

Defense Technology Corporation of America, a Delaware
Corporation that does Business in Wyoming, Not to be Confused
with Defense Technology Corporation of America, a Wyoming
Corporation that does Business in Wyoming
An Incomplete Corporate History of the Chemical Weapons Industrial Complex

Dr. Juniper L. Simonis (they/them/theirs)

2021-06-08

Contents

Foreword	1
Introduction	3
United States Chemical Warfare Service	4
Predecession	5
Formation	7
Privatization	9
Federal Laboratories	9
Lake Erie	9
The Results	10
References	10

This litigation involves two entities with confusingly similar names. The first is defendant Defense Technology Corporation of America (“DTC”), a Delaware corporation. It is a subsidiary of Armor Holdings, Inc., and does business in Casper, Wyoming. The second company is Defense Technology Corporation of America of Casper, Wyoming, (“DTC-Wyoming”), a Wyoming corporation. In 1996, DTC-Wyoming sold its assets to DTC. - [Hon. J. Rosenbaum, 2003](#)

Foreword

Content Warning

This book deals with chemical weapons, colonialism, and police and corrections violence in frank terminology. Pictures of chemical weapons being deployed on individuals, including those passively resisting, are included, but no injuries, blood, gore, etc. are shown.



Figure 1: DT & FL Trademark, expired 2013 (Defense Technology 2002)

Land Acknowledgment

This work's impetus comes from present-day Portland, Oregon, United States of America – the Indigenous land of the Chinook people, who were colonized and spread across multiple federally recognized tribes in Oregon, Washington and Idaho including Cowlitz, Siletz, Wasco, and Yakima.

Chemical weapons are a common tool among imperialist regimes. The events cataloged in this book occur at many locations across the present-day United States and internationally, with specific references to Canada, Mexico and Vietnam, where colonizing forces of (predominately Northwestern) Europe have used forced labor from enslaved Black people to impose significant force on Indigenous cultures and individuals.

No words can fully encompass the importance of acknowledging the place in which each of the stories told in this book occur. I will work to add important contextual information and acknowledgments, but please remember that each use of chemical weapons or other brutal police force described here impacted many, many lives.

I ask you to take time to reflect on the countless individuals from communities, tribes, peoples, and cultures around the world that have been fogged with some chemical agent whose names we will never know, whose stories we will never hear.

Inherent Bias

This book has been produced by collating historical documentation and records, which are inherently biased, using methods like archival and internet searches, which are also biased. This work is based on English-language media and documents, predominately from the United States.

Author Position

I, Dr. Juniper L. Simonis (*they/them/theirs*), am a 36-year-old middle-class, white, non-binary, queer, physically and psychologically disabled person. I come to the study of the history of chemical weapons use in America via my personal experience being the recipient of law enforcement's chemical weapons and my ensuing scientific research into its impacts on the environment.

I have a PhD in Ecology and Evolutionary Biology from Cornell, where I studied aquatic ecology and biogeochemistry – disciplines I have put to use to studying the impact of chemical weapons. Through my

ecological research, I have uncovered historical and current information into the impacts of chemical weapons that I was not seeing being represented in the present day broad cultural discourse.

From this need to share historical information came this book, a way for me to pass along a window into the racist, classist, capitalistic, and colonialistic history of the chemical weapons industry leader Defense Technology.

I am an abolitionist in multiple senses: I believe that the use of chemical weapons, police, and the carceral system should all be abolished, full-stop.

Financial Statement

All work for this product was conducted by Dr. Juniper L. Simonis via internal time at DAPPER Stats. No external funding was provided.

Licenses

This book it created under a [dual license](#) that recognizes a separation between the software and non-software components. All underlying documents (photos, etc.) are cited in the [References](#) and do not indicate the original licensor endorses this book or its author.

Acknowledgments

This booklet is based on a variety of sources past and present, and to the journalists and photographers: thank you for sharing your work with the world.

I have no idea how many people have been involved in digitizing historical newspapers, business filings, and other public documents as their names are never on anything, but y'all are fantastic and I appreciate you so much.

Contribute Information

If you are aware of additional information that I have not referenced or included, please reach out [via the Chem Weapons Research Website](#) or submit an [issue](#) or [pull request](#) on our [GitHub repository for the book](#).

Work In Progress

This is a Work In Progress. Additional information will be added as I have time and capacity to research, analyze, and document. Absence of any particular information should therefore not be considered to be evidence of a lack of information, unless explicitly stated.

Introduction

[Defense Technology](#) is the predominate manufacturer of [chemical munitions](#) we have recovered in Portland since May 2020 and their weapons are used by law enforcement agencies around the world.

Over the course of my work studying the environmental and human impacts of Defense Technology's weapons, I became interested in understanding what this company was all about, where they came from, and who was profiting off of it. I started digging into their corporate structure and history, which turns out, is extensive and old, with tendrils reaching through Big Names in the weapons industry like the American classic [Smith](#)



Figure 2: Chemical weapons recovered from Portland, OR, USA in 2020 (Simonis 2020)

and Wesson and the British multinational BAE all the way back to the United States Army's Chemical Warfare Service.

This book is my attempt to wrestle this complex, confusing history into something understandable.

Buckle up, it's about to get wild.

United States Chemical Warfare Service

"This conjunction of an immense military establishment and a large arms industry is new in the American experience. . . . We must guard against the acquisition of unwarranted influence, whether sought or unsought, by the military-industrial complex. The potential for the disastrous rise of misplaced power exists, and will persist." - Eisenhower (1961)

At the center of it all, we have the United States Army a century ago to thank for Defense Technology today. Indeed, the contemporary chemical weapons industry is a type example of how the power given to and taken by the Military Industrial Complex creates persistent threats to the civilian way of life.

Born out of the War Department during the first World War (Addison 1919), the United States Chemical Warfare Service (CWS; since renamed the Chemical Corps) ignited the industry and continues to dictate the narrative on chemical weapons use to this day.

The President directs that there be organized . . . for each army, A Gas and Flame Service . . . regiment" - War Department (1917)

The first such regiment of the American Expeditionary Forces (the US Army formation on the Western Front) was established as the 30th Engineering (later the 1st Gas Unit and then the 2nd Chemical Battalion under the command of Colonel Amos Fries (American Expeditionary Forces 1917). Fries would come to be a major player in the establishment of a domestic chemical weapons industry targeted specifically at organized labor, Indigenous peoples, and his political enemies ("The Communists").

The unit's slogan remains to this day "Flammis Vincimus", Latin for "We Conquer with Fire", a explicit reference to their use of *offensive* chemical weapons in WWI (Langer 1965; Bowery 2019).



Figure 3: The United States Army, [Chemical Warfare Service](#) (US Army 1918)

Predecession

The Bureau of Mines

The CWS did not spontaneously form out of the mustard gas clouds of the Western Front, but was the result of a concerted effort to establish a domestic chemical weapons program in response to the obvious use of chemical warfare by European powers prior to the US entering WWI (Gross 2015).

Following the observations US Army Assistant Surgeon [James R. Church](#) made on trips to France in 1916 and 1917, [President Wilson](#) requested assistance from federal agencies to support the [War Department](#) in developing defensive and offensive gas capabilities (Gross 2015).

A major contributor was the [Department of Interior](#)'s [Bureau of Mines](#), which had practical research experience in keeping miners safe from toxic gases (Brophy 1956; Gross 2015). The Bureau, led by Van Manning, had enthusiastically responded to Wilson's request, so when the US Congress declared war on Germany in April 1917, they were immediately put in charge of chemical weapons defense (New York Times 1932; Gross 2015).

The National Academy of Sciences' Committee on Gases in Warfare

President Wilson requested that the [National Academy of Sciences](#) (NAS) establish a [National Research Council](#) (NRC) with broad scope to increase the use of science in industry, but specifically targeted at "strengthening national defense" and promoting "national security" (Cochrane 1978). Upon the US entering the war, the NRC created a Committee on Noxious Gases (quickly renamed the Committee on Gases used in Warfare) headed by Manning, who would later recommend the formation of the CWS (New York Times 1932; Brophy 1956; Russell 1996). Manning appointed the Bureau of Mines' George Burrell as the Committee's research director and Burrell immediately took to developing gas masks (Vilensky and Sinish 2005b, 2005a).

Camp American University

The Bureau was quickly overwhelmed with work, however, and by May of 1917 was authorized to collaborate with chemists at universities, in private industry, and from other federal agencies, sowing the seeds that blossomed into the "peacetime" Chemical Weapons Industrial Complex of today (Vilensky and Sinish 2005b,



Figure 4: The United States Army, Chemical Warfare Service 2nd Chemical Battalion (US Army 1940)

2005a) In July, a central research laboratory was established at [American University](#) in Washington, D.C. (The Army’s “[Camp American University](#)”) as the “Experimental Station”, and got to work developing offensive gas capabilities as well defensive tools (Brophy 1956; Vilensky and Sinish 2005a).

The footprint of Camp American University persists to this day, a century after the war. Reportedly \$800,000 (in 1918, translating to roughly \$14,000,000 in 2021) worth of weapons were buried in a pit referred to as “Death Valley” (Albright 2011; Ashooh 2015). These stockpiles continue to be unearthed from campus and adjoining properties, making news as recently as the 2010s (Ashooh 2015).

Pershing Calls for Gas Force

The [American Expeditionary Forces](#), stationed along the Western Front, were under the command of Gen. John J. Pershing (Pershing 1931a, 1931b).

On July 5th, 1917, General Pershing ordered the creation of a Gas Service Section complement (Edgecomb 2001). Expanding on this order, on August 15th, the War Department authorized and established an offensive gas force designated as the 30th Engineer Regiment, nicknamed Gas and Flame (War Department 1917). The Regiment was officially activated on September 2nd under the command of Army Engineer Col. [Amos Fries](#) ([American Expeditionary Forces 1917](#); Addison 1919).

A companion Chemical Service Section was established by the War Department in October and November of 1917 (Harris 1921).

Formation

Under General Order 62 from the War Department, issued June 28th 1918, the Gas and Chemical Service Sections were joined to create the [Chemical Warfare Service](#) (Harris 1921; Edgecomb 2001; Witte 2001). Immediately, President Wilson transferred the American University Experimental Station from the Bureau of Mines to the CWS (Vilensky and Sinish 2005a), providing the Army with its own proper chemical weapons research hub.

Following the formation of the CWS, the 30th Engineer Regiment was re-designated as the 1st Gas Regiment (Addison 1919; Bowery 2019).

Major General Sibert, Imperialist Engineer

The first head of the Chemical Warfare Service was Major General [William Sibert](#), a distinguished army engineer that had previously served as Chief Engineer of the Manila and Dagupan Railroad during the US occupation of the Philippine Islands and was a member of the Panama Canal Commission responsible for critical construction projects (Dickey 2015). Despite his rank Sibert was not so much a combat commander, but rather a top-level project manager.

He put these skills to work and by January of 1919, the CWS’s main production arsenal in Edgewood, MD was generating 3,000,000 pounds of [chloropicrin](#) – a particularly noxious fumigant made by the Army as a chemical weapon (Ayres 1919) – per month (Russell 1996). One chemical weapon developed by the CWS during this time was [Lewisite](#), an organoarsenic compound used as a blister agent and lung irritant. So successful was Sibert’s CWS at production of Lewisite that it consumed nearly 1/3 of the country’s arsenic supply, causing problems for the insecticide industry that uses arsenic-based compounds to treat agricultural crops (Russell 1996).

0.0.0.1 First Contact In August of 1919, A. D. Porter of the New York Police Department sent a letter to Sibert requesting his opinion on the use of chemical weapons to disperse “crowds of strikers and disorderly persons”, the first of many fielded by the CWS in the wake of the war (Jones 1978). Workers movements, In Porter’s view, “gases might be an efficient agency in suppressing disorder”, but he was not sure if “there

would likely be any serious or lasting results to the people gased, and whether ... public opinion would tolerate” its use (Jones 1978).

Sibert replied that tear gas (primarily CN at the time) would a good method to disperse crowds away from the battlefield and noted that the CWS was already developing special grenades for this type of “police work” in American territories like the Philippines and in Central America (Jones 1978).

The service was unable to finalize the grenade design before the head of the War Department explicitly forbade all military branches from deploying chemical materials in civil disturbances (or conveying them to local agencies to use on their own) in a confidential memo on November 7th of 1919 (Jones 1978).

Major General Fries, Chemical Weapons Zealot

Sibert led the CWS from 1918 until he retired in April 1920, when he passed control to Major General [Amos Fries](#). Fries had been in charge of the Gas Service Section during the war, and thus hand first-hand experience with deployment and consequences of chemical warfare (Addison 1919).

Fries led the Chemical Warfare Service through the 1920s, establishing the unit as necessary even in peacetime, despite the efforts of the rest of the Army brass to disband it following the 6-month post-war timetable outlined in the General Order creating it (Harris 1921; Edgecomb 2001; Witte 2001).

To do this, he had to take a decidedly more vocal stance against the War Department’s restriction, which was still in place. Fries openly disagreed with the policy in Congressional testimony and in his replies to the now regular requests for weapons from law enforcement agencies around the country (Jones 1978). However, it appears that through the remainder of the Wilson Administration, the War Department only added restrictions to the CWS – eliminating training activities and demonstrations with live chemical munitions (Jones 1978).

0.0.0.2 Opening the Floodgates and then Closing Them and then Opening Them and then ... The policies of the War Department on chemical weapons shifted qualitatively when [Warren Harding](#) was sworn in to the Presidency and began filling his cabinet in 1921. John J. Pershing, with all his first-hand experience with and love of chemical warfare, became chief of staff July 1st (Jones 1978). Later that month, on July 19th in Philadelphia, the CWS conducted its first demonstration for a local police department (New York Times 1921a; McGarry 1921). Afterwards, Philly PD adopted tear gas as a tactic (Jones 1978). A similar show occurred in New York city three days later (New York Times 1921b).

The prohibition on use of chemical weapons by federal troops against civilians was briefly rescinded in September of 1921 when Pershing called Fries for assistance in control a coal miners strike in West Virginia (Jones 1978). The massive show of chemical weapons being transferred to the site of the strike, including bombs to be dropped from planes, drew national attention (Baltimore Sun 1921) and had the chilling effect of stopping the strike without needing to be deployed (Jones 1978).

The ban was reinstated on January 8th of 1922, although Pershing supported Fries’ interpretation that the current version allowed internal distribution within the armed forces (Jones 1978). The CWS gave demonstrations on how to use the chemical weapons to National Guard battalions over the spring and summer, as well (Jones 1978).

The Guard corps were (temporarily) authorized to use chemical weapons against striking railroad workers on July 21st and just generally in territories (Hawaii, Panama Canal Zone, the Philippines) on August 14th (Jones 1978).

Early the next year (February 12th), the CWS was finally allowed to sell chemical weapons to the National Guard, albeit only for use in training purposes (Jones 1978).

By that point, however, the domestic market had already whetted its appetite and a new private industry was starting to take orders for the National Guard and police forces alike.

And of particular relevance for our story here, rather than lose out to the private companies, the CWS was actually central in the privatization of the chemical weapons industrial complex and its expansion of use to “everyday” controlling of political enemies (Feigenbaum 2014).

Privatization

Privatizing the Chemical Warfare Service (CWS) was a top priority of its chief officer Major General Amos Fries in the wake of WWI, as the longevity of the Service and its ability to pass weapons to law enforcement were not certain.

He was determined to prevent the CWS from being dissolved but saw a private industry marketed towards law enforcement and corrections as a parallel opportunity for the development and proliferation of chemical weapons (Jones 1978). Similarly, he saw gas as a viable means of maintaining power for industrial bosses and colonizers seeking to crush labor and Indigenous uprisings (Jones 1978).

Fries authorized retired military officers retaining the patents for their inventions, establishing corporations, manufacturing propaganda to disseminate via the press, and creating an explicit commercial market (Jones 1978).

To facilitate the development of private companies, Fries provided free and heavily discounted chemical weapons and information to startups throughout his tenure (Jones 1978). An early beneficiary was retired Major Stephen J. DeLanoy, who established his company Chemical Protection in New Jersey in the summer of 1921 (Jones 1978). DeLanoy played a pivotal role in establishing early connections for sales and training with police departments and sought to cash in on the new market (New York Times 1921c).

Future industry leaders Federal Laboratories, Incorporated and Lake Erie Chemical Corporation benefited from continued support from the CWS, who provided field tests, technical assistance, referrals to suppliers that arm police departments throughout the '20s (Jones 1978).

Federal Laboratories

Retired Captain Ruben Lawrence of the Chemical Warfare Service (CWS) founded the Lawrence Company in Pittsburgh, PA, USA in 1922 with a gift from the CWS of a quart of [chloroacetophenone \(CN\)](#), the only “tear gas” available at the time (Jones 1978). Later that year, the CWS sold Lawrence 25 lbs of CN and twelve tear gas grenades, and provided him with a tour of the Edgewood Arsenal CN plant, technical specifications, and blueprints, defending the moves by stating

“[Amos Fries], the Chief of the Chemical Warfare Service, desires to be of as great of assistance as possible to Mr. Lawrence in undertaking htis manufacturing venture.” (Jones 1978).

The following year, the Lawrence Company was rebranded as Federal Laboratories, Incorporated, and formally incorporated in Delaware on February 27th, although its principal office was still in Pittsburgh (J. Harron 1947; OpenCorporates 2020). The company was led by John W. Young during the early years when they acquired the rights to patents from CWS researchers for a variety of weapons (for example, slow burning tear gas grenades), gaining a significant advantage in the burgeoning market (Jones 1978).

Lake Erie

The other prominent earlier supplier of chemical weapons in the US was Lake Erie Chemical Company of Cleveland, OH, USA (Feigenbaum 2018). Lake Erie was also founded by a CWS veteran – Chief Gas Officer Lt. Colonel Byron “Biff” Goss, a “respected chemist” and decorated soldier from the AEF (Feigenbaum 2018). And similar to Federal Laboratories, Lake Erie was gifted CN from the CWS; they received 5 lbs of the chemical in 1926 (Jones 1978).

But where Federal Laboratories was focused on the domestic market, Goss leveraged his wartime connections in an effort to make Lake Erie the sole source of chemical weapons to the US military (Feigenbaum 2018). Goss solicited help from his fellow CWS servicemembers in developing and testing a full line of tear gas grenades that used a bursting charge to vaporize a solution of CN (Jones 1978). The Service conducted a series of tests of Lake Erie’s commercial line at Edgewood Arsenal in 1927, providing critical user feedback and facilitating development on items like the “Blind-X-Shell” (designed to be shot at point-blank range into someone’s face) (Feigenbaum 2018). Early on, Goss also developed a propaganda arm of Lake Erie based on twisted scientific research (Feigenbaum 2018).

Goss remained chairman of the board until he passed in 1964 (April Goss 2009).

The Results

The campaign to establish a private chemical weapons industry was extremely successful.

By the close of Fries’ command of the CWS in 1929, police departments in major USA cities like Chicago, New York, San Francisco, Philadelphia, and Cleveland had purchased chemical weapons (Feigenbaum 2014). Sales abroad were burgeoning as well, in particular in British and American colonial territories in India, Panama, and Hawaii (Feigenbaum 2014).

The 1930s would see multiple public domestic uses of tear gas, in particular to break up labor movements, that garnered public attention and some scrutiny, but actually acted as advertising for their chemical weapons (Steuben 1950). And in the decades to come both Federal Laboratories and Lake Erie would see considerable growth and development (Jones 1978).

Hands-On Domestic Deployments

The development of the industrial complex continued well beyond Fries’ tenure, aided by horrific domestic “field tests” of tear gas in which protesters and bystanders were murdered by officers *and salesmen* who used the incidents to sell their state-of-the-art chemical weapons.

The “*Bonus Army*” camps made of veterans lobbying in Washington, D.C. for overdue wartime payments were swept by the National Guard on July 29th, 1932, using tear gas weapons that filled the camp with fire, smoke, and gas (Feigenbaum 2014). Two men were killed during the forcible eviction as was an infant child who reportedly died of asphyxiation from the gas (Feigenbaum 2014).

Federal Laboratories and Lake Erie both had sales representatives embedded with police during the “*Big Strike*” of 1934 in San Francisco to demonstrate the “effectiveness” of their weapons in actual riot situations and to drum up interest in purchasing their wares (Steuben 1950). Reports indicate they brought \$20,000 – \$25,000 worth of chemical weapons to the Strike and instructed officers in how to use them. On the “*Bloody Thursday*” of July 5th, one striking worker was killed by a Federal Laboratories rep who shot him in the head with a gas projectile (Steuben 1950).

The event is eerily reminiscent of the US Marshals agent shooting protester Donovan LaBella in the head with a gas projectile nearly a century later during the uprising in Portland of 2020 (Levinson 2020).

Thanks to quick-acting field medics, Donovan survived the frontal lobe skull fracture, although not without lasting physical, cognitive, and behavioral impacts (Levinson 2020). The Federal Laboratories representative that killed the protester in 1934 was not shy about it, gloating in a letter back to his boss (John W. Young), who praised him during US Senate testimony [Steuben1950].

References

Addison, J. T. 1919. *The Story of the First Gas Regiment*. Houghton Mifflin. <https://books.google.com/books?id=6xUgAAAAMAAJ>.

- Albright, R. 2011. *Cleanup of Chemical and Explosive Munitions: Location, Identification and Environmental Remediation*. Cleanup of Chemical and Explosive Munitions: Locating, Identifying Contaminants, and Planning for Environmental Remediation of Land and Sea Military Ranges and Ordnance Dumpsters. Elsevier Science. <https://books.google.com/books?id=2tu0ech7-KUC>.
- American Expeditionary Forces. 1917. "General Order 31."
- April Goss. 2009. "Byron C "Biff" Goss Memorial." Find A Grave. <https://www.findagrave.com/memorial/45412785/byron-c-goss>.
- Ashooh, Emma. 2015. "A Hidden History: American University's Role in World War I." *American Word*, December. <https://amwordmag.com/article/2015/12/a-hidden-history>.
- Ayres, Leonard P. 1919. *The War with Germany: A Statistical Summary*. Washington, D.C., USA: Government Printing Office. <https://archive.org/details/warwithgermanya02ayregoog/page/n6/mode/2up>.
- Baltimore Sun. 1921. *The Baltimore Sun*, September.
- Bowery, Charles R. Jr. 2019. "Lineage and Honors: Headquarters and Headquarters Detachment 2D Chemical Battalion." <https://history.army.mil/html/forcestruc/lineages/branches/chem/002cmbn.htm>.
- Brophy, Leo P. 1956. "Origins of the Chemical Corps." *Military Affairs* 20 (4): 217–26. <http://www.jstor.org/stable/1983705>.
- Cochrane, Rexmond C. 1978. *The National Academy of Sciences: The First Hundred Years, 1863-1963*. Washington, D.C., USA: The National Academy Press. <https://doi.org/10.17226/579>.
- Defense Technology. 2002. "Defense Technology Federal Laboratories Trademark." https://tsdr.uspto.gov/#caseNumber=76340869&caseSearchType=US_APPLICATION&caseType=DEFAULT&searchType=statusSearch.
- Dickey, Robert. 2015. *Goliath of Panama: The Life of Soldier and Canal Builder William Luther Sibert*. Acclaim Press. <https://books.google.com/books?id=EcI2jgEACAAJ>.
- Edgecomb, J. 2001. *Historical Dictionary of the U.s. Army*. Greenwood Press. <https://books.google.com/books?id=ygqNt3ra-vYC>.
- Eisenhower, Dwight. 1961. "Farewell Address." <https://www.c-span.org/video/?15026-1/president-dwight-eisenhower-farewell-address>.
- Feigenbaum, Anna. 2014. "100 Years of Tear Gas: A Chemical Weapon Drifts Off the Battlefield and into the Streets." *The Atlantic*, August. <https://www.theatlantic.com/international/archive/2014/08/100-years-of-tear-gas/378632/>.
- . 2018. "How Lobbyists Normalized the Use of Chemical Weapons on American Civilians; or, How We Learned to Stop Worrying and Love the Gas." *Longreads*, February. <https://longreads.com/2018/02/12/how-lobbyists-normalized-the-use-of-chemical-weapons-on-american-civilians/>.
- Gross, Daniel A. 2015. "Chemical Warfare: From the European Battlefield to the American Laboratory." *Distillations*, April. <https://www.sciencehistory.org/distillations/magazine/chemical-warfare-from-the-european-battlefield-to-the-american-laboratory>.
- Harris, P. C. 1921. *Military Laws of the United States (Army)*. Document (United States. War Dept.) 1. Washington, D.C., USA: U.S. Government Printing Office. <https://books.google.com/books?id=XmkIRk7gscQC>.
- J. Harron. 1947. "Federal Laboratories, Inc. V. Commissioner." <https://www.leagle.com/decision/194711588ebtc115011027>.
- Jones, Daniel P. 1978. "From Military to Civilian Technology: The Introduction of Tear Gas for Civil Riot Control." *Technology and Culture* 19 (2): 151–68. <http://www.jstor.org/stable/3103718>.
- Langer, William L. 1965. *Gas and Flame in World War I*. New York, NY, USA: Alfred A. Knopf.

- Levinson, Jonathan. 2020. "Donavan La Bella, Man Shot by Us Marshals in Portland, to Be Released from Hospital," July. <https://www.opb.org/news/article/donavan-labela-portland-condition-shot-head-federal-officer/>.
- McGarry, William A. 1921. "Philadelphia's Tear Bombs and Mobs." *Scientific American* 125 (12): 197, 209–10. <https://www.jstor.org/stable/24980393>.
- New York Times. 1921a. "Two Hundred Philadelphia Policemen Weep in Flight from Tear Gas in Sham Attack." *The New York Times*, July, 1.
- . 1921b. *The New York Times*, July.
- . 1921c. "Police to Use Tear Gas." *The New York Times*, October, 17.
- . 1932. "VAN H. MANNING Sr, Engineer, Dies at 70." *The New York Times*, July. <https://www.nytimes.com/1932/07/14/archives/van-h-manning-sr-engineer-dies-at-70-head-of-bureau-of-mines-during.html>.
- OpenCorporates. 2020. "Federal Laboratories, Incorporated." https://opencorporates.com/companies/us_de/148905.
- Pershing, J. 1931a. *My Experiences in the World War*. Vol. 1. New York, N.Y., USA: Fredrick A. Stokes.
- . 1931b. *My Experiences in the World War*. Vol. 2. New York, N.Y., USA: Fredrick A. Stokes.
- Russell, Edmund P. 1996. "Speaking of Annihilation": Mobilizing for War Against Human and Insect Enemies, 1914-1945." *The Journal of American History* 82 (4): 1505–29. <http://www.jstor.org/stable/2945309>.
- Simonis, Juniper L. 2020. "Spread of Munitions."
- Steuben, John. 1950. *Strike Strategy*. New York, NY, USA: Gaer Associates, Inc. <https://archive.org/details/strikestrategy00steurich/mode/2up?view=theater>.
- US Army. 1918. "Chemical Warfare Service Logo." https://en.wikipedia.org/wiki/Chemical_Corps#/media/File:Chemical_Branch_Insignia.svg.
- . 1940. "2nd Chemical Battalion Distinctive Unit Insignia." https://heraldry-wiki.com/heraldrywiki/index.php?title=2nd_Chemical_Battalion,_US_Army.
- Vilensky, Joel A., and Pandey R. Sinish. 2005a. "Weaponry: Lewisite — America's World War I Chemical Weapon." *MHQ: The Quarterly Journal of Military History*, no. Spring. <https://www.historynet.com/weaponry-lewisite-americas-world-war-i-chemical-weapon.htm>.
- . 2005b. *Dew of Death: The Story of Lewisite, America's World War I Weapon of Mass Destruction*. Indiana University Press. <https://books.google.com/books?id=cFb9LjZUw0C>.
- War Department. 1917. "General Order 108."
- Witte, R. S. 2001. *Historical Dictionary of the U.S. Army*. Greenwood Press. <https://books.google.com/books?id=ygqNt3ra-vYC>.