

Nos. 25-238, 25-566

In the
Supreme Court of the United States

CUTBERTO VIRAMONTES, ET AL.,
Petitioners,

v.

COOK COUNTY, ILLINOIS, ET AL.,
Respondents.

EDDIE GRANT, JR., ET AL.,
Petitioners,

v.

RONNELL HIGGINS, IN HIS OFFICIAL CAPACITY AS
COMMISSIONER OF THE CONNECTICUT DEPARTMENT OF
EMERGENCY SERVICES AND PUBLIC TRANSPORTATION, ET AL.,
Respondents.

ON WRITS OF CERTIORARI TO THE UNITED STATES
COURTS OF APPEALS FOR THE SEVENTH AND
SECOND CIRCUITS

**BRIEF FOR THE BUCKEYE INSTITUTE
AS AMICUS CURIAE SUPPORTING PETITIONERS**

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QUESTION PRESENTED

Whether the Second and Fourteenth Amendments guarantee the right to possess AR-15 platform and similar semiautomatic rifles.

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INTEREST OF AMICUS CURIAE¹

The Buckeye Institute was founded in 1989 as an independent research and educational institution—a think tank—to formulate and promote free-market policy in the states. The Buckeye Institute accomplishes its mission by performing timely and reliable research on key issues, compiling and synthesizing data, formulating free-market policies, and marketing those policy solutions for implementation in Ohio and replication across the country. The Buckeye Institute also files lawsuits and submits amicus briefs to fulfill its mission. The Buckeye Institute is a nonpartisan, nonprofit, tax-exempt organization, as defined by I.R.C. section 501(c)(3).

The Buckeye Institute regularly weighs in on Second Amendment issues as part of its mission to protect Americans’ constitutional rights. It has submitted various amicus briefs to this Court in Second Amendment cases. See Brief of *Amicus Curiae* The Buckeye Institute, *New York State Rifle & Pistol Ass’n, Inc. v. Bruen*, 597 U.S. 1 (2022) (No. 20-843); Amicus Curiae Brief of The Buckeye Institute, *Wolford v. Lopez*, 146 S. Ct. 2032 (2026) (24-1046). It also brings cases in state courts. *Doe v. Columbus*, The Buckeye Institute, <https://www.buckeyeinstitute.org/issues/detail/doe-v-columbus> (last visited Sep. 3, 2026) (discussing

¹ As required by Supreme Court Rule 37.6, no counsel for any party authored this brief in whole or in part and no entity or person, aside from amicus curiae made any monetary contribution toward the preparation or submission of this brief.

challenge to Columbus, Ohio’s ban on 30-round magazines). This practice has built The Buckeye Institute’s reputation in firearms law.

SUMMARY OF THE ARGUMENT

Although this case is only about semi-automatic firearms and not the detachable magazines that feed them, the history of these magazines can play an important role in the historical analysis. This brief provides background on the history and development of detachable and non-detachable magazines in various capacities. Despite the common perception that firearms and magazines capable of holding multiple rounds are a new contrivance, they are nothing new. They have been around for decades, and even centuries, in various formats.

ARGUMENT

I. Humans have long tried to improve their weaponry for hunting and self-defense.

From the beginning of known history, humans have used weapons for hunting and self-defense. See Yonatan Sahle et al., *Earliest Stone-Tipped Projectiles from the Ethiopian Rift Date to >279,000 Years Ago*, 8 PLOS ONE e78092 (2013). And humans have consistently developed more effective weapons. See Peter Turchin et al., *Rise of the war machines: Charting the evolution of military technologies from the Neolithic to the Industrial Revolution*, 16 PLOS ONE e0258161 (2021). Humans needed to master weapon-making because “[l]acking the raw strength, sharp teeth, and claws of other hunters in the animal kingdom, humanity’s ascent as a species depended in large part upon our ability to invent more effective

ways to kill things.” Stephen C. George, *From Stone Tools to Guns: A Timeline of Ancient Weapons*, Discover (Dec. 7, 2023), <https://tinyurl.com/mr2v3zha>. Weapon development enabled us to outcompete other species and made us better at defending ourselves as disputes arose over territory, resources, and other considerations. *Id.* Our species moved from hands and feet as weapons to spears, slings, bows and arrows, and then swords and other edged weapons. *Id.* We have always improved our weaponry, oftentimes for self-preservation.

Technology has never been static. We have continuously improved our tools, including making them more efficient. Whether quills to hold multiple arrows or mechanisms to feed multiple bullets, the motivation is the same—to preserve life. And our need for individual self-preservation continues to this day.

Firearms have existed for so long that scholars cannot establish a precise date for their invention. Depending on the definition of a “firearm,” historians point anywhere between the 10th and 13th centuries. See Tonio Andrade, *The Gunpowder Age: China, Military Innovation, and the Rise of the West in World History* 51–55 (2016) (describing the difficulty distinguishing between “gunpowder weapons” and “true guns”); see also 5, pt. 7 Joseph Needham et al., *Science and Civilization in China* 63 (1987) (describing the first use of gunpowder weapons “in about 920”); but see Stephen G. Haw, *The Mongol Empire—the first ‘gunpowder empire’?*, 23 J. Royal Asiatic Soc. 441, 441–42 (2013) (noting that “true guns” had existed by the early 1200s). Since then, we have continued the tradition of improving them.

II. The history of “large-capacity magazines” dates back 400 years.

Opponents of Second Amendment rights argue for restricting the Amendment’s scope by emphasizing that firearms today are radically more dangerous than those at the time of the Founding, often conjuring images of clunky, single-shot muskets that had to be reloaded after every firing. This assertion is not true: It reflects ignorance of the history of firearm development. In 1791, although handguns and single-shot rifles were the most common firearms (largely because of their affordability to the average American), multi-shot and repeating firearms had long existed and were widely available. See David B. Kopel, *Firearms Technology and the Original Meaning of the Second Amendment*, Found. for Econ. Educ. (Apr. 6, 2017), fee.org/articles/firearms-technology-and-the-original-meaning-of-the-second-amendment/.

A. Firearms invented in the Middle Ages incorporated multi-shot capability.

Amazingly, before 1600 a creative German gunsmith invented a 16-shot Wheel Lock firearm, using “superposed” loads (each round stacked on top of the other). NRA, *16-Shot Wheel Lock*, Am. 1st Freedom (May 10, 2014), www.americas1stfreedom.org/content/16-shot-wheel-lock/. Others contend that the technology dates back earlier, belonging to Leonardo daVinci (1452–1519). Vernard Foley et al., *Leonardo, the Wheel Lock, and the Milling Process*, 24 Tech. and Culture 399, 399–400 (1983). Regardless, it incorporated a serrated steel wheel, linked by chain to a strong V-spring, which wound until a sear locked it cocked. *Id.* at 401. Pulling

the trigger released the sear, spinning the wheel while pressing pyrite against it, creating sparks in a way resembling a “cigarette lighter.” *Id.* at 401–02. The sparks ignited powder, propelling bullets out of the barrel one at a time in succession. *Id.*

While it was an anomaly for its time, “the wheel lock inspired future development that overcame cost and complexity issues and continued the improvement of firearms.” *Ignition Systems*, Nat’l Inst. of Just., nij.ojp.gov/nij-hosted-online-training-courses/firearms-examiner-training/module-03/ignition-systems (last visited Sep. 3, 2026).



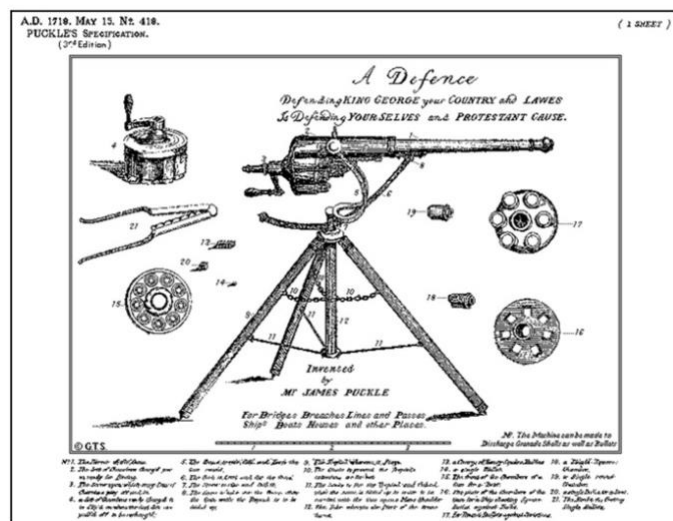
1578 Wheel Lock pistol²

Other magazine-fed repeating firearms appeared soon after. Clayton E. Cramer & Joseph Edward Olson, *Pistols, Crime, and Public: Safety in Early America*, 44 Willamette L. Rev. 699, 716 (2008). British soldiers were issued magazine-fed repeating

² *Wheel-Lock Hunting Pistol*, Cleveland Museum of Art, www.clevelandart.org/art/1916.672 (last visited Sep. 3, 2026).

firearms as early as 1658, and evidence indicates multibarrel handguns were in development around the same time. *Id.* By the end of the 1800s, concealable “pepperbox” handguns, capable of firing five to seven shots without reloading, were in circulation. *Id.*

The “Puckle Defense Gun” was another early design. Patented in 1718 by English lawyer and inventor James Puckle, it could fire six to eleven rounds. Talyn, *The “Puckle Defense Gun” - The First Machine Gun?*, The Armory Life: Forum (Jan. 17, 2026), www.athearmorylife.com/forum/threads/the-puckle-defense-gun-the-first-machine-gun.25008/. It used preloaded cylinders; each cylinder was fired one at a time. *Id.*



Patent No. 418 for “Puckle Defense Gun”³

³ Talyn, *The “Puckle Defense Gun” - The First Machine Gun?*, The Armory Life: Forum (Jan. 17, 2026), www.athearmorylife.com/forum/threads/the-puckle-defense-gun-the-first-machine-gun.25008/.

Firearms with similar shooting capacities were soon in America. The earliest evidence comes from the *Boston News-Letter* in 1723, which reported “[d]elegates from several Nations of Indians were Entertained with the sight of a Gun which has but one Barrel and one Lock,” but fired “Eleven Bullets successively in about Two Minutes” after being loaded only once. Kevin Sweeney, *In Search of Repeating Firearms in Eighteenth-Century America*, Duke Center for Firearms Law (July 26, 2023), firearmslaw.duke.edu/2023/07/in-search-of-repeating-firearms-in-eighteenth-century-america. In 1730, the *New-England Weekly Journal* notified Boston residents that they could witness “a gun that could fire a succession of twenty projectiles ‘at once Loading.’” *Id.*

By the time the Second Amendment was ratified, the state-of-the-art multi-shot firearm was the Girandoni (also spelled “Girardoni”) air rifle with a 22-shot magazine capacity. Frederick J. Chiaventone, *The Girandoni Air Rifle: The Lewis and Clark Expedition’s Secret Weapon*, Warfare History Network (Jan. 2013), warfarehistorynetwork.com/article/lewis-and-clarks-girandoni-air-rifle/. Meriwether Lewis carried a Girandoni on the Lewis and Clark expedition. *Id.* At the time, air rifles were ballistically equal to powder guns in bullet size and velocity. John Plaster, *The History of Sniping and Sharpshooting* 69–70 (2008). The .46- and .49-caliber Girandoni air rifles were invented around 1779 for use in European armies and were employed by elite units. Jim Supica et al., *Treasures of the NRA National Firearms Museum* 31 (2013). It was powerful enough to penetrate a one-

inch-thick wooden plank⁴ or take down an elk with a single shot. *Id.*

B. In the 1800s, magazines grew in capacity.

By the turn of the 19th century, advancements in firearms accelerated. In 1821, the Jennings multi-shot flintlock rifle could fire 12 rounds without reloading. Norm Flayderman, *Flayderman's Guide to Antique American Firearms and their Values* 683 (9th ed. 2007). Pepperbox pistols appeared in the 1830s and found commercial success, with some models capable of firing up to 24 shots. Jack Dunlap, *American British & Continental Pepperbox Firearms* 16 (1964).

Meanwhile, revolvers arrived. Although Samuel Colt receives credit for patenting the first six-shot revolver, he drew inspiration from a firearm he discovered in the armory of the Tower of London. Frederick C. Bakewell, *Great Facts: A Popular History and Description of the Most Remarkable Inventions During the Present Century* 266–269 (1859). That model was estimated “to have been made as early as the fifteenth century, which very closely resembles, in the principle of its construction, the Revolver of the present day.” *Id.* at 268. Other revolver designs were well documented over a century before Colt’s arrived on the market. See Jonathan Ferguson, *The Antique Arms Fair at Olympia London* 33–34 (2018)

⁴ See a video of the Girandoni penetrating wooden planks at 50 and 100 yards here: shooter1721, *Revolutionary Girandoni Air Rifle: A Historic Demonstration of the 18th Century Weapon*, at 00:13:58–00:18:05 (YouTube, June 7, 2024), www.youtube.com/watch?v=UtLRhTd9YrE.

(describing an early self-rotating revolver from around 1680).



ROYAL ARMOURIES

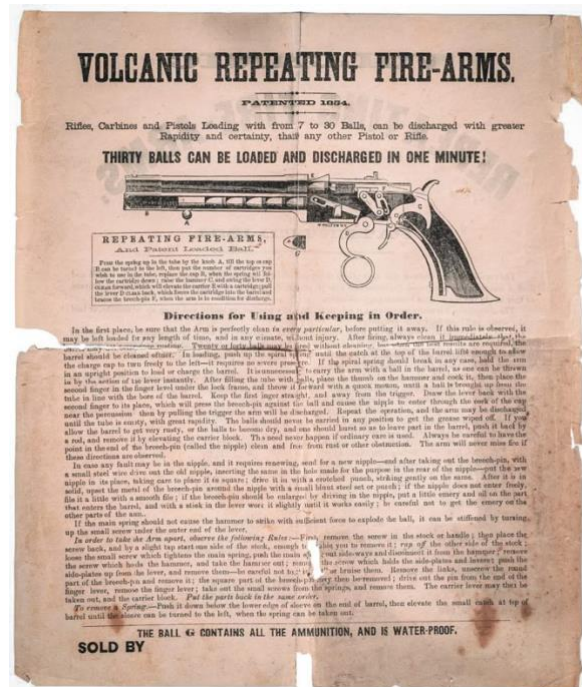
A self-rotating revolver from around
1660–1670⁵

Still, Colt's design brought the revolver commercial success and widespread use never before seen. Its use in the Mexican-American War (1846–1848) made it popular among western settlers, and Colt's sales and marketing skill accelerated demand for it nationwide and overseas. Lindsay Schakenbach Regele, *Industrial Manifest Destiny: American Firearms Manufacturing and Antebellum Expansion*, 92 *Bus. Hist. Rev.* 57, 78–79 (2018). Some of Colt's revolvers fired “more than ten rounds in a minute.” *Id.* at 72.

In 1855, Daniel Wesson and Oliver Winchester invented a lever-action rifle that fired newly invented metallic cartridges. Harold Williamson, *Winchester: The Gun that Won the West* 26–27 (1952). Their first

⁵ *Snaphance six-shot revolver - Self-rotating possibly by John Dafte - about 1660-1670, Royal Armouries*, <https://royalarmouries.org/collection/object/object-1534> (last visited Sep. 3, 2026).

model, the Volcanic Rifle, operated with a 30-round tubular magazine. Nicholas J. Johnson, David B Kopel, George A. Mocsary, E. Gregory Wallace & Donald Kilmer, *Firearms Law and the Second Amendment: Regulation, Rights, and Policy* 437 (3rd ed. 2022) (*Firearms Law*). Cartridges were stored end-to-end in a tube under the barrel, fed into the chamber with a spring. John Sammon, *The Case for Caselessness: the Volcanic Rifle*, Guns.com (Apr. 19, 2011), <https://www.guns.com/news/2011/04/19/the-case-for-caselessness-the-volcanic-rifle>.



Volcanic firearm and its tubular magazine⁶

⁶ T. Logan Metesh, *Volcanic Pistol: The First Repeating Pistol—And A Failure* (June 8, 2023), freerangeamerican.us/volcanic-pistol/.

Despite its “reliability problems,” advertisements highlighted its ability to be loaded and to fire 30 shots in under a minute. Williamson, *supra*, at 25. In 1861, the rifle evolved into the 16-shot Henry Rifle—a “big success” commercially. *Firearms Law, supra*, at 437. In 1862, the Henry was tested at the Washington Navy Yard, where it fired 15 shots in 10.8 seconds. R. L. Wilson, *The Winchester: An American Legend* 11 (1991). Soon after, the Winchester Model 1866 was firing 18 shots without reloading. *Firearms Law, supra*, at 437.

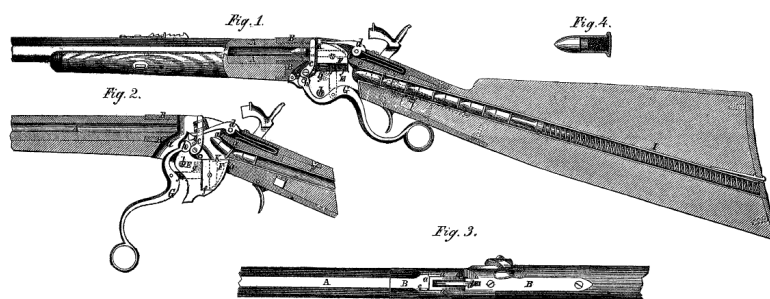


Diagram of the Spencer Repeating Rifle, designed in 1860, showing a tubular magazine housed in the stock of the rifle.⁷

The early 1800s not only saw improvements in firing capacity, but they also saw improvements in reloading time. Devices known as speedloaders, which were used to insert multiple rounds into a magazine at once, saving time and effort, had existed in the 18th Century. By the Civil War, tubular speedloaders were

⁷ *File:Spencer rifle diagram.png*, Wikimedia Commons, https://commons.wikimedia.org/wiki/File:Spencer_rifle_diagram.png (last visited Sep. 3, 2026).

commonly bought alongside firearms with tubular magazines. A popular pair during the Civil War was the Spencer repeating rifle, designed in 1860, and the Blakeslee cartridge box, a carrying case that held up to 13 speedloaders for riflemen to quickly reload by pouring rounds into the butt of the rifle. *Blakeslee cartridge box*, Smithsonian Inst., civilwar.si.edu/weapons_blakeslee.html (last visited Sep. 3, 2026).



A Blakeslee cartridge box (left)⁸ and demonstration of reloading the Spencer rifle with a speedloader (right)⁹

⁸ *Blakeslee cartridge box*, Smithsonian Inst., civilwar.si.edu/weapons_blakeslee.html (last visited Sep. 3, 2026).

⁹ Mike Venturino, *Plains War Spencers*, Guns Magazine (2019), <https://gunsmagazine.com/guns/rifles/plains-war-spencers/>.

C. In the 1860s, detachable magazines were invented.

The first handgun to use a detachable magazine was the Jarre harmonica pistol, patented in 1862. *Firearms Law, supra*, at 498.



An early Jarre harmonica pistol¹⁰

The first handgun with a box magazine to become a major commercial success was from the German company Mauser. *Firearms law, supra*, at 498. Its 1896 “broomhandle” model C96 was a semi-automatic pistol with a 10-round standard magazine and optional magazine of as few as six or as many as 20 rounds. John W. Breathed Jr. & Joseph J. Schroeder Jr., *System Mauser: A Pictorial History of the Model 1896 Self-Loading Pistol* 272 (1967); see also J. Elliot,

¹⁰ *Rare Jarre 10-Shot Pinfire Harmonica Pistol*, Rock Island Auction Co., www.rockislandauction.com/detail/62/1319/rare-jarre-10shot-pinfire-harmonica-pistol (last visited Aug. 21, 2026).

A Sweeping History of the Mauser C96 Broomhandle Pistol, Guns.com (Jan. 26, 2012), <https://web.archive.org/web/20200924043450/https://www.guns.com/news/2012/01/26/a-sweeping-history-of-the-mauser-c96-broomhandle-pistol/>.



Mauser C96¹¹

Box magazines soon became common for rifles and handguns. *Firearms Law, supra*, at 498.

¹¹ *The Mauser C96 M1916 "Red 9"*, Wikipedia, https://simple.wikipedia.org/wiki/C96#/media/File:Mauser_C96_M1916_Red_9.JPG (last visited Aug. 21, 2026).

D. From the 1920s onward, magazine capacity expanded.

The proliferation of 30-round magazines in the United States began in earnest in 1927 with the Auto-Ordnance Company's introduction of a semiautomatic rifle engineered to accept detachable 30-round magazines. David B. Kopel, *The History of Firearm Magazines and Magazine Prohibitions*, 78 Alb. L. Rev. 849, 858–59 (2015). This commercial step built upon earlier American traditions, including 19th-century lever-action rifles whose tubular magazines frequently held up to 30 rounds. Later decades saw the design expand with commercial variants like the M1 and M2 Carbines. Frank Iannamico, *Design and Development of the U.S. Carbine Thirty-Round Magazine*, Small Arms Review (Aug. 1, 2005), smallarmsreview.com/design-and-development-of-the-u-s-carbine-thirty-round-magazine/.

The M1 Carbine, standardized by the U.S. Army on October 22, 1941, and first issued to troops in mid-1942, was a lightweight semi-automatic firearm. *Id.* It initially used a detachable box magazine holding 15 rounds, but a 30-round magazine was adopted within a few years. *Id.* In late 1944, curved 30-round magazines were developed and widely issued. *Id.* In the decade following the end of WWII, M1 Carbines became popular items on the civilian market. Leroy Thompson, *The M1 Carbine*, pp.72–73 (2011). In fact, “The M1 Carbine proved so popular with civilians and law-enforcement personnel in the USA that there were not enough military-surplus carbines available to satisfy the market. As a result, various commercial

manufacturers began producing the M1 Carbine” as early as 1956. *Id.*



M1 Carbine (top); M1A1 Carbine (middle); M2 Carbine with curved 30-round magazine (bottom)¹²

Pertinent to the case before the Court, the AR-15 arrived in 1956. The original prototype held 25 rounds, but 20-round magazines were standard on the market at the time of its release; however, 30-round magazines eventually became available. Brent Wheat, *Everything You Wanted to Know About AR-15 Magazines (But Were too Afraid to Ask)*, Guns Magazine, gunsmagazine.com/our-experts/everything-you-wanted-to-know-about-ar-15-magazines/ (last visited Sep. 3, 2026). Today, just as AR-15s are the most commonly owned rifle in America, 30-round magazines are the most common magazine to go along with the rifles. Jason Mosher,

¹² Mike Venturino, *The M2 Carbine*, Guns Magazine (2020), <https://gunsmagazine.com/our-experts/the-m2-carbine/>.

AR-15 Mags: Why So Many Capacity Options?, GunMag Warehouse (Apr. 17, 2023), <https://gunmagwarehouse.com/blog/ar-15-mags-why-so-many-capacity-options/>.



A modern 30-round detachable magazine¹³

¹³ *AR-15 30 Rd .223/5.56 Stainless Steel Magazine*, Ammunition Storage Components, <https://www.ammosc.com/ar-15-30-rd-223-5-56-stainless-steel-magazine> (last visited Sep. 3, 2026).



AR-15 with 30-round magazine inserted¹⁴



An AR-15 with wooden components¹⁵

¹⁴ *Heckler & Koch MR556 A4 5.56MM 16.5" Barrel 1 30 Round Magazine Black*, Midwest Shooting Indoor Range, <https://midwestshootingssupply.com/product/heckler-koch-mr556-a4-5-56mm-16-5-barrel-1-30-round-magazine-black-81000827/> (last visited Sep. 3, 2026).

¹⁵ *AR-15 Custom Wood Furniture*, Angle of Attack Arms, <https://www.angleofattackarms.com/product-page/ar-15-custom-wood-furniture> (last visited Sep. 3, 2026).

Invented in 1964, the Ruger 10/22 is a popular rifle for target shooting and hunting small game. With a standard detachable magazine, it holds 10 rounds. But it can hold up to 50 rounds.



Ruger 10/22 Rifles with and without detachable magazines¹⁶

Sturm, Ruger & Co. introduced the Mini-14 Ranch Rifle in 1973 and marketed it as a handy rifle for ranchers and outdoorsmen. See Guy J. Sagi, *Ruger Mini-14: A Garand-Inspired Carbine*, *Am. Rifleman* (Jan. 5, 2022), www.americanrifleman.org/content/ruger-mini-14-a-garand-inspired-carbine/; Rick Hacker, *Ruger Mini-14*, *Shooting Illustrated* (Apr. 1, 2011), www.shootingillustrated.com/content/ruger-mini-14/. Ruger also produced ten- and twenty-round Mini-14 magazines—dropping the ten-round magazine in 1979 and the twenty-round magazine about ten years later—then restored twenty-round factory magazines

¹⁶ *Three Ruger 10/22 Semi-Automatic Rifles*, Rock Island Auction Company, <https://www.rockislandauction.com/detail/2022/596/three-ruger-1022-semiautomatic-rifles> (last visited Sep. 3, 2026).

after the federal assault-weapons ban expired, in jurisdictions where they remain lawful. See Hacker, *supra*. Current Ranch Rifles typically leave the factory with either 5- or 20-round magazines. See Sagi, *supra*.



A Ruger Mini-14 rifle¹⁷

Firearms of various shapes, sizes, and calibers have been invented and improved to accept a similar variety of detachable magazines.

CONCLUSION

Contrary to popular belief, detachable magazines are nothing new. And 30-round magazines have existed for many decades in various forms. The public's visceral reaction against them should not influence the Court's view of the legality of the AR-15—the most popular rifle in America.

¹⁷ Guy J. Sagi, *Ruger Mini-14: A Gardan-Inspired Carbine*, Am. Rifleman (Jan. 5, 2022), www.americanrifleman.org/content/ruger-mini-14-a-garand-inspired-carbine/.

Amicus urges the Court to reverse the judgments below and hold that the Second Amendment protects the right to possess AR-15s and similar semi-automatic firearms.

Respectfully submitted,

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September 4, 2026