

REGULATION U.S. FENCING BAYONETS, 1852 - 1915

by Ralph E. Cobb



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This article is not a definitive work on the subject, but is intended to tie together existing published material, supplemented by additional evidence, to fill some of the gaps in what is understood about production of regulation U.S. fencing bayonets at the national armories. The article incorporates information from published works by Brophy, Flayderman, Frasca, Hardin, Marsden, Reilly, and Schmidt. It also provides additional information from over 80 reports of the Ordnance Dept. and other period documents that I have been able to access online, spanning the period 1853-1917.

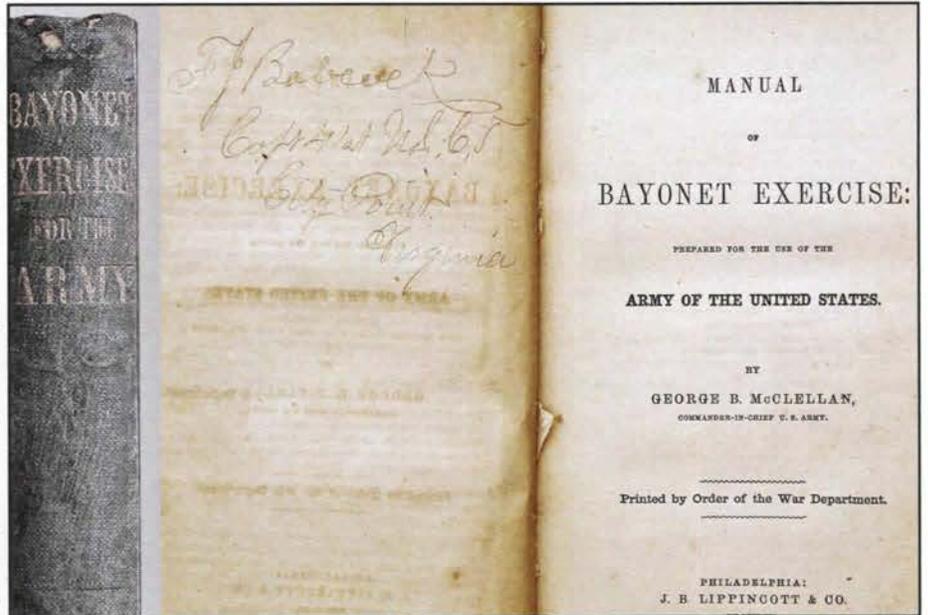


Figure 1: This 1862 copy of McClellan's manual was used to train African-American soldiers of the 41st USCT.

The impetus for a regulation fencing bayonet arose from the Army's 1852 adoption of the *Manual of Bayonet Exercise: Prepared for the Use of the Army of the United States*. Although often credited as the author, (then) Captain George B. McClellan translated material written earlier by French fencing authority, A.J.J. Possellier (who went by the pen name A. Gomard). Possellier had written a book on fencing in 1845, entitled: *La Theorie de l'Escrime* (The Theory of Fencing). In 1847, Possellier adapted his training methods to the bayonet in a new book: *L'Escrime a la Baionnette ou Ecole du Fantassin* (Fencing with the Bayonet or School of the Infantryman). It was from this latter book that McClellan translated the material that appears in his manual.

I found no official Ordnance Dept. nomenclature designating 19th Century fencing bayonet models or types. During the 20th Century, the first new type was designated "model of 1906." Except for one odd reference, the M1906 designation did not change when subsequent design modifications occurred. In the absence of official nomenclature, I use the Type I, II, and III socket bayonet designations adopted by Hardin and Reilly; and Hardin's M1909, and M1912 designations, since these are most widely understood by readers.

Type I Fencing Bayonet

The first regulation fencing bayonets were fabricated from .69 caliber M1816 bayonets. They consisted of a socket where the blade was mostly cut away, then modified into a box receptacle that accepted a flexible whalebone (baleen) blade with a leather-covered India rubber (natural rubber), gutta-percha (a natural latex-like polymer), or cork ball at the end. Baleen is from the whale's mouth, so is not actually bone. Its flexibility, pliability, and strength were much like modern plastics. Unlike bone, baleen can be black, brown, and/or white. "Whalebone" is the commonly accepted term for baleen (with "whale bone" the accepted term for actual bone).¹

In his book, *U.S. Military Flintlock Muskets: The Later Years*, Peter Schmidt summarizes figures from Watervliet Arsenal monthly returns documenting production of Type I fencing bayonets. According to Schmidt, 1,500 of these bayonets were produced during calendar years 1852 and 1853 for use at the U.S. Military Academy, West Point (West Point).²

The fiscal year (FY) 1852-53 Report of the Colonel of Ordnance indicates fabrication of "1,000 muskets arranged for bayonet exercise" at Watervliet Arsenal.³ This

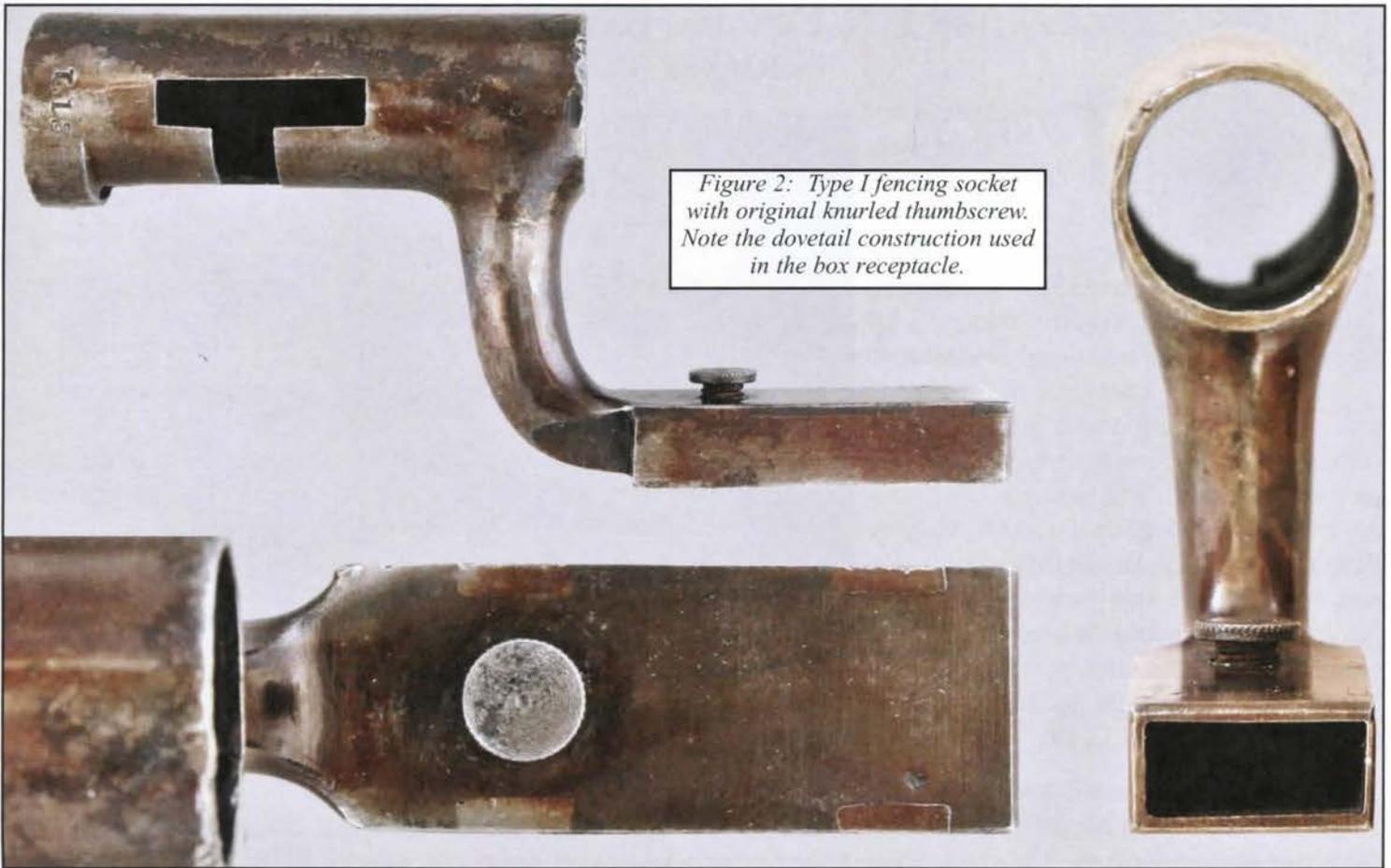


Figure 2: Type I fencing socket with original knurled thumbscrew. Note the dovetail construction used in the box receptacle.

report also includes fabrication of 50 fencing bayonets at Washington Arsenal (site of present-day Fort Lesley. J. McNair). I could not locate the 1853-54 report. Schmidt's source was Monthly Statements of Articles Fabricated at the [Watervliet] Arsenal, 1842-1861.⁴ While there may be some timing differences between Watervliet's monthly and the Ordnance Dept's. annual reports, Schmidt's total is undoubtedly correct. Given the 19-year span of records in the file studied by Schmidt, it appears that 1852 and 1853 comprised Watervliet's only production of fencing bayonets.

The Type I Fencing Bayonet pictured in Figure 2 has the alphanumeric marking near the bridge that Schmidt refers to in his work, but is also marked "W" over "a" and "52." near the front of the socket. Whether this marking signifies "Watervliet Arsenal" or "Washington Arsenal," and "1852" is unknown.



Figure 3: "W" over "a" and "52" marking on Type I fencing socket.

The 1858-59 Report of the Colonel of Ordnance indicates that "60 fencing arms" were made at Springfield Armory (SA) that year. Whether these were fencing muskets, fencing bayonets, or both is unclear (vagueness in reporting repeatedly hinders understanding of fencing muskets and bayonets throughout their entire production history).

This may not represent a complete accounting of Type I production due to limited availability of pre-Civil War reporting. I found no evidence of manufacture or procurement of fencing bayonets or muskets during the Civil War.⁵

Although period reports consistently attribute production of Type I fencing bayonets for use at West Point, 1,500 fencing bayonets was wildly in excess of West Point's needs, given the average graduating class size during the period between the Mexican War and Civil War was less than 50 officers.⁶ From its inception in 1812 until the early 20th Century, Ordnance Dept. practice was to hold produced goods at the arsenals and issue only after a requisition was approved by the Ordnance Dept. in

Washington D.C. Type I fencing bayonet sockets remain fairly common today and are typically found in very good condition, suggesting that many saw little use or may never have been issued.

Type II Fencing Bayonet

Type II fencing bayonet sockets were fabricated similarly to the Type I, but fabricated from M1855 and M1873 bayonets. They consisted of a socket where the blade was mostly cut away, then modified into a box receptacle that accepted the same flexible whalebone blade used with the Type I fencing bayonet (although the exact construction of whalebone blades varied, they were all sized to fit the same box receptacle).

It appears that introduction of the Type II fencing bayonet occurred in 1870.

In his book, *The .45-70 Springfield, Book II 1865-1893*, Frasca documents correspondence in February 1870, by Col. (Bvt.) Silas Crispin, Commander of the New York Ordnance Agency, requesting 20 new fencing muskets. In April, the new fencing muskets were shipped, accompanied by fencing bayonets. However, the all-wood fencing muskets had .58 caliber bayonet mounts, while the accompanying bayonets had .69 caliber sockets!

Col. Crispin informed SA of the problem and requested provision of .58 caliber fencing bayonets. Col.

(Bvt.) J. G. Benton (commander of SA) acknowledged Col. Crispin's request, adding that "I think that it will be best to have clasps on the sockets for the fencing muskets." Although Col. Crispin referred to the unusable .69 caliber bayonets as the "old model of 1822" [which one would tend to associate with the Type I fencing socket], Col. Benton's reply suggests that the unusable .69 caliber bayonets may have included a locking ring. It appears that, while Benton was willing to produce .58 caliber sockets, he intended to retain or introduce a locking ring as part of the design.⁷

The 1869-70 Statement from the Ordnance Dept. on Manufacture and Issue of Arms indicated fabrication at SA of "20 wooden guns for bayonet fencing" and "40 bayonet-sockets for bayonet fencing." (20 unusable .69 caliber sockets and 20 .58 caliber replacements?)

In 2014, I came into possession of a partially-completed .69 caliber fencing socket made from a M1835 bayonet. This example is likely an artifact of the mistake that occurred at SA in 1870. It was never completed, in that the box receptacle was not constructed and the rough tool marks remain. The original "U.S." ricasso mark and face flute are still partially visible. It was likely in-process at SA in 1870 and was abandoned due to the agreement to produce fencing bayonets of .58 caliber.

The 1872-73 Annual Report of the Chief of

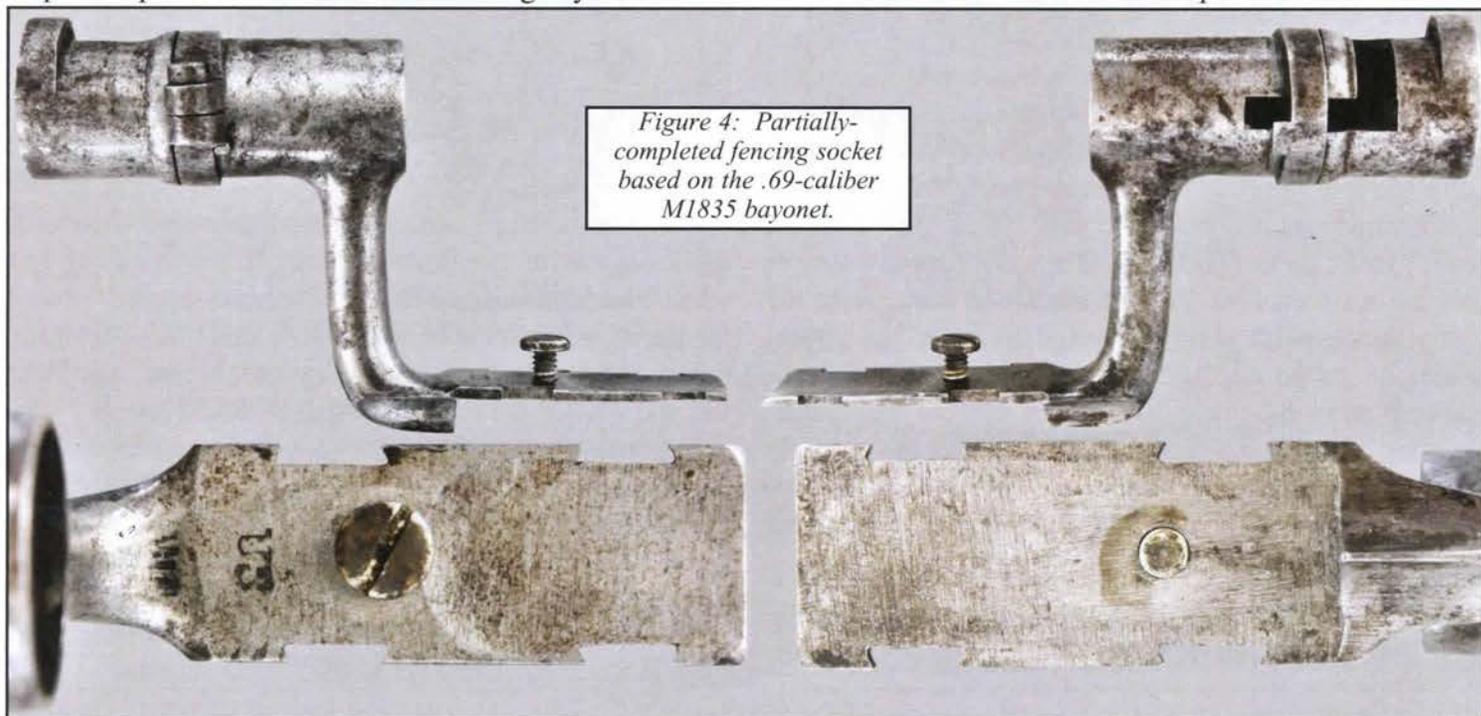


Figure 4: Partially-completed fencing socket based on the .69-caliber M1835 bayonet.

Ordnance (Annual Report) includes fabrication of “6 wooden guns for bayonet fencing” and “12 bayonet sockets for bayonet fencing.” The 1873-74 Annual Report included fabrication of “20 bayonet sockets for bayonet fencing.” The 1874-75 Annual Report indicates issue (not fabrication) of “10 flintlock muskets with whalebone bayonets.” The latter 10 would appear to be Type I fencing bayonets already on hand.

The 1875-76 and 1876-77 Annual Reports appear to support much of what SABC-member Joseph Marsden presented in his SABC *Journal* article, *The 1876-77 Whalebone Fencing Bayonet*, when he came into possession of a Type II fencing socket made from a M1873 bayonet. The 1875-76 report includes three separate entries indicating fabrication of:

- “126 Fencing Muskets and Bayonets;”
- “75 Fencing Bayonets;” and,
- “120 fencing muskets.”

The 1876-77 report has a single entry indicating fabrication of “44 Fencing Muskets and Bayonets.”

This manner of reporting suggests that the 170 (126 + 44) fencing bayonets may have been a new pattern (.45 caliber), necessitating fabrication of an identical number of related muskets, where the 75 fencing bayonets and 120 fencing muskets were fabricated to supplement an existing pattern (.58 caliber) already in service.

Marsden cites 1876 correspondence from Frasca’s book, where Col. Benton initially responded negatively to a request for fencing muskets made from regular rifle parts (preferring the wooden gun), then reversed himself, ultimately suggesting fabricating fencing muskets from condemned and obsolete rifle parts. In a May 1, 1876, letter to the Chief of Ordnance that accompanied a sample fencing musket, Col. Benton explained that, while the “whalebone gutta percha covered bayonet” is current issue, he proposed “that a more serviceable fencing bayonet may be made by cutting off the old blade, drawing it to give elasticity and turning over the point for a button. ...I would suggest that this bayonet be subjected to trial, say at Watervliet, to see that it meets with all the requirements of the service.”⁸

This led Marsden to posit that the 170 .45 caliber Type II sockets were probably the last of the whalebone

sockets and that Benton’s suggested new fencing bayonet design was produced from 1879 forward. In his book, *American Socket Bayonets and Scabbards*, Reilly felt similarly, indicating that 1878-79 production at SA included “32 fencing bayonets, leather covered.”⁹ I was unable to find evidence of this production. However, I do not discount Reilly’s claim, as I was unable to locate one of the Ordnance Dept. reports that may have contained this information. I found no evidence mentioning the “covering” of fencing bayonets prior to 1897. Perhaps, the 32 reported by Reilly were made for trial (which Col. Benton had suggested).

While there is no doubt that Benton’s suggested design is the Type III fencing bayonet, evidence supports that production of this new type did not begin until much later. The period from 1877 to 1897 was a time when the Regular Army was small (24,000-28,000),¹⁰ military budgets were meager, and the need to continue issuing a bayonet was actively debated. Reported production and issue of fencing bayonets during this period was minimal and sporadic. (ref. Table 1)

As explained in correspondence reported by Frasca, where infantry-length fencing muskets were shipped to West Point for trial in 1877. They were rejected and West Point requested continued provision of cadet-length fencing muskets.¹¹ As a result, between 1879 and 1890, Ordnance Dept. reports distinguish infantry fencing muskets and bayonets from cadet fencing muskets and bayonets.

Annual reports only account for manufacture of 195 .58 caliber and 170 .45 caliber Type II fencing sockets from 1870-90. While this quantity seems quite small compared to other types, Type II fencing sockets are uncommon today.

I have been unable to find any period reports associated with the manufacture or purchase of the whalebone blades. In 1876, Col. Benton estimated the cost for the whalebone blade at \$1.00.¹² The 1885-86 annual report of SA’s issuing “fencing bayonet blades” indicates that the whalebone blade was still in use as late as 1886. Whalebone blades are very rare today. Because baleen is a protein, it is susceptible to destruction by insects, fungal growth, and bacteria. India rubber, gutta-percha, and cork are also natural materials, subject to decay. As demand for their issue dwindled, arsenal stocks of whalebone blades may have simply spoiled in storage prior to the Type I and Type II fencing sockets being sold off as surplus.

Table 1

Reported Fencing Bayonet Production & Issue Fiscal Years 1877–1897				
Fiscal Year	Fabrication		Issue	
	Bayonets	Muskets	Bayonets	Muskets
1877-78	0	0	0	0
1878-79	0	0	30	30
1879-80	0	0	7 (cadet)	0
1880-81	0	0	7	4 (cadet)
1881-82	24	18 (stocks)	24	18 (stocks)
1882-83 thru 1884-85	0	0	0	0
1885-86	0	0	12 (blades)	12
1886-87	12 (cadet)	10 (cadet) 10 (stocks)	12 (cadet)	10 (cadet) 10 (stocks)
1887-88 & 1888-89	0	0	0	0
1889-90	24 (cadet)	20 (cadet) 50 (stocks, cadet)	24 (cadet)	20 (cadet) 50 (stocks, cadet)
1890-91 & 1891-92	0	0	0	0
1892-93	0	0	8	2
1893-94 thru 1896-97	0	0	0	0

Type III Fencing Bayonet

The Type III fencing bayonet was Benton's 1876 design, doing away with the box receptacle and whalebone blade. Instead, the entire fencing bayonet was steel, made by cutting off a portion of the blade, drawing out what remained, and turning over the point to form a vertical loop (button). A wooden disc was inserted into the button, then the button and blade covered in leather for safety.

Evidence supports that all post-Civil War manufacture of fencing bayonets and fencing muskets appears to have occurred at SA. Rock Island Arsenal's (RIA's) role with respect to Type III fencing bayonets (and subsequent types) appears limited to fabrication and installation of leather covers in their Harness and Accouterments Shop (Harness Shop).

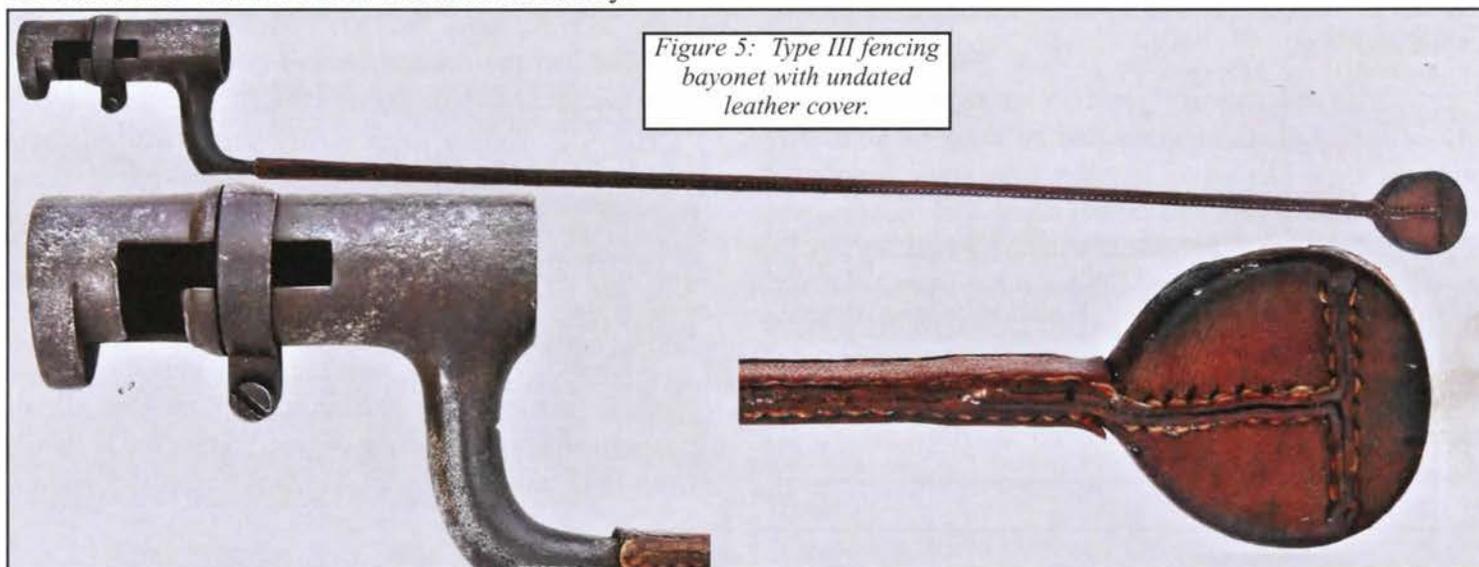


Figure 5: Type III fencing bayonet with undated leather cover.

The first sizeable manufacture of the Type III fencing bayonet appears to have occurred in 1897-98. The Annual Statement of Expenditures at Springfield Armory (Statement of Expenditures) indicates the fabrication of "2,008 fencing bayonets (uncovered)" and "2,000 fencing muskets, model 1897." The qualifier "uncovered" suggests that the bayonets produced were intended to have a cover, but did not in this instance. The use of "model 1897" as the designation for the accompanying fencing muskets suggests that these represented the first production of a new type. However, the Ordnance Dept. reporting did not elaborate on the specifications of these muskets.

When the Spanish-American War broke out, the Army had minimal stocks of serviceable leather infantry equipment on hand due to many years of budget austerity. The arsenals were given no advance warning of the massive mobilization of volunteers. The RIA Harness Shop was overwhelmed with demands to produce basic infantry equipment (belts, cartridge boxes, etc.) and over 100,000 M1873 socket bayonet scabbard frogs (hook attachment type for Mills belt) to equip mobilized state volunteers.¹³ Although fencing bayonets are not expressly mentioned, the evidence is clear that RIA simply did not have the capacity to fabricate and apply the covers at this critical time.¹⁴

For this reason, the first Type III fencing bayonets were apparently issued uncovered. This explains why no examples with 1897 or 1898 cover dates exist and why known inspector's initials observed on Type III covers belong to RIA inspectors appointed after the Spanish-American War.

The absence of Type III fencing bayonets with .45-caliber sockets suggests that all muskets associated with the Type III fencing bayonet were made using parts from obsolete .58 and .50 caliber rifles. Col. Benton, who suggested the use of condemned parts for making fencing muskets, was commanding officer at SA from 1866 until his death in 1881. Although he had passed from the scene prior to 1897, it is likely that his suggestion was carried out when this sudden, but brief, flurry of fencing bayonet and musket production occurred in response to the Spanish-American War.

Military reforms implemented under Secretary of War Elihu Root (Root Reforms) resulted from lessons learned during the Spanish-American War and had a sweeping impact on the U.S. Army. Along with radical changes to organization and logistics, the Root Reforms also changed the way soldiers were trained.

Circa 1900, the Ordnance Dept. ended what had been a longstanding practice of requiring all supply requisitions go through the Ordnance Dept. and moved to a decentralized model that they termed "direct issue," where most basic supplies including "fencing equipments" were requested directly from the arsenals by department commanders.¹⁵ The 1904 Ordnance Supply Manual specified issue of 8 fencing bayonets per infantry company and extended this same issue to coast artillery, engineers, and ordnance detachments. It further required that "Fencing equipments will be renewed from time to time as required. They are not expendable and must be submitted to an inspector before being dropped from property returns."¹⁶

Type III leather cover markings are comprised of some or all of the following: year, "R.I.A." or "Rock Island Arsenal," and, inspector's initials. Attributing the dates on leather covers as relating to the manufacture of the fencing bayonet, itself, led to conclusions that Type III production began much later than actually occurred.

Type III fencing bayonets had replacement covers applied and this practice continued long after production of these bayonets had ceased. For example, the Type III fencing bayonet shown in Figure 5 bears the inspector initials "H.E.K." and "W.T.G." This undated example must have had the present leather cover applied 1917-1920 when these two inspectors were together at RIA:

Henry E. Kelsey - reportedly began working at RIA in September of 1892 in the Harness Shop. He became a leather goods inspector in 1901. He remained at RIA until 1920, when he moved, along with the RIA Harness Shop, to the Jeffersonville, Indiana, Quartermaster Depot.¹⁷

Walter T. Gorton - was inducted into the U.S. Army Ordnance Corps in August 1917, the year after he received his engineering degree. He served at RIA from 1917 until August 1921, when he transferred to SA.¹⁸



Figure 6: Inspector's initials on undated Type III fencing bayonet cover.

After six years with no reported fabrication of fencing bayonets or muskets, production resumed in 1903 or 1904. Resumption coincided with rejection of the M1903 rod bayonet. It was also influenced by observers of Japanese bayonet tactics during the Russo-Japanese War of 1904-05, who brought back to the Army a renewed appreciation for the bayonet.¹⁹

The 1903-04 Annual Report indicated that "700 sets infantry fencing equipments" were under manufacture. However, it is not clear whether fencing bayonets or muskets were included; or whether this production included only gloves, masks, and plastrons. (Named after the flat bottom of the turtle shell, the plastron is the padded chest protector worn by fencers.)²⁰

The 1904-05 Report of the Chief of Ordnance indicated the following:

"Fencing bayonets - The triangular bayonet formerly used with the Springfield rifle has been utilized in the manufacture of fencing bayonets. The supply of these bayonets having been exhausted, a new design conforming in general appearance to the model of 1905 bayonet has been adopted, and for future manufacture this design will be used.

Fencing muskets - These muskets will hereafter be made of Springfield rifles, caliber .45, altered to the length and weight of the United States magazine rifle, model of 1903. The method employed in the manufacture of fencing bayonets has been greatly improved during the year."

The 1904-05 annual Statement of Expenditures indicates the fabrication of "500 fencing bayonets." There was no report of fencing musket production.

The 1905-06 Report of the Chief of Ordnance repeats the 1904-05 report's forward-looking statement regarding fencing bayonets verbatim. This suggests that production of the existing type continued and introduction of a new fencing bayonet design had been delayed. The 1905-06 annual Statement of Expenditures indicates the fabrication of "800 fencing bayonets" and "500 fencing muskets."

In his *Guide to Antique American Firearms*, Flayderman describes production of approximately 1,500 shortened Trapdoor-based fencing muskets, ca. 1905-06, (which he designates Model 1905) that were M1903-length with a bayonet stud brazed to the side of the barrel for mounting a socket bayonet.²¹ This further supports that Type III production continued through 1905-06.

The first of three areas of research that remain problematic involves precisely when Type III production actually ended and production of the new M1906 fencing bayonet began.

The 1906-07 Report of the Chief of Ordnance mentions that fencing bayonets were produced, but not the type or quantity. The 1906-07 Statement of Expenditures indicates the fabrication of "3,008 fencing bayonets and "2,508 fencing muskets." With no description or type designation, there is no way to determine what proportion were Type III fencing bayonets and what proportion were the first of the M1906 fencing bayonets.

In his book, *The M1903 Springfields*, Brophy indicates that one of the M1906 fencing bayonets illustrated had a leather cover dated 1907.²² There was no fabrication of fencing bayonets or muskets reported in 1907-08, which means that at least some of the 3,008 fencing bayonets produced during 1906-07 were the M1906.²³

Several factors suggest that the majority of 1906-07 fencing bayonet production was likely comprised of Type III sockets. These include:

- 1905-06 production of a M1903-length fencing musket that mounted a socket bayonet;
- 1906-07 reports do not mention the M1906 or manufacture of a new fencing bayonet or musket type;

- Type III sockets are the second most commonly-encountered U.S. fencing bayonet today, suggesting many were produced; and,
- Had the M1906 entered service on a large scale in early 1907, there would have been time for the excessive breakage issue to surface and cause a design change or production halt before 1908-09's reported fabrication of 4,900 M1906 bayonets and 4,000 leather covers.

The Type III was a successful design that would likely have remained the Army's fencing bayonet had there been additional M1855 bayonets from which to continue fabricating them. Due to problems with subsequent fencing bayonet designs, the Type III remained in service through the First World War, supplemented primarily by the M1912 fencing bayonet. The present-day survival rate of the Type III, despite service during two major wars, is a testament to Benton's design.

Both Hardin and Reilly document a Type III fencing bayonet variant with an added basal collar and non-standard socket diameter. Reilly designated this variant the Type IV. My research has not shed any light on when, where, and why these were made.

M1906 Fencing Bayonet

The M1906 represented a significant departure from earlier fencing bayonets, in that the M1906 was completely fabricated, using no part of an existing service bayonet in its construction. It was intended to better resemble the M1905 bayonet in having a hilt with a M1905-like crosspiece at each end. A set screw in each of the muzzle rings secured the bayonet to its fencing musket. The blade was fabricated out of flat steel, with a loop at the end. Like the Type III, the blade and point were covered completely with leather. Unlike the Type III, with its horizontal blade orientation and vertical button, the M1906 had a vertical blade orientation (like the M1905 bayonet) and a horizontal button.

The first reported M1906 production occurred during 1908-09, when the Statement of Expenditures indicates fabrication of "4,900 fencing bayonets, model 1906," "1,300 fencing muskets, model 1906," and "300 set screws for fencing bayonet." The 1908-09 Statement of the Cost of Guns and Other Articles Manufactured by

the Government (a report to Congress on arsenals other than SA) reported fabrication at RIA of "4,000 Covers, leather, for fencing bayonets."

The M1906 fencing bayonet quickly became problematic. The 1908-09 Report of the Chief of Ordnance, dated November 10, 1909, indicated the following:

"Fencing equipment-The difficulty experienced with fencing bayonets on account of breakages during fencing bouts has, it is believed, been overcome by doubling the thickness of the blade and removing the leather cover, leaving only the knob covered. It is believed that this blade will stand any rough usage to which it may be subjected when used for the purpose intended, and that there is still enough elasticity in the blade to prevent serious injury to the fencers."

M1909 Fencing Bayonet

The 1909-10 Statement of Expenditures indicates fabrication of "2,600 fencing bayonets, model of 1906," "1,600 fencing muskets, model of 1906," and "1,000 set screws for fencing bayonets." The 1909-10 Statement of the Cost of Guns and Other Articles Manufactured by the Government reported fabrication at RIA of "899 covers for fencing bayonets."

While it is unstated when the M1909 design changes began production, the aggregate number of leather covers produced during 1908-09 and 1909-10 essentially equals that of the 1908-09 production of M1906 fencing bayonets, suggesting that the fencing bayonets reported beginning in 1909-10 were probably not leather covered (i.e., M1909, not M1906).

The 1910-11 Statement of Expenditures indicates fabrication of "2,000 fencing bayonets, without covering," "1,000 fencing muskets, model of 1906," "3 fencing bayonets, special design," and "28 set screws for fencing bayonets." The 1910-11 Statement of the Cost of Guns and Other Articles Manufactured by the Government reported fabrication at RIA of "10 Covering, extra, for tips of fencing bayonets, model of 1909." (This was the only observed reference to M1909 in period reports.)

The M1909 apparently did not hold up any better than the M1906. The 1911-12 Report of the Chief of

Ordnance, dated September 1, 1912, indicated the following:

“Fencing equipment - The difficulty experienced with fencing bayonets on account of breakages during fencing bouts has, it is believed, been overcome by the adoption of a fencing bayonet, the blade of which is reduced in thickness, made more flexible and spring-tempered, in accordance with the recommendation of the master of the sword, United States Military Academy. The entire blade is covered with leather to protect the fencer from injury in case of breakage.”

The above description of the new design does not explicitly mention the twisted horizontal blade, but otherwise fits the M1912 fencing bayonet.

The following critique contemporary to the M1909's service was published in a periodical of the day, *Infantry Journal*, by 2nd Lt. C. N. Sawyer:

“In November, 1912, I was directed by my company commander to take charge of bayonet fencing instruction in Company “M,” 30th Infantry, and “to produce the best bayonet fencing company in the Regiment.”

The first two months of training showed that the Ordnance bayonet was useless for our work for the following reasons:

1. It was too easily broken;
2. Broken in a lunge or thrust, it was very dangerous and inflicted ugly wounds;...”²⁴

The 1911-12 Statement of Expenditures reports the beginning of what would be a two-year hiatus in fencing bayonet fabrication, reporting production of only “6 fencing bayonets special design” and “34 fencing bayonet set screws.” The 1912-13 Statement of Expenditures indicates fabrication of only “220 screws, set, for fencing bayonets,” “18 stocks for fencing muskets,” and repair of “200 stocks for fencing musket, model of 1906.”

The 1912-13 Report of the Chief of Ordnance, dated September 1, 1913, indicated the following:

“Fencing equipment - Experiments to determine the advisability of adopting new outfits for bayonet fencing have been continued throughout the year. The tests of the bayonets at the School of Musketry

have not yet been completed.”

During this period, Annual Reports of the Inspector General repeatedly complained of soldiers' poor bayonet skills and the lack of energy shown by leadership toward improving bayonet training. Poor equipment was often cited as a contributing factor.²⁵ This was undoubtedly true in light of the successive failures of the M1906 and M1909 designs.

The second area of research that remains problematic involves the M1909s blade configuration. Whether the M1909 had the straight, vertical blade of the M1906 or introduced the twisted, horizontal blade seen on the M1912 fencing bayonet? Many references conclude the latter to be the case, probably because examples of the straight blade design are so rare today. Examples of the twisted blade design with no covering or only the knob covered are encountered far more frequently.

Evidence supports that the M1909 was exactly what the Ordnance Dept. description says it was, a M1906 with a thicker straight blade and only the knob (button) covered:

- The Type III fencing socket and M1912 fencing bayonet both had a horizontal blade orientation and neither experienced excessive breakage (horizontal worked).
- Thick blade or thin, the M1906 and M1909 both experienced excessive breakage (thickness wasn't the cause).
- The M1906 blade was covered and M1909 was not (covering wasn't the cause).

This points to the vertical blade orientation as a likely causative factor in the breakage issues suffered by both the M1906 and M1909.

The redesign of the M1906 to M1909 occurred rapidly, where it took two years of concerted effort to get from the M1909 to M1912. One would expect that the design change of greater magnitude occurred between the M1909 and M1912 designs, not between the M1906 and M1909.

In his book, *The American Bayonet*, Hardin illustrates two thickness grinding gauges identically-marked “Fencing Bayonet M. 06. Grinding.” The

narrower gauge is undated, while the wider (i.e., thicker) gauge is dated "1909." It appears that they simply took an existing thickness gauge and widened the measuring slots, which also suggests that the only change to the M1906 was blade thickness. If the M1909 had a twisted M1912-like blade, it seems that it would have required gauging at different points than the M1906, which would have necessitated a new gauge, not a simple modification of the existing M1906 gauge.

A third area of research that remains problematic involves disposition of the 9,500+ M1906 and M1909 fencing bayonets apparently produced. Their rarity, today, is similar to that of the M1903 Rod-Bayonet Rifle or the Pedersen Device, where only a few original examples survive. However, no official documentation has been found explaining what was done. It is evident that they were not retained in stores and sold surplus like the commonly-encountered Type I, Type III, and M1912 fencing bayonets. They couldn't all have broken, so where did they go?

I believe that the most logical explanation of why

the M1906 and M1909 fencing bayonets are so rare today is the simple one: they were dangerous. They were probably either scrapped entirely or, perhaps, the blades scrapped and the hilts re-used in fabricating M1912 fencing bayonets.

The lack of definitive evidence regarding the M1909 blade configuration and disposition of the M1906 and M1909 fencing bayonets are loose ends that are difficult to tie up with confidence.

M1912 Fencing Bayonet

This final fencing bayonet type used a similar hilt and attachment system of the M1906 and M1909, but incorporated a different blade design. Instead of the vertical blade orientation and horizontal loop, the M1912 blade emerged from the hilt and twisted 90-degrees to a horizontal orientation terminating in a vertical loop. The blade was flexible and was completely covered in leather. Despite the significant design changes, ordnance reports continued to designate it M1906.

The 1913-14 Report of the Chief of Ordnance, dated



October 1, 1914, indicated the following:

“Fencing equipment - Experiments to determine the advisability of adopting new outfits for fencing have been continued throughout the year, with favorable results. The test of a bayonet known as the Baldwin fencing bayonet was completed at the School of Musketry during the year. Since that time this department has submitted for test other models of fencing bayonets, which it is thought compare favorably with the Baldwin; one of these other models is of the design used in the British Army, and a number thereof have been manufactured at the Springfield Armory and forwarded to the School of Musketry for test. But for the suspension of work at the School of Musketry, due to the concentration of the Second Division in Texas, it is believed greater progress would have been made toward the adoption of a satisfactory fencing equipment.”

Despite this rather non-committal statement, production of fencing bayonets resumed at a high rate. The 1913-14 Statement of Expenditures indicates fabrication of “4,000 fencing bayonets, model of 1906,” “2,100 fencing muskets, model of 1906,” “1,022 set screws for fencing bayonets,” “100 stocks for fencing muskets,” “7 fencing muskets, English model,” and “3 fencing bayonets, experimental.”

The 1914-15 Statement of Expenditures indicates fabrication of “7,000 fencing bayonets, model of 1906,” “3,500 Set screws for fencing bayonet, model of 1906,” and “1,702 Fencing muskets.” The 1914-15 Report of the Chief of Ordnance, dated October 1, 1915, indicated the following:

“Fencing equipment - In accordance with the recommendation of a board of officers convened in the Philippine Department, the Secretary of War approved the use of a wooden gun for instruction in bayonet fencing. These guns are manufactured of native Philippine wood, at the Manila Ordnance Depot, and at the time of their adoption were intended for use in the Philippine Department only. Subsequently, a board of officers from the Second Division... requested that 10 wooden fencing muskets, made at the Manila Ordnance Depot, be shipped to the Second Division.” [in Texas]

The “wooden gun” was well-received by the

Second Division and was formally adopted in 1916 as a replacement for the fencing musket and bayonet. The 1915-16 Report of the Chief of Ordnance, dated October 1, 1916, indicated the following:

“Fencing equipment, Infantry - A fencing outfit for Infantry, which has given satisfaction in extensive tests in the Philippine Islands and in the Southern Department, has been adopted. The fencing musket is made of wood, after a design developed in the Philippine Department; the plastron and gloves are practically the same as those now issued, but the mask has been somewhat modified. Manufacture of this equipment will be undertaken with funds which have become available.”

The 1915-16 Statement of Expenditures indicates fabrication of “7,500 set screws, for fencing bayonet,” and “1,450 fencing muskets.”

Conclusion

This marked the end of the line for production of regulation fencing bayonets. Although no more fencing bayonets and muskets were reported produced, it appears they remained in inventory for some time following the end of the First World War.

To summarize, the production of regulation U.S. fencing bayonets appears to have been as follows:

Table 2

Regulation U.S. Fencing Bayonet Production 1852-1915		
Design	Apparent Production	Production Period
Type I	1,550	1852-1853
M1835	20	1870
Type II*	365	1870-1890
Type III	3,308	1897-1906
Type III and/or M1906	3,008	1906-1907
M1906	4,900	1908-1909
M1909	4,600	1909-1911
M1912	11,000	1913-1915
Total	28,751	

* Includes 195 M1855 and 170 M1873 sockets.

While this article does not answer all of the existing questions regarding production of regulation U.S. fencing bayonets, it provides an end-to-end production history that clarifies some of the confusion resulting from lack of official nomenclature and vagueness in period reports. It identifies when the Type II and Type III fencing bayonets were introduced and explains the existence of an unfinished fencing socket based on the M1835 bayonet. Lastly, it uses available evidence to present a reasoned appraisal regarding production and disappearance of the unsuccessful M1906 and M1909 fencing bayonets, pointing out three problematic areas that would benefit from further research.

Notes:

1. Merriam-webster.com. (2018). *Definition of WHALEBONE*. [online] Available at: <https://www.merriam-webster.com/dictionary/whalebone> [Accessed 24 Oct. 2018].
2. Schmidt, Peter A. *U.S. Military Flintlock Muskets And Their Bayonets*. Andrew Mowbray Publishers, 2007, p. 294.
3. The Ordnance Dept. operated on a July 1-June 30 fiscal year.
4. The Chapter VII endnotes printed in my copy of Schmidt's book are erroneous (a duplicate of the Chapter VIII endnotes). However, I was able to obtain the correct source information from Mowbray Publishers.
5. *Annual Reports of the Secretary of War*, Fiscal Years 1862-63 through 1865-66, inclusive (the latter report included a recap by the Chief of Ordnance of fabrications and purchases covering the 1861-65 War period).
6. *Biographical Register of the Officers and Graduates of the United States Military Academy at West Point, New York, since its establishment in 1802*, third edition, Boston: Houghton, Mifflin, 1891 "Cullum's Register", *Penelope.Uchicago.Edu*, 2018, http://penelope.uchicago.edu/Thayer/E/Gazetteer/Places/America/United_States/Army/USMA/Cullums_Register/home.html. Accessed 24 Oct 2018.
7. Frasca, Albert J, and Charles R Suydam. *The .45-70 Springfield Book II 1865-1893*. Frasca Pub., 1997, pp. 353-355.
8. Marsden, Joseph. *The 1876-77 Whalebone Fencing Bayonet*. *The Journal Of The Society Of American Bayonet Collectors*, Vol 28, Summer, 1999, pp. 6-7.
9. Reilly, Robert M. *American Socket Bayonets and Scabbards*. Lincoln, RI: Andrew Mowbray Publishers, 1990. p. 116.
10. *Selected Manpower Statistics Fiscal Year 2005*, Department of Defense, Defense Manpower Data Center, Statistical Information Analysis Division (DMDC/SIAD), Table 2-11 Active Duty Military Personnel 1789 through Present, p. 40.
11. Frasca, pp. 353-355.
12. Ibid
13. *Annual Report of the Chief of Ordnance FY Ending June 30, 1898*, pp. 14-16 and 61-79.
14. Slattery, Thomas J. *An Illustrated History of the Rock Island Arsenal and Arsenal Island Part 2*. Historical Office, U.S. Army

Armament, Munitions and Chemical Command, Rock Island, Illinois, 1988, pp. 163-171.

15. *Annual Report of the Chief of Ordnance FY Ending June 30, 1898*, pp. 9-10.
16. George L., Lohrer. *Ordnance Supply Manual*. Washington, D.C.: Government Printing Office, 1904. pp. 626-27.
17. Information obtained from the RIA Museum by another collector in 2007 and provided to me at that time.
18. Gorton served in the Ordnance Corps for 30 years, registering over 20 firearms patents and retiring as a Colonel in 1947. During the Second World War, he served in France, leading efforts to gather intelligence on German technological innovations as important industrial and scientific installations were overrun.
19. *Annual Report of the Chief of Ordnance FY Ending June 30, 1905*, pp. 75-95.
20. Merriam-webster.com. (2018). *Definition of PLASTRON*. [online] Available at: <https://www.merriam-webster.com/dictionary/plastron> [Accessed 2 Nov. 2018].
21. Flayderman, Norm. *Flayderman's Guide to Antique American Arms... and Their Values, 6th Edition*. Northbrook, IL: DBI Books Inc., 1994. p. 480.
22. Brophy, Lt. Col. William S. *The Springfield 1903 Rifles*. Mechanicsburg, PA: Stackpole Books, 1985. p. 103.
23. Priority for the SA small arms shop during 1907-08 was conversion of M1903 rod bayonet rifles for the M1905 bayonet and .30-06 cartridge; and production of M1905 bayonets.
24. Sawyer, 2nd Lt. C. N. *The Stiff Bayonet*. *Infantry Journal*, The United States Infantry Association, Washington, D.C. Volume XII, November 1915, pp. 396-405.
25. *Annual Report of the Inspector General*, Washington, D.C.: Government Printing Office, Fiscal Years 1910-11, 1911-12, 1912-13.

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