded with gunpowder and ball before every shot, either by pouring ammunition directly into the barrel or packing in a pre-made paper cartridge loaded with powder and ball. That took time and focus. Moreover, such guns could not be kept safely armed and at the ready for any extended period because black powder corroded iron barrels so quickly. Partly for these reasons, firearms usually played a relatively small role in murders between white people in North America before the era of the Civil War. Randolph Roth, the nation's foremost scholar of the history of homicide in North America, has found for example that only 10-15% of family and intimate partner homicides involved a firearm prior to the mid-nineteenth century. More generally, rates of gun violence rose and fell in step with political instability and shifts in faith in government, justice, and social hierarchy. Firearms were seldom used in more than two-fifths of homicides between unrelated white people prior to the Civil War. By way of comparison, in 2021 approximately four-fifths of all homicides in the United States involved a firearm.[33]

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[32] *See, e.g.*, the 1788 Ohio Laws 20, A Law Respecting Crimes and Punishments…, ch. 6, 1788_1801 Ohio Laws 20 (1788), *available at* https://firearmslaw.duke.edu/laws/1788-1801-ohio-laws-20-a-law-respecting-crimes-and-punishments-ch-6/ (last visited June 1, 2023).

[33] For homicide and arms technology, see Randolph Roth, "Why Guns Are and Are Not

34. Although interpersonal gun violence was not a significant policy concern at the time, the large majority of pre-1791 laws pertaining to firearms reflected public safety concerns that *did* dominate at the time and which are (thankfully) alien to our own times. These concerns followed from the two systemic forms of violent predation that preoccupied generations of European colonists and American citizens, including most of the founders: dispossessing Native People of their land and terrorizing and enslaving people of African descent (nearly a fifth of the population on the eve of the Revolution). Neither project could have been sustained without a weapons gap. Moreover, European rivals (the Dutch, French, Spanish, and, after Independence, British) controlled parts of eastern North America and periodically threatened the ambitions and security of British colonists and U.S. citizens. During wartime, these rivals also threatened to arm the Indigenous and African-descent victims of the British and early U.S. project. Anglo authorities before and after Independence used law to try and answer these interconnected challenges to the safety of the white public.

35. To address these public safety concerns, the largest category of relevant legislation implemented by Anglo authorities consisted of hundreds of militia laws. Among other things, militia laws sought to encourage and regulate firearm possession, upkeep, and practice by white men throughout the colonies and states in the early national era. The militia was the primary vehicle for public safety in the colonial and early national era, tasked with collective security needs of a white slaveholding public periodically in conflict with Indigenous

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the Problem: The Relationship between Guns and Homicide in American History," in *A Right to Bear Arms? The Contested Role of History in Contemporary Debates on the Second Amendment*, ed. Jennifer Tucker, Barton C. Hacker, and Margaret Vining (Washington D.C.: Smithsonian Scholarly Press, 2019), 113–34. For 2021 homicides, see John Gramlich, "What the Data Says about Gun Deaths in the U.S.," *Pew Research Center* (blog), April 26, 2023, https://www.pewresearch.org/short-reads/2023/04/26/what-the-data-says-about-gun-deaths-in-the-u-s/, accessed May 3, 2023.

neighbors and menaced by European rivals. Authorities in colonial America passed more than six hundred militia laws before the Revolution, laws mandating how these bodies were to be constituted, mobilized, equipped, led, disciplined, and armed.[34] Research in militia returns, census data, and probate records makes it clear that government exerted a powerful influence on the geography of gun ownership in the British colonies, and that it did so primarily through the mechanism of militia laws. Gun ownership was highest in those colonies where governments energetically encouraged and supported militia service. These were places where the violence of slavery and Indian dispossession, and/or the threat of nearby imperial rivals inevitably resulted in security concerns. In such places, colonial authorities mandated gun ownership and, in times of heightened anxiety, took steps to equip militiamen who lacked their own arms.[35]

36. Colonial and early national legislatures also passed numerous laws aimed at depriving Indigenous and enslaved people of access to arms and ammunition.[36] Courts have

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[34] Several hundred of these laws were anthologized by the Selective Service System in the mid-twentieth century. See Arthur Vollmer, ed., *Military Obligation: The American Tradition; A Compilation of the Enactments of Compulsion from the Earliest Settlements of the Original Thirteen Colonies in 1607 through the Articles of Confederation 1789* (Washington: Selective Service System, 1947).

[35] See K. Sweeney, "Firearms, Militias, and the Second Amendment" in *The Second Amendment on Trial: Critical Essays on District of Columbia v. Heller*, by Saul Cornell and Nathan Kozuskanich (Amherst & Boston: University of Massachusetts Press, 2013), 310–82; James Lindgren and Justin L. Heather, "Counting Guns in Early America," *William and Mary Law Review* 43 (2001): 1777; Michael Lenz, *"Arms Are Necessary": Gun Culture in Eighteenth-Century American Politics and Society* (Köln: Böhlau, 2010).

[36] For laws targeting Native and enslaved people, see examples in John C. (John Codman) Hurd, *The Law of Freedom and Bondage in the United States* (Boston: Little, Brown & Co., 1858), 1:234, 243–44, 257, 288, 302–6; Sally E. Hadden, *Slave Patrols: Law and Violence in Virginia and the Carolinas* (Cambridge, Mass.; London: Harvard University Press, 2003), 37.

painful decisions to make about these discriminatory laws.[37] They are manifestly bigoted and hateful, and there is something not just objectionable but degrading about giving them any form of deference today. One option, then, is to simply exclude them from consideration of our nation's tradition of firearms regulation. As a historian of early America, though, that strikes me as folly. Racism has been too prominent in our history, and remains too fundamental to explaining it, for courts to indulge the notion that we can ignore law touched by bigotry and hope to have anything coherent left afterward. Historic legislation did not target Black and Native people because gun regulation was racist. Legislation targeted Black and Native people because racial discrimination was so ubiquitous in American society. Firearms regulations were obviously not the only area of early American law deformed by racism. We can be clear-eyed about the reprehensible aspects of our past generally, and the discriminatory intent of many historic firearm regulations specifically, without ignoring them.[38]

37. Crucially, colonial and early national authorities were clearly willing to deprive white people of firearms, too, when moved by concerns for public safety. English precedents for the disarming of Catholics, insurgents, "disaffected persons," and others judged "dangerous to the peace of the kingdom" shaped practice in the colonies.[39] Seventeenth-century Massachusetts disarmed religious dissidents, for example. Maryland, Virginia, and

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[37] The dilemma is sensitively described, with examples of differing solutions, in Jacob D. Charles, *On Sordid Sources in Second Amendment Litigation*, 76 STAN. L. REV. ONLINE 30 (Aug., 2023).

[38] For an illuminating consideration of the history of racist gun law and how it has been instrumentalized in court cases, see Patrick J. Charles, *Racist History and the Second Amendment: A Critical Commentary*, 43 CARDOZO L. REV. 1343 (2022).

[39] Joseph G. S. Greenlee, *The Historical Justification for Prohibiting Dangerous Persons from Possessing Arms* 20, WYOMING L. REV., 257-61 (2020).

Pennsylvania all passed laws to disarm Catholics during the Seven Years' War.[40] The sweeping scope of the state's perceived authority to disarm came into sharp focus in the early stages of the American Revolution. Patriot committees began disarming white political opponents as early as the fall of 1775. Events in the colony of New York illustrate the pattern. Patriots in Brookhaven, New York, resolved in September 1775 to disarm anyone who dared "deny the authority of the Continental or of this Congress, or the Committee of Safety, or the Committees of the respective Counties, Cities, Towns, Manors, Precincts, or Districts in this Colony." At this point in the rebellion most residents of New York were likely either loyalists or vainly hoping to remain neutral in the spiraling conflict with Britain, so such disarmament orders theoretically applied to a vast population. In January 1776, the Continental Congress ordered several hundred-armed minutemen into Queen's County in New York to disarm loyalists. George Washington ordered General Charles Lee to disarm everyone in Long Island "whose conduct, and declarations have render'd them justly suspected of Designs unfriendly to the Views of Congress." General Philip Schuyler disarmed "malignants" in the Hudson Valley, mostly Scotch Highlanders loyal to the king. In March of 1776, Congress concluded that nearly the entire population of Staten Island consisted of "avowed Foes" and ordered a general disarmament there.[41]

38. Disarmament was not confined to New York. Frustrated at the results of more targeted efforts, the Continental Congress called for a general ban of gun ownership among loyalists on March 14, 1776. It recommended to all the individual colonies that they

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[40] *Id*. at 263–64.

[41] New York examples drawn from Thomas Verenna, "Disarming the Disaffected," *Journal of the American Revolution,* Aug. 26, 2014.

immediately "cause all persons to be disarmed within their respective colonies, who are notoriously disaffected to the cause of America, or who have not associated, and shall refuse to associate, to defend, by arms, these United Colonies."[42] In addition to New York, Patriot leaders ordered loyalists disarmed in Connecticut[43], North Carolina[44], Delaware[45], Georgia[46], New Hampshire[47], New Jersey[48], South Carolina[49], Pennsylvania[50], Massachusetts[51], Maryland[52], and Virginia.[53]

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[42] See Congressional resolutions of Tuesday, Jan. 2, 1776, in Worthington Chauncey Ford, ed., *Journals of the Continental Congress, 1774-1789, Edited from the Original Records in the Library of Congress* (Washington, D.C.: Government Printing Office, 1904), 4:205.

[43] "An Act for restraining and punishing Persons who are inimical to the Liberties of this and the rest of the United Colonies," Connecticut Assembly, Dec. 14, 1775, AA: 4:270-72.

[44] "Extract of a Letter from the Provincial Council of North Carolina, March 5, 1776," in M. St. Claire Clarke and Peter Force, eds., *American Archives: Consisting of a Collection of Authentick Records, State Papers, Debates, and Letters and Other Notices of Publick Affairs, the Whole Forming a Documentary History of the Origin and Progress of the North American Colonies; of the Causes and Accomplishment of the American Revolution; and of the Constitution of Government for the United States, to the Final Ratification Thereof. In Six Series ...*, 4 (Washington D.C., 1837), 5:59. [Hereafter AA]. See also AA 5:67.

[45] *Extract of a Letter from the Provincial Council of North Carolina, March 5, 1776*, *in* AA 5:59; See also resolutions for Tuesday, March 5, 1776, *id*., at 68-69.

[46] "Special meeting of the Council of Safety," Jan 18, 1776, in ALLEN DANIEL CANDLER, ED., THE REVOLUTIONARY RECORDS OF THE STATE OF GEORGIA 101 (1908).

[47] OTIS GRANT HAMMOND, THE TORIES OF NEW HAMPSHIRE IN THE WAR OF THE REVOLUTION 19 (1917).

[48] "July 1, All persons who refuse to bear arms to be disarmed," AA 6:1634.

[49] South Carolina Congress, March 13, 1776, AA 5:592. South Carolina went further, ordering that if anyone previously disarmed shall arm himself again, that person would be incarcerated.

[50] See resolves of the Pennsylvania Assembly for April 6, 1776, AA 5:714.

[51] See notes from the Massachusetts Council, May 1, 1776, AA 5:1301.

[52] See notes from the Baltimore County Committee, March 8, 1776, AA 5:1509.

[53] Resolves of the Virginia Convention, May 27, 1776, in AA 6:1539.

39. There were two primary motivations for the Founding Fathers and likeminded Americans to orchestrate a nationwide disarmament campaign against white political opponents. First, loyalists could of course use their weapons to resist the insurgency and fight for the king. Second, patriot forces were perilously under-armed and needed whatever guns they could find. This is the reason that George Washington argued for a broad confiscation program in at least one Pennsylvania county, targeting those who "claimed the Right of remaining Neuter" as well as those actively fighting for the crown. Washington insisted that "we ought not to hesitate a Moment in taking their arms, which will be so much wanted in furnishing the new Levies."[54]

40. Indeed, patriot forces were so desperate for guns early in the war that they sometimes disarmed whites regardless of their political affiliation. In early 1776, Georgia (a tenth colony to add to the list above) dispatched men to search the homes of all "overseers and negroes" throughout the colony, and even those across the river in southern South Carolina, to seize all guns and ammunition they found, leaving behind only "one gun and thirteen cartridges for each overseer."[55]

41. From New Hampshire in the north to Georgia in the south, then, guns were taken away from white Americans in the name of public safety–public safety as the founding generation defined it. The emergency of the Revolution obviously made it easier for lawmakers to justify taking guns from white people, but the conviction that the state had regulatory authority to do so neither began with the Revolution, nor ended with it. In 1786, a tax uprising

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[54] George Washington to the Pennsylvania Council of Safety (Dec. 15, 1776), at https://founders.archives.gov/documents/Washington/03-07-02-0276

[55] Allen Daniel Candler, ed., *The Revolutionary Records of the State of Georgia* (Atlanta, Ga.: The Franklin-Turner Company, 1908), 92.

erupted in western Massachusetts. "Shay's Rebellion," as it came to be known, helped convince nationalists to convene the Constitutional Convention in 1787. That same year the uprising also moved the Massachusetts Assembly to pass a law disarming not only persons who take up arms against the state, but also those "who have given or may hereafter give them counsel, aid, comfort or support, voluntarily, with intent to encourage the opposition to the government."[56]

42. In sum, early America had a diverse and extensive tradition of regulating firearms in the name of public safety.[57] Why, then, do we find no period laws regulating repeating firearms or restricting the size of firearm magazines? Plaintiffs in similar cases have argued that there is no historical tradition of prohibiting the manufacture, importation, or sale of repeating firearms or large capacity magazines. This argument presumes a curious and unconvincing theory of historic lawmaking, one where legislators regulated technologies before they had any impact on society. Like their counterparts today, lawmakers from early America preoccupied themselves with actual social phenomena–not the possible implications of experimental technologies. They didn't spend their time scouring European publications for news about the cutting edge of firearms technology or hold lengthy debates about the social implications of weapons that few of them had ever seen, and that were not known to have ever been militarily or commercially consequential anywhere in the world.

43. Even if they had been aware that a Philadelphia gunmaker had a secret method of firing twenty superimposed loads with a single pull of a trigger, in other words, or that a

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[56] See Massachusetts Act of Feb. 16, 1787, ch. VI, 1787 Mass Acts 555 (1787), *available at* https://firearmslaw.duke.edu/laws/act-of-feb-16-1787-ch-vi-1787-mass-acts-555/ (last visited June 1, 2023).

[57] Public safety is also the purpose behind the Protect Illinois Communities Act. See *Bevis, et al., v. City of Naperville, et al.*, 85 F.4th 1175, 1200 ("When we consult the text of the Act, we find the best indication of its purpose in its name: 'Protect Illinois Communities Act.'")

museum proprietor in New York was charging people to see a repeater that fired compressed air, lawmakers in the colonial and early national eras would have had no incentive to craft legislative solutions to these technologies because these technologies had created no social problems. They remained flawed curiosities. The simplest and most accurate explanation for the absence of regulation, therefore, is that repeating firearms were much too rare and too irrelevant to public safety to attract regulatory attention in 1791.

44. An appropriate modern-day analogy might be personal jetpacks. Much as repeating firearms did during the eighteenth century, personal jetpacks have held appeal both for militaries and private consumers for more than a hundred years. That appeal has generated competition in research and development. But jetpacks remain an expensive and experimental curiosity to this day, because of stubborn technological, safety, and practical challenges, including cost. A future historian (or jurist) discovering evidence that a patent was taken out on a jetpack design as early as 1919 (it was); that militaries remained intrigued by the technology throughout the century (indeed, they still are); and that the jetpack commanded enduring popular interest, could conclude that the absence of public regulation reflected an ideological disposition against regulating jetpacks. But the simpler and most accurate explanation would be that jetpacks remained too rare to attract regulatory attention in 2024.[58]

[58] Anthony Quinn, "The Fall and Rise of Jetpacks," Aug. 16, 2022, Royal Aeronautical Society Website, https://www.aerosociety.com/news/the-fall-and-rise-of-jetpacks/#:~:text=The%20concept%20of%20a%20jetpack,never%20built%20or%20even%20prototyped, accessed Feb. 4, 2023.

II. Large-Capacity Repeating Firearms Were Exceedingly Rare at the Time of Reconstruction

45. Firearms technology would undergo huge changes after 1791. Advances in metallurgy, machine tooling, and mass-production associated with the Industrial Revolution enabled gifted firearms innovators and engineers to finally overcome many of the challenges that had frustrated the quest for reliable repeat fire in earlier centuries. New innovations built on one another, such that the period from the 1820s through the 1860s became one of the most productive and dynamic in the history of firearms technology. Nonetheless, even this era of breakneck innovation had its limits. As I explain below, reliable hand-held arms with capacities greater than ten rounds remained exceedingly rare in the United States when the Fourteenth Amendment was ratified in 1868.

A. False starts and repeat-fire pistols

46. The evolution of firearms technology had its false starts after the ratification of the Second Amendment. In 1792, while the new federal government was reeling from a series of catastrophic military defeats at the hands of Indigenous warriors in the Ohio Country, a Pennsylvanian named Joseph Chambers tried to interest Secretary of State Thomas Jefferson in a superposed load repeater of his design.[59] "Every nation desiring to possess the means of destroying the greatest number possible of their enemies," Jefferson responded enthusiastically, "your discovery, if found effectual in experiment, will not want patronage

[59] To Thomas Jefferson from Joseph G. Chambers, 13 August 1792, *Founders Online,* National Archives, https://founders.archives.gov/documents/Jefferson/01-24-02-0274. [Original source: *The Papers of Thomas Jefferson*, vol. 24, *1 June–31 December 1792*, ed. John Catanzariti. Princeton: Princeton University Press, 1990, pp. 290–293.]

anywhere."[60] Put differently, if Chambers could deliver, the inventor would become a very wealthy and influential man. But, like so many who came before (and after) him, Chambers was unable to convince Jefferson or others in the new U.S. government that his firearm was "effectual in experiment." Chambers had more success during the War of 1812, when the new Department of the Navy purchased a few hundred of his weapons (different designs all employing superposed loads). Though it isn't clear any of the guns were ever used, the designs were sufficiently intriguing that multiple foreign governments made inquiries. These inquiries concluded that the dangers and disadvantages of superposed loads still outweighed their advantages.[61]

47. In 1821, another American gunmaker, Isaiah Jennings of New York, obtained a patent for a gun with a sliding lock that enabled the shooter to fire superposed loads one at a time–an elaboration on a very old idea. Jennings had two basic models: one that fired four shots, and another, rarer design that fired ten. A distinct, all-metal variant, made in even smaller

[60] From Thomas Jefferson to Joseph G. Chambers, 5 November 1792, *Founders Online*, National Archives, https://founders.archives.gov/documents/Jefferson/01-24-02-0539. [Original source: *The Papers of Thomas Jefferson*, vol. 24, *1 June–31 December 1792*, ed. John Catanzariti. Princeton: Princeton University Press, 1990, p. 580.]

[61] For Chambers' proposal in context, see Andrew Fagal, "The Promise of American Repeating Weapons, 1791-1821," published online at *Age of Revolutions*, Oct. 20, 2016, https://ageofrevolutions.com/2016/10/20/the-promise-of-american-repeating-weapons-1791-1821/, accessed Feb. 4, 2023.

Fig. 4. 1821 Jennings 12-shot Repeating Flintlock. Note the sliding lock

quantities than the others, held twelve rounds. Several hundred arms of the Jennings design were made under contract for the state of New York in the late 1820s.[62] While well-made, the Jennings' superposed load flintlocks were expensive, mechanically complex, and still prone to the same catastrophic dangers that afflicted all superposed load designs. Gunmakers would continue to experiment with superposed load firearms for decades. But they were ultimately technological dead-ends with no meaningful military or commercial impact.[63]

48. But more lasting changes in firearms technology were underway. One of the most important was the development of the percussion-cap ignition system. Around the turn of the century, European chemists developed a new class of highly explosive compounds, dubbed fulminates. Though the potential military applications of these compounds were tantalizing, early experiments demonstrated that they were much too powerful to be used in firearms or artillery as an alternative propellant to gunpowder. In 1805, Englishman Alexander Forsyth had the insight that while fulminates could not yet be used for propulsion, in very small quantities they could be used for ignition. Others soon improved on his idea. By the 1810s, multiple inventors were developing "percussion caps"–small, sealed caps (usually made of copper)

[62] *Flayderman's Guide* (9e), characterizes the Jennings Repeating Flintlock as "one of the great military rarities and oddities" (p. 608).

[63] Winant, *Firearms Curiosa*, 178-93.

filled with fulminate.[64] It was a simple matter to change gun locks to accommodate the new ignition. The "hammer" of the gun lock, the rotating arm topped with a vice and flint, was redesigned as a rotating arm topped with a small flat surface (now actually looking like a tiny hammer). Rather than a pan filled with priming powder, the newly designed hammer would fall upon an iron nipple topped with a percussion cap. The percussion would ignite the fulminate, which would in turn ignite the main gunpowder charge inside the barrel. Percussion caps were inexpensive to mass produce, and far more reliable than flints as a source of ignition. Over the next few decades, militaries around the world would convert their stockpiles of firearms from flintlocks to percussion locks.[65]

49. The advent of percussion cap ignition opened the way for reliable repeating pistols.[66] Relieved of cumbersome hammer-vices, flints, and priming pans filled with loose powder, arms designers saw a path to using the old ideas of multiple, rotating barrels or rotating breeches to make practical weapons for the first time. Improvements in manufacturing and machine tooling made it possible both to build arms from nearly identical component parts, and to manufacture them at greater speed and less cost than ever before. In decades prior, such designs would have still faced severe manufacturing obstacles to large-scale production because it was so difficult to make precision component parts by hand. But by the 1830s, Springfield Armory and some of its biggest contractors had become world-leaders in the use of automatic milling machines to produce parts so uniformly as to be interchangeable. This

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[64] W. Y. Carmen, *A History of Firearms: From Earliest Times to 1914* (Mineola, Dover Publications, 2004), 162, 176.

[65] Daniel R. Headrick, *The Tools of Empire: Technology and European Imperialism in the Nineteenth Century* (New York: Oxford University Press, 1981), 85-87.

[66] Flintlock revolvers never could overcome the design challenges. For example, Elisha H. Hollier devised an elegant flintlock revolver in 1818.

"American system of manufacture" as the rest of the world would soon call it, combined with other advances in metallurgy and machine tooling made it possible both to build complex arms from nearly identical component parts, and to manufacture them at greater speed and less cost than ever before. These changes first became visible in the firearms market with the advent of affordable, reliable, mass-produced single-shot percussion-cap pistols.[67]

50. By the 1830s, two types of repeating pistols were entering the market alongside these simpler firearms. The first type, skillfully refined and aggressively patented by the inventor Samuel Colt, featured a single barrel with a multi-chambered, rotating breech. Percussion caps were affixed to the rear of each chamber in the breech. The chamber rotated mechanically so that the cap affixed to successive chambers would assume position to receive the hammer's blow and ignite the powder inside each chamber. The second type, most associated with Ethan Allen, featured three or more barrels that rotated around an axis (either manually or mechanically), the charge for each barrel ignited by a separate percussion cap. Also referred to as "revolvers" early on, these arms eventually came to be known as "pepperboxes."[68]

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[67] William Hardy McNeill, *The Pursuit of Power: Technology, Armed Force, and Society Since A.D. 1000* (Chicago: University of Chicago Press, 1982), 233-34; Merritt Roe Smith, *Harpers Ferry Armory and the New Technology: The Challenge of Change* (Ithaca: Cornell University Press, 1977), 219-51.

[68] For pepperboxes and revolvers, see Louis A. Garavaglia and Charles G. Worman, *Firearms of the American West, 1803-1865* (Niwot, Colo.: University Press of Colorado, 1998), 95–104, 139–52, 203–20.

51. In an era of emergent industrialization, dramatic population increases, and

Fig. 5. 1837 Allen & Thurber 6-Shot Pepperbox

rapid urbanization, the rapid proliferation of mass-produced single-shot and repeating pistols unsurprisingly led to increases in armed crime. Unlike repeat-fire curiosities in the eighteenth century, in other words, pepperboxes and revolvers contributed to actual social consequences. And these social consequences generated legislation. Responding to rising public safety concerns over the increase in gun violence and the proliferation of concealable weapons (repeating pistols as well as single-shot, percussion-cap pistols, bowie knives, and other weapons), lawmakers across the country sought to regulate concealed-carry. At least twenty

states and territories enacted such laws around the country between the ratifications of the Second and Fourteenth Amendments.[69]

52. While recognizing the new firepower that repeat pistols made available to U.S. consumers, none of them would have been classified as assault weapons under current New York law. Moreover, it is important to be mindful of two important limitations of pepperboxes and revolvers by the middle of the nineteenth century. The first was capacity. It is true that gunmakers occasionally designed versions capable of firing more than ten rounds.[70] But these were extraordinarily unusual and produced in tiny quantities. Whether the firearm had rotating chambers or rotating barrels, there simply were practical design limits to how many shots it could fire from a single loading. Guns with too many barrels or chambers became too heavy, clunky, and hard to manage. The *vast* majority of revolvers and pepperboxes produced in the nineteenth century held seven or fewer rounds. *Flayderman's Guide to Antique American Firearms and Their Values*, now in its 9th edition, is considered a gold standard reference for historic American firearms. That authoritative guide lists only three nineteenth-century revolvers with greater than ten-round capacity. All of them were made in quantities best characterized as "experimental"– probably fewer than three hundred, combined.[71]

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[69] https://firearmslaw.duke.edu/repository-of-historical-gun-laws/advanced-search, searching for the category "carrying weapons" between 1791-1868. Search performed Apr. 22, 2024. For the relevant laws, see Mark Anthony Frassetto, "Firearms and Weapons Legislation up to the Early 20th Century," (unpublished manuscript, 2013) 20–24. Available at https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2200991

[70] For three examples, see Lewis Winant, *Pepperbox Firearms* (New York: Greenberg, 1952), pp. 104, 124, 137.

[71] (1) The Aaron C. Vaughn Double Barrel Revolver, made in the early 1860s and characterized as "one of the most rare and unusual of American percussion revolvers," held fourteen rounds. Total production: twenty or fewer. (2) The John Walch Navy Model 12 Shot Revolver, made in 1859-1860, chambered twelve rounds (six chambers, each with a double load).

53. The second important limitation from mid-nineteenth-century pistols and pepperboxes is that they took a very long time to load. To load a cap-and-ball revolver, the shooter had to first fill each chamber with the appropriate measure of gunpowder; second, insert a ball; third, compact the ball into the powder charge with a ramming rod; fourth, cap the chamber with grease to avoid chain-fire (optional but recommended); and fifth, individually attach percussion caps to each nipple at the back of the chamber.[72] That meant thirty separate actions to load a six-shot cap-and-ball revolver. Pepperboxes had comparably laborious loading procedures. Paper cartridges containing powder and ball could be used to slightly expedite the process, but reloading could still take a minute to a minute and a half.

54. In terms of the damage that a single person can inflict with a firearm (or two), limited shot capacity and lengthy reload times made cap-and-ball revolvers and pepperboxes fundamentally different from today's semi-automatic pistols with detachable magazines.

B. The slow spread of the first successful large-capacity firearm

55. The technological and manufacturing advances that made repeat-fire pistols practical weapons for the first time also enabled new breakthroughs in long arms. Innovations in breech-loading and metallic cartridges proved particularly important. Loading a firearm muzzle-first had three disadvantages. It was hard to do while lying prone. Rising to reload made one an easier target during combat. Muzzle-loading also made rifles impractical

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Total production: around 200. (3) The Charles E. Sneider two-cylinder revolver, made in the 1860s, held fourteen rounds (in two, seven-shot cylinders). "Quantity unknown; very limited. Extremely rare." See Flayderman, *Flayderman's Guide to Antique American Firearms and Their Values*, 374–75, 514.

[72] For a demonstration, see https://www.youtube.com/watch?v=B84wI2MKZ2s

battlefield weapons because they were slow and difficult to load. Lead balls had to be nearly as large as the diameter of the barrel bore if they were to engage the internal grooves (rifling) that gave the round its spin. And it meant that repeat-fire was difficult to achieve, since the only way to feed more rounds into the barrel was through the muzzle. Guns loaded at the breech solved all these problems.[73] As with so many other innovative designs, breech-loading was a very old idea. But it was very difficult to build well prior to the Industrial Revolution, mainly because it was so hard to make the breech accessible but also sufficiently sealable to contain explosive gases. Multiple, practical solutions to this problem emerged in the first half of the nineteenth century. In the U.S. alone, inventors patented 135 breech-loading longarm designs between 1811-1860. While few of these patents led directly to commercially successful firearms, and while semi-automatic firearms were still decades away, breech-loading represented an important step forward for firearms technology.[74]

56. Metallic cartridges represented another breakthrough. Soldiers, especially, had used paper cartridges of powder and ball for generations. But such cartridges were notoriously delicate: liable to get wet and ruined, and far too fragile to use in any kind of ammunition-feeding device. Once percussion caps came into common use, however, it took little imagination to envision a single, metal object that contained primer, powder, and ball all in one. By the 1850s, inventors began moving from concept to practical application. Within a decade, they realized that in addition to serving as a durable container for primer, powder, and

[73] For the breechloader revolution, see Headrick, *Tools of Empire*, 96-104.

[74] Alexander Rose, *American Rifle: A Biography* (New York, N.Y: Delacorte Press, 2008), 105.

ball, properly designed metallic cartridges could help overcome stubborn limitations with breech-loading, by completely sealing the breech when fired.[75]

57. Flawed but clever designs began to appear that combined attached or internal magazines, metallic cartridges, and mechanisms for the chambering of cartridges and ejection

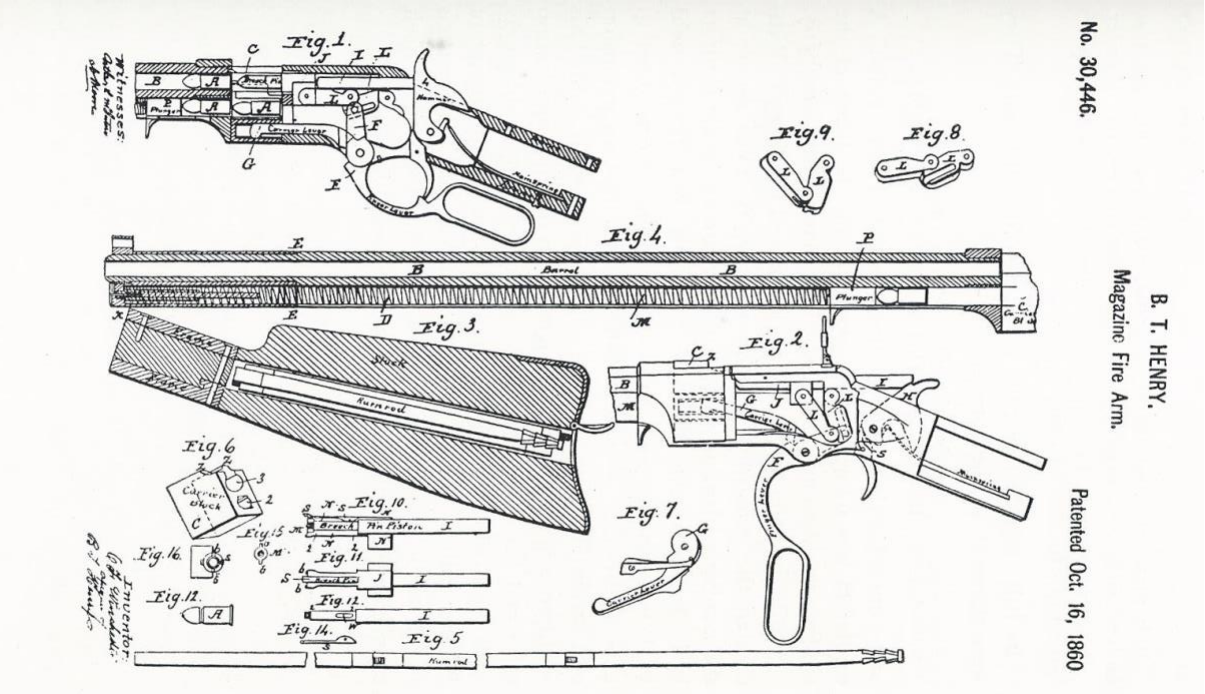

Fig. 6. Patent Drawings for the 1860 Henry Rifle

of spent cases. This line of innovation culminated in 1860 with the world's first reliable firearm with a greater than ten-shot capacity. It was developed by Oliver Winchester's New Haven Arms Company.[76] The "Henry," named after Winchester's brilliant gunmaker, Benjamin Tyler Henry, was an ingenious breech-loading, lever-action rifle that could fire sixteen rounds

[75] Headrick, *Tools of Empire*, 98.

[76] The Spencer Repeating Rifle, also introduced in 1860, was a seven-shot lever-action rifle.

without reloading (one in the chamber and fifteen from an attached, tubular magazine). Refinements to the Henry resulted in an even better gun: the Winchester Model 1866.[77]

58. Throughout the 1860s, none of the viable alternatives fired more than ten rounds. Practically speaking, then, Henrys and Winchesters were the only large-capacity firearms in circulation in the years surrounding the ratification of the Fourteenth Amendment. How many were there?

59. The McCracken Research Library (part of the Buffalo Bill Center of the West) possesses a huge archive of material from the Winchester Repeating Arms Company. I had the good fortune to do research in that archive in 2011, while studying the history of the international arms trade. During my research I consulted a letter written by Tom Hall, the longtime curator of the Winchester Museum and a person with an unmatched understanding of the company's history. Responding to a query, Hall's letter enumerated the company's early production totals. According to his figures, the firm produced 74,000 Henrys and Winchester 1866s between 1861 and 1871.[78] Notwithstanding the Winchester's ubiquity in Hollywood westerns, the huge majority of these weapons were made to order for foreign armies and exported abroad. The Ottoman Empire alone purchased 50,000 Model 1866s, and another 14,906 went to military purchasers in Europe, Latin America, and Japan during these years.[79]

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[77] Herbert G. Houze, *Winchester Repeating Arms Company: Its History & Development from 1865 to 1981* (Iola, WI: Krause Publications, 2004), 42-46.

[78] Specifically, Hall wrote that there were approximately 11,000 Henrys made from 1861-March 1863; 3,000 rifles with King's improvements, but without company name, from April 1866-March 1867; and 60,000 M1866s between 1866-1871. See Tom Hall to D. C. Cronin, New Haven, May 18, 1951; Box 8, folder 16, Winchester Repeating Arms Company, Office files (MS:20), McCracken Research Library, Cody, WY.

[79] Export numbers are drawn from HOUZE, *Winchester Repeating Arms Company*, 21 (500 to Bavaria), 36 (1000 for the French forces in Mexico), 51 (1000 to Chile and 5000 to

Based on the Winchester's production figures, that would have left only 9,094 large-capacity firearms for domestic consumption in the United States before 1872. Of those, 8,500 were Henrys purchased by or issued to Union soldiers during the Civil War.[80] These figures suggest (a) that large-capacity firearms went almost exclusively to military buyers through the early 1870s, and (b) that very few were in the hands of private persons that might have used them in ways that attracted regulatory attention.

60. The figures also tell us that even a few years after the ratification of the Fourteenth Amendment, large-capacity firearms constituted a tiny percentage of firearms in the United States. How tiny? Some numbers offer perspective. In 1859, on the eve of the Civil War, the U.S. Ordnance Department counted 610,598 shoulder arms in federal arsenals. Combined, the arsenals of individual states likely contained hundreds of thousands more. Domestic producers made 2.5 to 3 million firearms for the Union during the war, while Union purchasing agents imported 1,165,000 European muskets and rifles.[81] The Confederacy imported several hundred-thousand firearms as well.[82] The scale of private gun ownership is less documented and therefore less clear, though the U.S. may have had the most heavily armed civilian population in the world after the Civil War. If government arsenals possessed around

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Japan), 59 (400 to the Swiss and 1000 to Juarez's forces in Mexico), 65 (1000 to Brazil), 71 (4406 to France and 20,000 to the Ottomans), 73 (600 to Peru), 75 (30,000 to the Ottomans).

[80] For Henrys used in the Civil War, see Pamela Haag, *The Gunning of America: Business and the Making of American Gun Culture* (New York: Basic Books, 2016), 81.

[81] Carl L. Davis, *Arming the Union; Small Arms in the Civil War* (Port Washington, N.Y: Kennikat Press, 1973), 39, 64, 106.

[82] C. L. Webster III, *Entrepôt: Government Imports into the Confederate States* (Roseville: Edinborough Press, 2009), 318-20.

five million firearms, we can conservatively estimate that the civilian population (more than 38 million at the time) owned at least as many again.[83]

61. With a very rough estimate of ten million firearms total in the U.S. during the early 1870s, then, fewer than one in a thousand would have been large capacity. Repeating firearms with magazines holding over 10 rounds were not commonly used for self-defense or for any other purpose in the United States around the time of the ratification of the Fourteenth Amendment.

[83] Scholars have not yet undertaken the necessary research to produce careful estimates of private arms ownership in Civil-War-era America. Still, we can extrapolate from what we know about gun ownership in the Founding era to suggest a rough but defensible floor. Careful samples of probate inventories from the eve of the Revolution suggest that about half of all white households possessed a gun. All told, subjects in the thirteen colonies likely owned between 150,000 and 200,000 guns in 1775. The (rough) assumptions behind this range are a white population of two million and an average household size of seven, yielding 285,000 total white households, and that half of these households (142,000) owned at least one firearm; that a relatively small minority owned two or three guns; that a very small minority owned four or more; and that most guns in probate inventories were functional. For the probate-based analyses I rely on to make these assumptions, see the excellent essay by James Lindgren and Justin L. Heather, "Counting Guns in Early America," *William and Mary Law Review* 43, no. 5 (2002): 1777–842. See also Michael Lenz, *"Arms Are Necessary": Gun Culture in Eighteenth-Century American Politics and Society* (Cologne, 2010), whose overall findings are roughly consistent with Lindgren and Heather's. A total of 175,000 privately held firearms works out to around 9% of the white population owning a gun in 1775. According to the 1870 census, the white population of the United States in that year was 33,589,377. If, as in 1775, 9% of whites owned a gun in 1870, there would have been just over 3 million firearms in private hands. However, considering the advent of mass production and the proliferation of inexpensive arms (particularly pistols) between those two dates, and especially considering the enormous quantity of firearms produced in or imported into the U.S. during the Civil War, a private ownership rate of 9% is much too low to be plausible in 1870. In my judgement estimating an ownership rate of 15% after the Civil War would be very conservative, and even that figure yields more than five million firearms privately owned by white Americans. Rates of arms ownership by nonwhites in 1870 would have been lower than those for whites. But they would have been considerably higher than they had been in 1775. In other words, five million privately held firearms in 1870 is a conservative estimate.

III. The Late Arrival and Rapid Regulation of Automatics and Semi-Automatics

A. The era of slow-load large-capacity firearms, 1870-1900

62. While lever-action rifles took time to make inroads into the U.S. consumer market, they became increasingly popular in the last third of the nineteenth century. Winchester continued to dominate the market. Most other firms that tried to compete in lever-action rifles failed on their own or were bought out or otherwise outmaneuvered by Winchester's ruthless corporate savvy (the gunmaker Marlin being the only major exception).[84] Other rifle makers experimented with alternative designs. For example, Colt's popular Lightning Slide Action Rifle (around 126,000 produced between 1884-1904) had a twelve- or fifteen-round tube magazine and used a pump-action to cycle rounds into the chamber.[85] Another ingenious Winchester competitor retained the lever-action but incorporated a novel, rotating internal magazine that held twenty-eight or thirty-four rounds. Even with the highest capacity of any repeating rifle ever marketed in the U.S., though, the Evans Lever-Action Rifle enjoyed only modest success in its six-year production run (12,000 produced between 1873-1879).[86]

63. The late nineteenth century was an era of slow-load large-capacity firearms. Winchester lever-action rifles and their large-capacity competitors in the last third of the nineteenth century had fixed magazines. Once a fixed magazine was empty, the shooter had to reload each round, one by one. As with Colt revolvers (which transitioned away from the

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[84] For Winchester's dominance, see Pamela Haag, *The Gunning of America: Business and the Making of American Gun Culture* (New York: Basic Books, 2016).

[85] Greener, *The Gun*, 720-21.

[86] For the Lightning Slide Action and the Evans, see *Flayderman's Guide,* 122–23, 694. Of the Evans, Flayderman writes: "Earliest specimens (extreme rarities with no examples known) held 38 rounds."

laborious cap and ball system to faster-loading metallic cartridges in the 1870s, more than a decade after its competitor Smith & Wesson had done so), this round-by-round loading process put a ceiling on the damage a single shooter could inflict on a group of people. Notwithstanding the success of lever-action large-capacity firearms, that ceiling had not gotten dramatically higher since the 1830s. The magazines of most large-capacity rifles held somewhere between ten to fifteen rounds. A person armed with a pair of seven-shot revolvers could fire fourteen rounds without reloading. Except for the remarkable but expensive and short-lived Evans rifle, then, a shooter from the time with a repeating rifle had roughly the same capabilities as a shooter with two revolvers in his hands. There were trade-offs, of course. The repeating rifle often had somewhat more power and always had more range and accuracy. Pistols were concealable and easier to use in some circumstances. (Neither arm had the power, range, or accuracy of bolt-action, single-shot rifles that the U.S. and the strongest European militaries continued to favor.)[87]

64. In other words, the advent of Winchester repeaters and their competitors did not provoke fundamentally different social problems than those that had been accelerating in the U.S. since the proliferation of revolvers and pepperboxes earlier in the century. The changes were of degree, rather than kind. State and municipal lawmakers continued to regulate firearms in the name of public safety, as they had since the colonial era. For example, the Duke Repository of Historical Gun Laws, an indispensable though incomplete compendium, contains

[87] For the U.S. Military, see for example David F. Butler, *United States Firearms: The First Century, 1776-1875* (New York: Winchester Press, 1971), 152-93.

285 such regulations on carrying weapons enacted between 1865 and 1900.[88] More than 100 additional such laws would be enacted between 1900-1935.[89]

65. Rather than target lever-action rifles, though, lawmakers in this regulatory era usually lumped them together with other kinds of firearms when crafting law. Rifles are invoked alongside other kinds of weapons in Montana's 1879 prohibition against dueling, for instance; in North Carolina's 1869 law against hunting on the Sabbath; in Florida's 1881 law criminalizing the sale of weapons to minors and to those with "unsound minds;" and in unlawful discharge laws in Texas (1871), Wyoming (1879), New Mexico (1886), and Rhode Island (1892).[90] Exciting new historical scholarship on nineteenth-century firearms regulation has made it increasingly clear that America has a robust tradition of regulating arms in the name of public safety.[91] But that we have a great deal left to unearth about the breadth and depth of that tradition.

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[88] https://firearmslaw.duke.edu/repository-of-historical-gun-laws/advanced-search, searching for the category "carrying weapons" between 1865-1900. Search performed Jan. 27, 2024.

[89] https://firearmslaw.duke.edu/repository-of-historical-gun-laws/advanced-search, searching for the category "carrying weapons" between 1900-1935. Search performed Jan. 30, 2024

[90] Frassetto, "Firearms and Weapons Legislation," Montana: 39; North Carolina: 92; Florida: 76; Texas: 98; Wyoming: 99; New Mexico: 12; Rhode Island: 97. For a nuanced examination of state and local firearm regulations in the second half of the nineteenth century, one attentive to regional difference and minority viewpoints, see Patrick J. Charles, *Armed in America: A History of Gun Rights from Colonial Militias to Concealed Carry* (Amherst, New York: Prometheus Books, 2018), 122–65.

[91] The historian Brennan Gardner Rivas is producing some of the nation's most exciting and important new scholarship on nineteenth-century firearms regulation. *See e.g.*, Brennan Gardner Rivas, *An Unequal Right to Bear Arms: State Weapons Laws and White Supremacy in Texas, 1836–1900*, 121 *Southwestern Historical Quarterly* 284 (2017); Brennan Gardner Rivas, *Enforcement of Public Carry Restrictions: Texas as a Case Study Symposium: The 2nd Amendment at the Supreme Court: '700 Years of History' and the Modern Effects of Guns in Public*, 55 *U.C. Davis Law Review*, 2603 (2022); Brennan Gardner Rivas, *Perspective:| In the Past, Americans*

66. As slow-load large-capacity firearms, lever-action rifles continue to be popular in the United States today. I am unaware of any law in the nation subjecting lever-action rifles to special regulation, notwithstanding their large capacities. New York's prohibition on assault weapons does not apply to lever-action rifles, or indeed to any firearms commercially available in the United States prior to the twentieth century. Numerous repeating firearms from the late nineteenth century had capacities exceeding ten, in other words, but their slow-load quality made them very different from the firearms commonly subject to regulation today.

67. Slow-load large-capacity rifles seldom attracted particular regulation because, in an era when revolvers had already become so common, they did not represent a fundamental change in how a single armed individual could threaten public safety. But automatic and semi-automatic weapons with detachable magazines, the world's first viable fast-load large-capacity firearms, did.

B. The era of fast-load large-capacity firearms

68. Lever-action or pump-action rifles require energy transferred from human muscle through an internal mechanism to eject a spent casing and chamber a new round. The same is true of single-action revolvers, which require the shooter to pull back the hammer to rotate the chamber and position a new round for firing. (Double-action revolvers transfer all this work to the trigger, which when squeezed both rotates the chamber and releases the hammer). Automatic and semi-automatic firearms don't rely on human muscle. Instead, their

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Confronted Gun Violence by Taking Action, *Washington Post* (June 3, 2022), *available at* https://www.washingtonpost.com/outlook/2022/06/03/past-americans-confronted-gun-violence-by-taking-action/.

great innovation is to enlist some of the energy released by the first round to eject the spent casing and chamber the next round.

69. Automatic and semi-automatic firearms first started coming on the market in the 1890s (automatic arms continue to fire as long as the trigger is depressed, while semi-automatic arms require the shooter to squeeze the trigger for each round fired). In addition to advances in machine production, materials science, and precision parts, these revolutionary weapons incorporated three specific innovations. The first was the invention of a reliable mechanism using springs and levers to capture the recoil energy of a fired round to chamber the next round. That discovery belongs to Hiram Maxim, creator of the famous Maxim machine gun in 1884. The heavy Maxim gun required at least two people to carry and position, but the idea of using recoil to chamber another round was transferrable to smaller, handheld firearms. Maxim aimed to improve upon the French mitrailleuse (1851), the U.S. Gatling gun (1862), and the Swiss Nordenfeldt (1873). Like the Puckle gun, their distant and ineffective precursor, these heavy, multi-barreled military weapons sat atop tripods or carriages and achieved rapid fire through hand-cranked ammunition feeding devices. The bulky Maxim gun also required at least two people to carry and position. But unlike its competitors' mechanical feeding systems, the Maxim's method of using recoil to chamber each new round was scalable and, therefore, would have huge consequences for smaller, handheld firearms.[92]

70. Smokeless powder was the second innovation. When fired, black powder leaves residue behind that fouls barrels. This was a manageable annoyance in the era before guns could fire several times a second. With the astonishing rates of fire made possible through

[92] Carmen, *A History of Firearms*, 82-88.

Maxim's invention (up to six hundred rounds per minute) [93], fouling could be so rapid as to quickly render an automatic fire weapon inoperable. Serendipity intervened to solve this problem. In the mid-1880s, right when Maxim was making his breakthrough in harnessing recoil energy, researchers in France perfected a chemical propellant (based on nitrocellulose) that was three times as powerful as black powder, gave off very little smoke, and left behind almost no residue in the barrel. Smokeless powder meant that automatic fire would be a practical technology.[94]

71. Third and finally, automatic- and semi-automatic firearms required a method of feeding cartridges into the weapon. Maxim's machine gun (a heavy device usually placed atop a wheeled carriage) used belts of bullets, stored in crates or boxes. For semi-automatic firearms designed to fire one shot at a time, it would be far more practical to have a magazine. One option was for the weapon to have a fixed magazine incorporated into the weapon itself, as with the tubular magazines of lever-action rifles. Fixed magazines were impractical for fully

[93] Julia Keller, *Mr. Gatling's Terrible Marvel: The Gun That Changed Everything and the Misunderstood Genuis who Invented It* (New York: Viking, 2008), 222.

[94] For the development of smokeless powder, see René Amiable, "Scientific Reasoning and the Empirical Approach at the Time of the European Invention of Smokeless Powder," in Brenda J. Buchanan, ed., *Gunpowder, Explosives, and the State: A Technological History* (Aldershot: Ashgate, 2006), 343-54.

automatic weapons because their high rate of fire would exhaust a fixed magazine almost

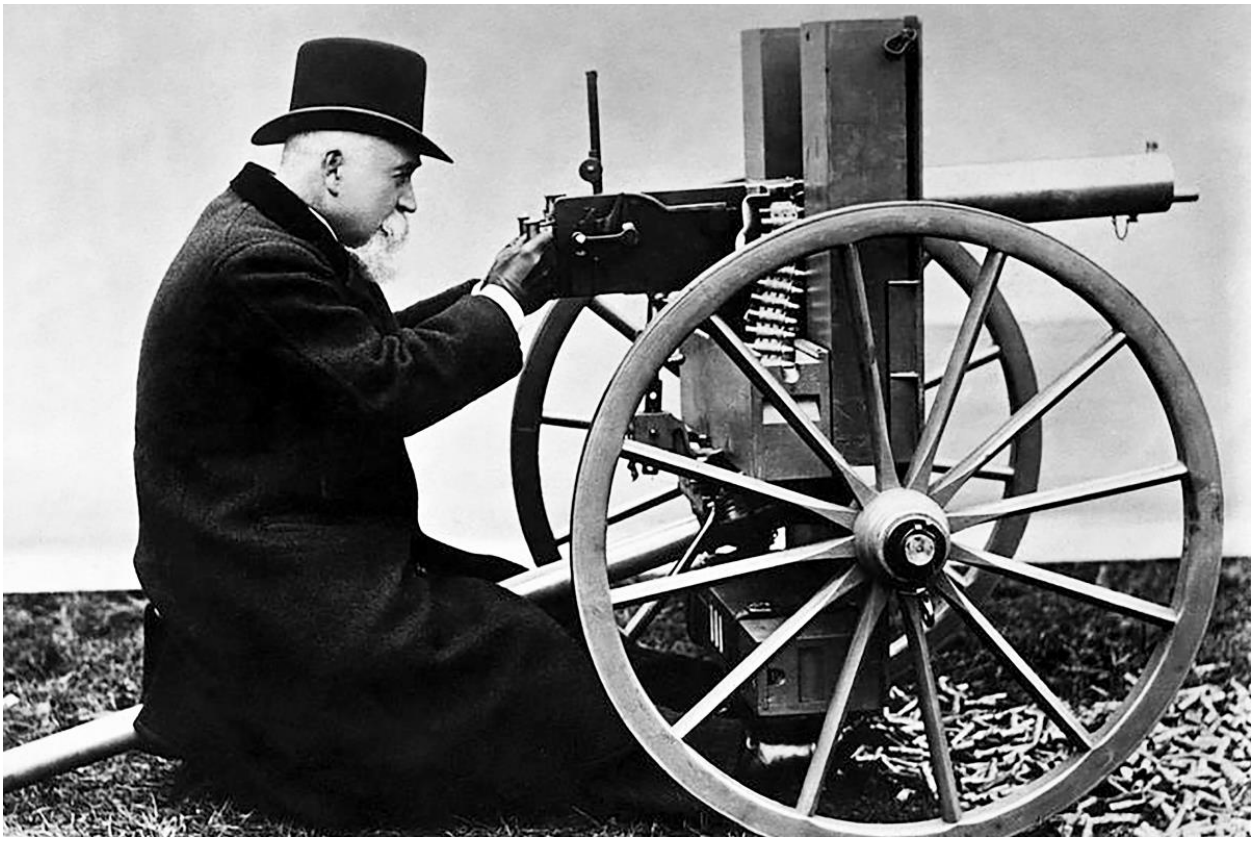

Fig. 7. Hiram Maxim with his Gun

instantaneously and then the shooter would have to reload, bullet by bullet. Some of the earliest semi-automatic handguns would be designed around fixed box magazines – the Mauser C96, for example (an innovative if flawed German arm introduced in 1896).[95]

72. By the time gunmakers began turning their attention to semi-automatic arms in earnest, however, they had another, more appealing option: detachable magazines. Like self-loading mechanisms and smokeless powder, detachable magazines first emerged in the 1880s and began to be integrated into firearms for the consumer market by the end of the century. The first successful firearm with a detachable magazine had been developed by James

[95] John Walter, *Hand Gun Story* (Barnsley: Frontline Books, 2008), 196-98.

Paris Lee, to be used with bolt-action rifles.[96] What made detachable magazines so advantageous is that they dramatically accelerated loading. Rather than reloading a weapon bullet-by-bullet (as with lever-action rifles or revolvers), the shooter simply ejected the spent magazine, inserted a full magazine, and resumed firing.[97]

73. By the early 1890s, then, gunmakers had at their disposal a trio of potent new design features that would become characteristic of most modern automatic and semi-automatic firearms – self-loading mechanisms, smokeless powder ammunition, and detachable magazines. The first pistol to successfully combine all three elements was the Borchardt C-93. Made in Germany in 1893, the Borchardt C-93 had a detachable, 8-round magazine.[98] Competitors were quick to enter the market. John Browning, arguably the most inventive and important of all U.S. gunmakers, finished his first design for a semi-automatic pistol in 1895. Slow to grasp the huge importance of these new guns, Colt declined Browning's design because the firm did not think there would be a domestic market for it. Browning tinkered some more and sold the design to Belgium's Fabrique Nationale ("FN"). FN produced the gun starting in 1900, with a 7-round detachable magazine. It would go on to sell more than 700,000 of them over the next decade, mostly to foreign militaries.[99] Colt soon realized its mistake and revived its partnership with Browning, marketing better and better versions of his semi-automatic

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[96] Rose, *American Rifle*, 224-25.

[97] Bolt-action rifles with detachable magazines were adopted by world militaries in the late 1880s and 1890s. In the ninth edition of his authoritative treatise *The Gun and its Development* (London: Cassell & Co., 1910), W.W. Greener compared the standard service arms of nineteen countries. Only four (Turkey, Switzerland, Great Britain, and Belgium) employed arms with detachable magazines. See table on pp. 736-37.

[98] Walter, *Hand Gun Story*, 127-45.

[99] *Id.*, 220–28.

pistols starting in 1900. These culminated with the M1911, a handgun with a 7-round detachable magazine. The most copied and influential of all modern handguns, several million M1911s have been sold in the past century. Variations of the gun are still in production today.[100]

74. American firms also helped lead the way in the production of semi-automatic rifles. Winchester and Remington both had models out early in the century. As with the early

Fig. 8. 1920s Ad for the Thompson Submachine Gun (the "Tommy Gun")

semi-automatic handguns, some designs had fixed magazines and others had detachable magazines. Light, fully automatic guns (so-called "sub-machine guns"), migrated from the battlefield to the U.S. civilian market. The most notorious was the Thompson submachine gun, aka the "Tommy Gun," which had been designed for use in World War I and entered the U.S. market in the 1920s. It was a select fire weapon, meaning it could be set either to automatic or

[100] *Flayderman's Guide*, 118.

semi-automatic fire. Tommy Guns had box magazines ranging from twenty to thirty rounds, and drum magazines as large as one hundred rounds. Its high price discouraged civilian sales. But this fast-load large-capacity firearm became much sought-after by criminals and, to a lesser extent, by law enforcement.[101]

75. Because their detachable magazines enabled shooters to load and reload all at once, rather than round by round, the new fast-load firearms empowered individual shooters to inflict far more damage on more people than had been possible with earlier technologies. So, as they had with the advent of multi-fire pistols in the nineteenth century, lawmakers responded to the novel threat to public safety with legislation. Between 1925 and 1933, more than half of the states in the nation passed laws regulating fully automatic firearms.[102]

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[101] John Ellis, *The Social History of the Machine Gun* (Baltimore: Johns Hopkins University Press, 1975), 149-77.

[102] To my knowledge this list includes twenty-five states, one territory, and Washington, D.C. The statutes fall into three groups: 1) total bans on possession (see An Act to Prohibit the Possession of Machine Rifles, Machine Guns and Submachine Guns Capable of Automatically and Continuously Discharging Loaded Ammunition of any Caliber in which the Ammunition is Fed to Such Guns from or by Means of Clips, Disks, Drums, Belts or other Separable Mechanical Device, and Providing a Penalty for Violation Thereof, ch. 552, §§ 1–2, 1927 Cal. Stat. 938 (1927); 1927 Ind. Acts 469 (1927), Public Offenses—Ownership, Possession or Control of Machine Guns or Bombs—Penalty, ch. 156, § 1; An Act to prohibit the Possession or Control of Machine Guns. . . ., §§ 1–2, 1927 Iowa Acts 201 (1927); An Act to Regulate and License the Selling, Purchasing, Possessing and Carrying of Certain Firearms, § 3, 1927 Mich. Pub. Acts 888–89 (1927), An Act to Regulate the Possession of Firearms: §§ 1, 4–6, 1927 (January Session) R.I. Pub. Laws 256 (1927); 1929 Mo. Laws 170 (1929), Crimes and Punishment, Prohibiting the Sale, Delivery, Transportation, Possession, or Control of Machine Rifles, Machine Guns and Sub-machine Guns, and Providing Penalty for Violation of Law, §§ 1–2; An Act prohibiting the sale, giving away, transfer, purchasing, owning, possession and use of machine guns: §§ 1–2, 1929 Pa. Laws 777 (1929); An Act to Create . . . the Statutes, Relating to Machine Guns and Providing a Penalty, ch. 132, § 1, 1928–1929 Wis. Sess. Laws 157 (1929); Act of Feb. 25, 1931, ch. 249, 37 Del. Laws 813 (1931); An Act to Regulate the Sale, Possession and Transportation of Machine Guns, §§ 1–2, 1931 Ill. Laws 452-53 (1931); 47 Stat. 650 (1932) ch. 465, §§ 1, 14 [D.C.]; 1933 Haw. Sess. Laws 38 § 7 (1933); An Act to Regulate the Sale, Possession and Transportation of Machine Guns, and Providing a Penalty for a Violation Hereof . . . , §§ 1–2; 1932 La. Acts 337–38 (1932); An Act Relating to Machine Guns and Other

76. Despite the great variety of models produced, prior to the 1930s surprisingly few of the new firearms came with magazines that held more than ten rounds. Notwithstanding the relative rarity of large-capacity magazines, many lawmakers clearly thought that the magazine capacity of these firearms was one of the things that made them so dangerous, as evidenced by the regulations these lawmakers enacted.

77. At least nine states passed laws restricting semi-automatic weapons during the 1920s and 1930s. Eight of them incorporated capacity ceilings into the law. Different states set

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Firearms Making the Transportation or Possession Thereof Unlawful in Certain Cases, Providing for Search, Seizure and Confiscation Thereof in Certain Cases, Relating to the Ownership and Registration of Certain Firearms, and Providing Penalties for the Violation of this Act, ch. 62, §§ 1–3; 1933 Kan. Sess. Laws 76 (1933); An Act Making It Unlawful to Use, Own, Possess, Sell, Control or Transport a "Machine Gun", as Hereinafter Defined, and Providing a Penalty for the Violation Thereof, ch. 190, §§ 1–3, 1933 Minn. Laws 231–33 (1933); An Act to Amend the Penal Law, in Relation to the Sale, Possession and Use of Sub-Machine Guns, ch. 805, §§ 1, 3, 1933 N.Y. Laws 1639 (1933); An Act Defining "Machine Gun" and "Person"; Making It an Offense to Possess or Use Machine Guns. . . , ch. 82, §§ 1–4, § 6, 1933 Tex. Gen. Laws 219–20, 1st Called Sess. (1933); An Act Relating to Machine Guns, Regulating the Manufacture, Possession, Sale of Machine Guns and Parts, and Providing Penalty for the Violation Thereof, and Declaring an Emergency, ch. 64, §§ 1-5; 1933 Wash. Sess. Laws 335–36 (1933); An Act . . . Relating to the Sale, Possession, Transportation and Use of Machine Guns and Other Weapons in Certain Cases, and Providing a Penalty, ch. 359, § 1; 1931–1933 Wis. Sess. Laws 778 (1933));

2) Bans on possession with an unlawful or aggressive purpose (see 1929 Neb. Laws 673 (1929); An Act to Amend the Penal Law in Relation to Carrying and Use of Glass Pistols, ch. 435, § 1, 1931 N.Y. Laws 1033 (1931); An Act Relating to Machine Guns, and to Make Uniform the Law with Reference Thereto, ch. 206, §§ 1–8, 1933 S.D. Sess. Laws 245–47 (1933)); and

3) Licensing regimes (see 1925 W. Va. Acts 24 (Extraordinary Sess.) (1925); An Act Relative to Machine Guns and Other Firearms, ch. 326, §§ 1–2 (amending §§ 121, 123), 1927 Mass. Acts 413 (1927); A Supplement to an Act Entitled "An Act for the Punishment of Crimes," ch. 95, §§ 1–2, 1927 N.J. Laws 180–81 (1927); 1931 N.D. Laws 305–06; 1933 Cal. Stat. 1169 (1933); An Act. . . Relative to the Sale and Possession of Machine Guns, § 1, 1933 Ohio Laws 189–90 (1933), Reg. Sess.; 1933 Or. Laws 488–89)).

All available at https://firearmslaw.duke.edu/repository-of-historical-gun-laws.

different limits, presumably reflecting the different circumstances and views prevailing among their constituents. For Ohio the limit was eighteen. Michigan put it at sixteen. Rhode Island set the limit at twelve. Virginia's limit was seven, whereas Montana's was six. South Dakota forbade guns "from which more than five shots or bullets may be rapidly, or automatically, or semi-automatically discharged from a magazine." Arkansas and Connecticut likewise put the limit at five shots. Five other states –Massachusetts, California, South Carolina, Louisiana, and Illinois – crafted laws that leave ambiguity as to whether they only applied to automatic firearms. But California included a ceiling of ten rounds, and South Carolina, Louisiana, and Illinois all put the limit at eight. Fully automatic weapons could spit out eight or ten rounds in mere seconds. That strongly suggests that like at least nine other states, these four also decided to respond to the novel public safety implications of semi-automatic firearms by regulating them.[103]

78. In so doing, these lawmakers acted consistently with American tradition and practice dating back to the early colonial era.

IV. The Changing Distinction between Civilian and Government Arms in the United States

[103] 1933 Minn. Laws 231-33, § 1 (no specific limit). For other laws, see 1933 Ohio Laws 189, § 12819-3 (eighteen-shot limit); 1927 Mich. Pub. Acts 887, § 3 (sixteen-shot limit); 1927 R.I. Pub. Laws 256 § 1 (twelve-shot limit); 1934 Va. Acts 137-39 § 1 (seven-shot limit); 1935 Mont. Laws 57, 57-60, Ch. 43, § 1 (six-shot limit); 1933 S.D. Sess. Laws 245-47 § 1 (five-shot limit); 1935 Ark. Laws 171, 171-75 § 1 (five-shot limit); 1935 Conn. Laws 389, 389-94, Ch. 152, § 1 (five-shot limit); 1927 Mass. Acts 413, §§ 1-2; 1934 S.C. Acts 1288, § 1 (eight-shot limit); 1932 La. Acts 337-38, §§ 1–2 (eight-shot limit); 1931 Ill. Laws 452-53, §§ 1-2 (eight-shot limit). Washington D.C. also regulated semi-automatic firearms in this period: 47 Stat. 650 (1932) ch. 465, §§ 1, 14 [D.C.], (twelve-shot limit). All except Conn. available at https://firearmslaw.duke.edu/repository-of-historical-gun-laws.

79. I want to conclude by addressing the legal distinction between civilian and state arms (military or law enforcement) in the United States. New York does not prevent law enforcement officers or members of the military acting in their official capacities from accessing assault weapons. The state's assault weapons law recognizes a distinction between private and government uses of certain firearms. This regulatory distinction is a longtime feature of American firearms regulation. "In *Bevis v. City of Naperville,* the Seventh Circuit recognized that feature of the regulatory tradition and emphasized its dynamism: "the critical question of '[h]ow weapons are sorted between private and military uses,' we noted, 'has changed over time.'" *Bevis v. City of Naperville, Illinois*, 85 F.4th 1175, 1190 (7th Cir. 2023) (citing *Friedman v. City of Highland Park, Illinois*, 784 F.3d 406, 408 (7th Cir. 2015)). To appreciate the historical context behind New York's decision to reserve assault weapons for law enforcement and the military, it is vitally important to understand why and how that sorting has changed over time.

80. Firearms are tools. Hammers aren't superior to screwdrivers in any absolute sense. Hammers are only superior to screwdrivers for particular uses. Similarly, while the firearms most commonly owned by civilians during the colonial and early national eras were different from those most commonly used by the military, they weren't superior to military arms in any absolute sense. They were just intended for different uses. The essential question, then, is *superior for what*?

81. In the eighteenth century, most European militaries equipped soldiers with relatively heavy, large-caliber, smoothbore long-arms designed to accept a bayonet so that musketeers could double as pikemen in battle.[104] Most civilians during the colonial and early national period had other priorities. They needed firearms that were lighter, less expensive, and

[104] For an authoritative discussion of the evolution and variations of such weapons, see De Witt Bailey, *Small Arms of the British Forces in America, 1664-1815* (Woonsocket: Andrew Mowbray, Inc., 2009), 13-23.

easier to handle; that had milder recoil; and that came in smaller calibers and therefore generally consumed less powder and lead per shot. Such "fowlers," "fusils," "firelocks," and "trade guns" also cost less than "muskets," a term informed observers of the day usually reserved for military long-arms.[105] Colonists in western Pennsylvania and Virginia often had rifles, too. Rifles had greater range and accuracy but took around three times as long to reload as smooth-bore weapons.[106] That trade-off made sense if the goal was hunting deer. But painfully slow reloading times could be deadly in combat unless the shooter had reliable cover.

82. Given their needs, civilians were far more likely to own the less expensive, lighter long-arms than they were to own muskets. But colonial and early national leaders trying to organize forces against regular armies had different needs. They complained bitterly about the inferiority of most civilian arms. During the Seven Years' War, for example, one despairing official reported that the arms "which belong to private persons are mostly poor and undersized and unfit for an expedition."[107] A little more than a decade later, when he was first trying to forge a revolutionary army out of New England's militiamen, General Washington complained that "of Arms those brought in by the Soldiers are So very indifferent that I Cannot place Confidence in them."[108]

83. So, if the purpose was pest control or small game hunting, lighter guns were preferable. The same was true for patrolling slave plantations or waging long-distance campaigns through woodlands against Indigenous people. If the purpose was prevailing in battle against

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[105] Sweeney, "Firearms, Militias, and the Second Amendment," 330-31.

[106] *Id*., 342.

[107] Quote is from *Id*., 331.

[108] Washington to Major General Richard Montgomery, Cambridge, January 12, 1776, https://founders.archives.gov/documents/Washington/03-03-02-0051

European armies, the bulkier muskets were superior. If the purpose was hunting large game, defending a fort or stockade against attackers, or targeting specific, high-value individuals on a battlefield, rifles were superior. While they were all but nonexistent in America at the founding, even the era's flawed repeating arms were superior in certain contexts: If the purpose was entertaining and impressing rich friends at your English country estate, a polished, inlaid Lorenzoni magazine repeater would certainly have been superior (for the few who could find and afford one). If the purpose was quickly shooting a large number of strangers in a school or a church or at a public event, nothing would have sufficed. There was no functioning firearm then in existence that would enable someone to do that.

84. In sum, early Americans recognized a distinction between military and civilian arms. At that time, however, the line between the two was not rigid for two basic reasons. First, the weapons on either side of that line were similar. The most important differences were in degree rather than kind. In a context where few had ever laid eyes on a repeating firearm, virtually every gun one might encounter was a single-shot muzzle-loader that was time-consuming to reload. While civilians preferred lighter arms and militaries preferred heavier arms, the differences and trade-offs were modest compared to our own times.

85. The second basic reason that the line between military and civilian arms was permeable in early America is that, unlike today, the line between military and civilian realms was permeable. Early America was a wartime society. The work of keeping a large proportion of the population enslaved (one-fifth of the colonial population in 1776) and forcibly dispossessing Native societies of their homelands required armed civilians organized into state-organized patrols or militias. Moreover, inter-imperial warfare periodically swept colonists into formal or informal

military service in ways that very few Americans today can relate to.[109] Conflict between Spain, France, and Britain also magnified the risks posed by the enslaved population and by Indigenous nations, as European powers sought advantage by arming and otherwise empowering their enemies' enemies.[110] More than 100,000 men from the British colonies served alongside British regular forces in North America in inter-imperial wars from the late seventeeth through the mid-eighteenth centuries.[111] In other words, authorities in early America had to rely on civilians for various forms of military service. In such times, they frequently encouraged civilians to arm themselves with muskets, rather than (or in addition to) the lighter firearms most common in the colonies. Inevitably, then, some arms favored by civilians were put to military use in early America, and some arms favored by militaries were owned by civilians.

86. The boundary between civilian and military arms was frequently crossed through the nineteenth century, even as firearms technology underwent dramatic change. Some important innovations (percussion ignition, breech loading, and metallic cartridges, for example) found their way into civilian and military arms alike. Occasionally innovations held far more appeal for one sector than the other – not because they were superior in any general sense, but because they were better suited to particular purposes. Pepperbox pistols, for example, appealed to some civilians because they conferred concealable repeat fire capabilities and were effective in close quarters.

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[109] As of 2018, 7% of the adult population in the United States were veterans. See Jonathan Vespa, *Those Who Served: America's Veterans from World War II to the War on Terror*, REPORT OF THE U.S. CENSUS BUREAU (June 2, 2020), *available at* https://www.census.gov/library/publications/2020/demo/acs-43.html.

[110] For a case-study of this phenomenon, see ALAN TAYLOR, THE INTERNAL ENEMY: SLAVERY AND WAR IN VIRGINIA, 1772-1832 (2013).

[111] *See* GEORGE D. MOLLER, AMERICAN MILITARY SHOULDER ARMS, VOLUME I: COLONIAL AND REVOLUTIONARY WAR ARMS 9–12, (2011) (appendix I provides the tally of 107,000 colonists serving in these years).

But most pepperboxes lacked the range or power that would make them remotely as appealing to soldiers or cavalry as the more expensive Colt revolvers. Lever-action rifles became popular consumer items in the last third of the century and were esteemed by cavalry in numerous countries. But they did not have the same appeal for the world's top infantries, who prized the greater range and power delivered by the best bolt-action rifles.[112]

87. While the nineteenth-century boundary between civilian and military arms remained permeable in some ways, legislators nonetheless hardened that boundary by inscribing meaningful and more rigid distinctions into law when necessary. As explained above, state and local authorities around the nation enacted numerous laws throughout the century aimed at addressing the mounting social problems caused by firearms and other deadly weapons. Sometimes state lawmakers included explicit language in these laws exempting officers of the state from their provisions. Georgia's 1837 "Act to guard and protect the citizens of this state against the unwarrantable and too prevalent use of deadly weapons,"[113] for example, outlawed the sale, keeping, or carrying of bowie knives, pistols, dirks, sword canes, and other weapons. The act stipulated that its provisions "shall not extend to Sheriffs, Deputy Sheriffs, Marshals, Constables, Overseers or Patrols, in actual discharge of their respective duties, but not otherwise."[114]

88. Municipal authorities incorporated similar exemptions into law. In 1856, New Orleans forbade dangerous weapons (concealed or otherwise) in "any theater, public hall, tavern, pic-nic ground, place for shows or exhibitions, house or other place of public entertainment or

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[112] See note 84, *supra*.

[113] As discussed below, Georgia's Supreme Court declared the 1837 law unconstitutional in 1846, in *Nunn v. State, 1 Ga. (1 Kel.) 243*, though not because law enforcement were exempt.

[114] State of Georgia. *Acts and Resolutions of the General Assembly of the State of Georgia, Passed in November and December, 1837* (Milledgeville: Boughton, Nisbet & Barnes), 90-91.

amusement." Military personnel were explicitly exempt.[115] In 1857, Washington D.C. prohibited the carry of various dangerous weapons, including pistols and Colt revolvers, but exempted "police officers, the members of the auxiliary guard, and the military" from its provisions.[116] Memphis passed a similar ordinance that same year, but required police officers to obtain permission from a commanding officer to carry any of the prohibited weapons.[117] In 1859, the city of Georgetown (in what is now the District of Columbia) forbade concealed "deadly or dangerous weapons," but provided that "the police officers and military, when on duty, shall be exempt from such fines and forfeitures."[118] In 1861, authorities in Saint Louis, Missouri, passed a conceal-carry prohibition and stipulated that "nothing in this ordinance shall be so construed as to prohibit any United States, State, county or city officer from carrying and wearing such weapons as may be necessary in the proper discharge of his duties."[119]

89. I have not had the opportunity to comprehensively search for comparable laws, but my preliminary sense is that lawmakers in the early republic and antebellum eras didn't usually make such exemptions explicit. Presumably this is because they thought such exemptions too obvious to be necessary.[120] We can find evidence for that attitude in one of the most important

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[115] See *Jewell's Digest of the City Ordinances* (New Orleans, 1882), pp. 1-2.

[116] Washington D.C. City Ordinance, approved Nov. 4, 1857, reprinted in *The American* (Washington, D.C.), Nov. 11, 1857.

[117] See Smith P. Bankhead, *Digest of Charters and Ordinances of the City of Memphis* (Memphis, Tenn., 1860), 286.

[118] See *Ordinances of the Corporation of Georgetown, from January 1859, to January 1860*, Washington, D.C., Thomas McGill, 1860, p. 22-23.

[119] *The Revised Ordinances of the City of Saint Louis* (Saint Louis: 1861), 513.

[120] Prosecutions of officers of the law and/or military personnel for violating such prohibitions in the course of their official duties could disprove this hypothesis, but I am unaware of any such cases.

arms-rights cases from the era. In 1846, in *Nunn v. State*, 1 Ga. (1 Kel.) 243, the Georgia Supreme Court declared the 1837 law unconstitutional, finding that while a ban on concealed carry was permissible, a ban on open carry was not. The opinion criticized the way that the law had worded the law-enforcement exception, complaining that its vague language meant "that it might be insisted, and with much plausibility, that even sheriffs, and other officers therein enumerated, might be convicted for keeping, as well as carrying, any of the forbidden weapons, while not in the actual discharge of their respective duties." The court warned that such a reading could lead to the absurd premise that law officers would be obliged to throw their arms away at the end of every shift and acquire new ones before resuming duties. In sum, even this pioneering decision on the right to bear arms implicitly affirmed the constitutionality of exceptions for law enforcement. Indeed, these justices urged legislators to make more explicit distinctions between civilians and law enforcement when crafting firearms regulations.

90. Explicit distinctions in law became much more common in state and territorial law after the Civil War massively increased the prevalence of firearms in American life. For instance, an 1870 Texas law made it a misdemeanor offence to go to any public assembly with "a bowie knife, dirk, or butcher knife, or fire-arms, whether known as six shooter, gun, or pistol or any kind," but stipulated that "nothing contained in this section shall apply to locations subject to Indian depredations: and provided further, That this act shall not apply to any person or persons whose duty it is to bear arms on such occasions in discharge of duties imposed by law."[121] Three years later, Iowa's law prohibiting concealed weapons stipulated that it "shall not apply to police

[121] Available at the Duke Repository of Historical Gun Laws, https://firearmslaw.duke.edu/laws/george-washington-paschal-reporter-a-digest-of-the-laws-of-texas-containing-laws-in-force-and-the-repealed-laws-on-which-rights-rest-carefully-annotated-3rd-ed-vol-2-page-1322-image-292-washi, accessed Jan. 31, 2024.

officers and other persons whose duty it is to execute process or warrants, or make arrests."[122] Washington State's conceal-carry prohibition from 1881 used nearly identical language.[123]

91. All told, between 1864 and 1892, at least nineteen states[124] and three territories[125] incorporated explicit exemptions for law enforcement and/or military personnel into laws regulating firearms.

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[122] See *The Code: Containing all the Statutes of the State of Iowa*, Vol. 2 (Des Moines, 1873), 603.

[123] Wash. Code § 929 (1881): "If any person carry upon his person any concealed weapon, he shall be deemed guilty of a misdemeanor, and, upon conviction, shall be fined not more than one hundred dollars, or imprisoned in the county jail not more than thirty days: Provided, that this section shall not apply to police officers and other persons whose duty it is to execute process or warrants, or make arrests."

[124] In addition to the Texas, Iowa, and Washington laws above, these include New York, 1866 (see *Statutes at Large of the State of New York* (Albany: 1869), pp. 810-11); Nevada, 1867 (*Statutes of the State of Nevada Passed at the Third Session of the Legislature, 1867* (Carson City: 1867), p. 66); Georgia, 1870 (*The Code of Georgia* (Atlanta: 1882), p. 1181-82; Missouri, 1875 (*Laws of Missouri* (Jefferson City: 1875), pp. 50-51; Tennessee, 1870 (*A Compilation of the Statute Laws of the State of Tennessee* (St. Louis: 1872), pp.88-92; Texas, 1871 ("Brief of Thirty-Four Professional historians," pp. 27a-28a); North Carolina, 1877 (*Laws and Resolutions of the State of North Carolina, Passed by the General Assembly at its Session 1876-77* (Raleigh:1877), pp. 162-63); Kentucky, 1880 ("Brief of Thirty-Four Professional historians," pp. 12a-13a); South Carolina, 1880 (ibid., 21a); Mississippi, 1880 (*The Revised Code of the Statute Laws of the State of Mississippi* (Jackson: 1880), p. 776); Arkansas, 1881 ("Brief of Thirty-Four Professional historians," pp. 3a-4a); Colorado, 1883 (*The General Statutes of the State of Colorado, 1883* (Denver: 1883), p. 339; Illinois, 1887 (*The Revised Statutes of the State of Illinois, 1887*), p. 441-42); Minnesota, 1889 (*General Statutes of the State of Minnesota* (St. Paul: 1888), p. 1006-07; Michigan, 1890 (*Laws of the State of Michigan Relating to Public Health* (Lansing: 1889), p. 145); and Oregon, 1892 ("Brief of Thirty-Four Professional historians," p. 20a). The Idaho law concerned brandishing, the Georgia, Missouri, and Texas laws concerned sensitive places, and all the other laws concerned concealed carry.

[125] Idaho Territory, 1864 (*Laws of the Territory of Idaho* (Lewiston: 1864), p. 442; New Mexico Territory, 1869 (*Laws of the Territory of New Mexico* (Santa Fe, 1869), p. 72-76); Arizona, 1889 (*Acts, Resolutions, and Memorials of the Fifteenth Legislative Assembly of the Territory of Arizona* (Prescott, 1889), p. 11-12. Idaho's law concerned brandishing. New Mexico and Arizona's law regulated the carry of weapons (concealed or open).

92. Municipalities continued to do the same. In 1869, for example, authorities in Memphis, Tennessee passed an ordinance punishing the carrying of concealed weapons with a fifty dollar fine, but exempted "sworn officers of the law."[126] Other examples known to me include Jersey City (1868)[127];Washington, D.C. (1871)[128]; Omaha, Nebraska (1872)[129]; Fayetteville, Tennessee (1876)[130]; Mexico, Missouri (1877)[131]; Provo City, Utah (1877)[132]; Kansas City, Missouri (1880)[133]; Albany, New York (1887)[134]; Milwaukee, Wisconsin (1888).[135] I am very confident that further research would unearth more nineteenth-century examples of firearms legislation making distinctions between civilians and the police or military.

93. The widespread tradition of inscribing that distinction into law became even more pronounced in the early twentieth century, when the dramatic technological change of automatic and semi-automatic weapons brought about unprecedented societal concerns. As I explain above, dozens of states passed laws regulating automatic and semi-automatic firearms during the 1920s and 1930s. None of these laws applied to the U.S. military.

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[126] See *The Public Ledger* (Memphis), Oct. 21, 1869.

[127] *Revised Ordinances of Jersey City*, Jersey City: Howard C. Griffiths, 1899, p 121.

[128] *Laws of the District of Columbia, 1871-1872*, Washington, D.C.: Chronicle Publishing Company, 1872, p33.

[129] *The Revised Ordinances of the City of Omaha* (Omaha, 1872), pp.86-87.

[130] Ordinance printed in the *Fayetteville Observer*, Aug. 31, 1876.

[131] See "Ordinances of the City of Mexico," reprinted in the *Mexico Weekly Ledger*, Jan. 25, 1877.

[132] *The Revised Ordinances of Provo City* (Salt Lake City: 1877), pp. 106-07.

[133] See Gardiner Lathrop and James Gibson, compilers, *An Ordinance in Revision of the Ordinances Governing the City of Kansas* (Kansas City, 1880), pp. 264-65.

[134] See *Charter and General Ordinances of the City of Albany* (Albany, 1887), 110.

[135] See *The General Ordinances of the City of Milwaukee* (Milwaukee, 1888), 227-28.

94. Responding to public concerns about rising gun crime, in 1934, Congress hardened the boundary even further with the National Firearms Act. The NFA created a tax and registration regime designed to all but eliminate short-barreled shotguns, machine guns, and silencers from civilian life in the United States.[136] The drafters of the 1934 law made clear that its terms "shall not apply to the transfer of firearms (1) to the United States Government, any State, Territory, or possession of the United States, or to any political subdivision thereof, or to the District of Columbia; (2) to any peace officer or any Federal officer designation by regulations of the Commissioner."[137] In addition to short-barreled shotguns, machine guns, and silencers, the Gun Control Act of 1968 ("GCA") regulated the importation and sale of short-barreled rifles as well as a large swath of weapons under the umbrella of "destructive devices," including bombs, grenades, mines, and rockets or missiles that exceed certain thresholds for propellant/explosive charge, as well as explosive, incendiary, or poison gas. The GCA also regulates large-caliber weapons, which includes most rocket-launchers, mortars, and cannons.[138] Like the NFA, the 1968 GCA made explicit exceptions for military and law enforcement.[139]

95. In sum, for more than a century and a half, states and municipalities have enforced firearms regulations that apply to civilians but not to law enforcement or the military. And for

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[136] See National Firearms Act of 1934, 48 Stat. 1236.

[137] Ibid., Sec. 13.

[138] See National Firearms Act Amendments of 1968, Pub. L. No. 90-618, tit. II: "Machine Guns, Destructive Devices, and Certain other Firearms," (amending § 5845 of the Internal Revenue Code of 1954). Available at https://www.gpo.gov/fdsys/pkg/STATUTE-82/pdf/STATUTE-82-Pg1213-2.pdf. Most shotguns are exempt from the large-caliber regulation. For that and for more on the weapons that fall under this regulation, see Chp. 2 of the National Firearms Act Handbook, available at https://www.atf.gov/files/publications/download/p/atf-p-5320-8/atf-p-5320-8-chapter-2.pdf

[139] See Pub. L. No. 90-618, tit. I § 102 (amending 18 U.S.C. § 925(a); tit. II § 201 (amending § 5853(a) of the Internal Revenue Code of 1954).

nearly a century, the U.S. has had an increasingly elaborate federal regulatory regime for firearms and other weapons that makes firm distinctions between civilians and military/law enforcement.

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