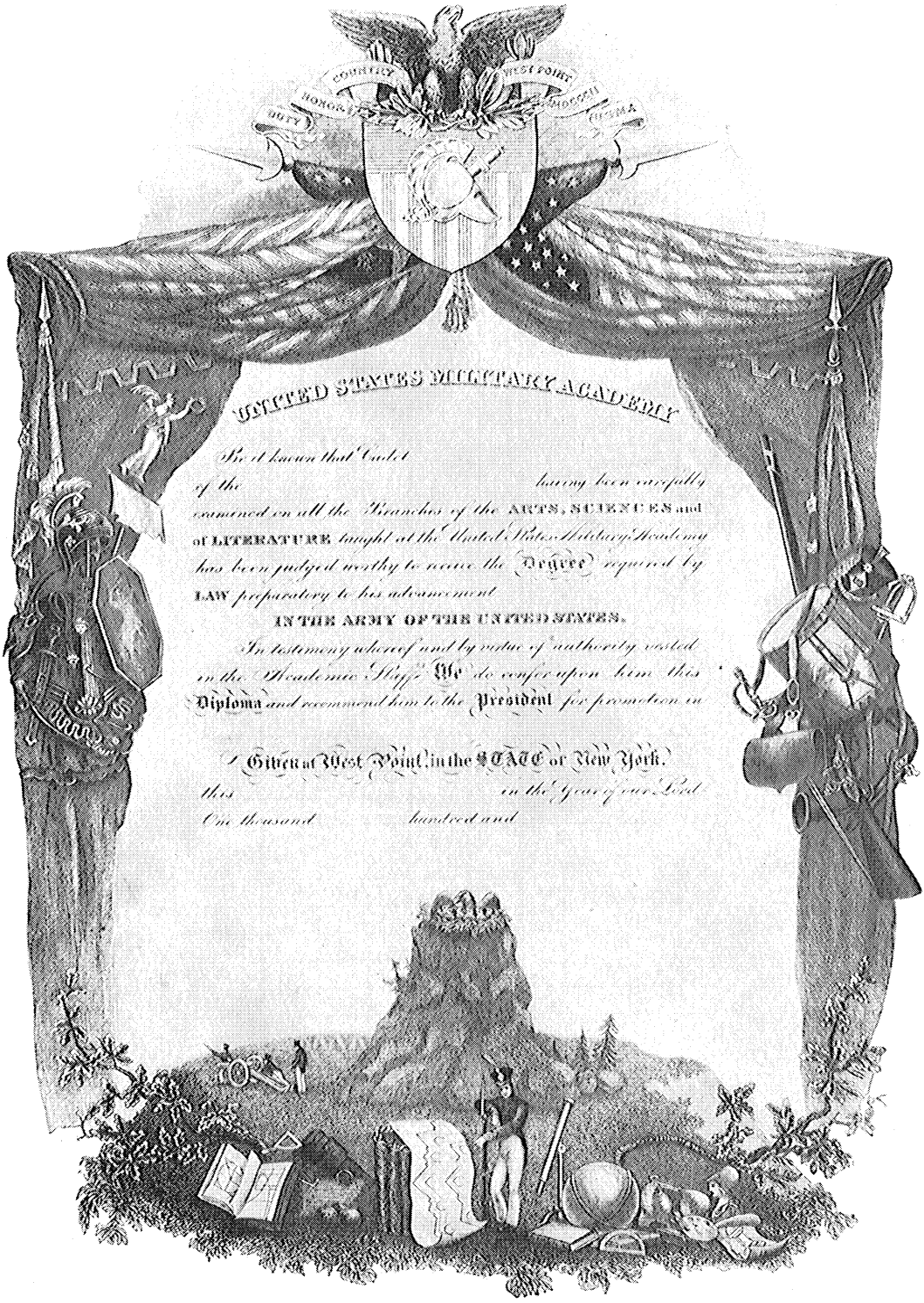


DIPLOMA OF 1899.

The coat of arms replaces an eagle with wings outspread, otherwise there has been no change since 1815.

A TENTATIVE LIST OF TEXT-BOOKS USED IN THE UNITED STATES MILITARY ACADEMY AT WEST POINT FROM 1802 TO 1902.

Compiled by Dr. EDWARD S. HOLDEN and Mr. W. L. OSTRANDER.

A Text-Book is here defined as a volume which has been authorized by the Secretary of War or other competent authority (usually on the recommendation of the academic board) for use in the Academy.

This list has been compiled from the report of the Superintendent U. S. Military Academy for 1896, from the Annual Registers U. S. Military Academy, and from other sources. It is very much more complete than any existing list, but still requires correction.

Those books having a shelf number preceding their titles in this list are owned by the Academy; those not so marked are much desired.

The edition of a text-book owned by the library is here recorded, although an earlier edition may have been the text-book. The last lines of each entry give the authority for including the book in this list.

All these books are shelved together in the library.

Besides the text-books here named, a considerable number of small manuals have been printed by the different departments, from time to time, to facilitate work in the lecture room or to summarize certain parts of the course. All of these are not included in the present list.

An asterisk (*) indicates that the book was used for reference only.

100 P. 19 **Paley (William)**: The Principles of Moral and Political Philosophy . . . 8th ed. Boston, 1815. 1 v., O.

Text-book department of history and ethics, 1820 to 1843.—*Report Board of Visitors*, 1821, *American State Papers*, Military Affairs, Vol. II, p. 661, and *Cadet Register*, 1843, p. 20.

109 T. 30 **Tennemann (?)**: A manual of the History of Philosophy . . . *tr.* from the German by Rev. Arthur Johnson, rev., enlarged, and continued by J. R. Morrell. London, 1852. 1 v., O.

Text-book department of history, geography, and ethics, 1858 to 1861.—*Cadet Register*, 1858, p. 18, and 1861, p. 18.

160 H. 36 **Hedge (Levi)**: Elements of Logick, or a summary of the general principles and different modes of reasoning. Boston, 1840. 1 v., O.

Text-book department of history, geography, and ethics, 1844 to 1847.—*Cadet Register*, 1844, p. 20, and 1847, p. 22.

160 W. 40 **Whately (Richard)**: Elements of Logic, comprising the substance of the article in the Encyclopædia Metropolitana, with additions, etc. Boston, 1848. 1 v., O.

Text-book department of history, geography, and ethics, 1848 to 1861.—*Cadet Register*, 1848, p. 22, and 1861, p. 18.

170 F. 80 **French (J. W.) Rev.**: A short course of instruction in the Practical Part of Ethics. N. Y., 1858. 1 v., O.

Text-book department of history, geography, and ethics, 1860 to 1877.—*Cadet Register*, 1860, p. 19, and 1877, p. 36.

170 W. 18 **Wayland (Francis)**: The Elements of Moral Science. Boston, 1838. 1 v., O.

Text-book department of history, geography, and ethics, 1844 to 1861.—*Cadet Register*, 1844, p. 20, and 1861, p. 18.

Prayer book (each cadet was furnished with one).

U. S. Military Academy, 1814 to 1816.—*Partridge MS.*

340 D. 20 **Davis (George B.)**: (U. S. Military Academy, 1871.) An introduction to the study of Constitutional and Military Law of the United States. Wash., 1896. 1 v., O.

Text-book department law and history, 1896 to 1897.—*Report Superintendent U. S. Military Academy*, 1896, p. 157, and *Cadet Register*, 1896 and 1897, p. 32.

R. 340 D. 21 **Davis (George B.)**: (U. S. Military Academy, 1871.) The Elements of Law. An introduction to the study of the Constitutional and Military Law of the United States . . . 1st ed. N. Y., 1897. 1 v., O.

Text-book department law and history, 1898 to (?).—*Cadet Register*, 1898, p. 32.

340.1 B. 90 **Burlamaqui (J. J.)**: The Principles of Natural and Politic Law . . . 5th ed. Cambridge, 1807. 2 v., O.

Text-book department of law, from (?) to (?). (The copy of this book owned by library U. S. Military Academy shows almost to a certainty that it was used as a text-book.)

Davis (George B.): (U. S. Military Academy, 1871.) Outlines of International Law, with an account of its origin and sources and of its historical development. N. Y., 1887. 1 v., O.

Text-book department law, 1892-96, and department law and history 1896-1900.—*Cadet Registers*, 1892, 1896, 1900, pp. 32.

341 D. 21 **Davis (George B.)**: (U. S. Military Academy, 1871.) The Elements of International Law, with an account of its origin, sources, and historical development . . . New and rev. ed. N. Y. and Lond., 1902. 1 v., O.

Text-book department law and history, 1900 to (?).—*Cadet Register*, 1900, p. 32.

341 H. 20 **Halleck (H. W.)**: (U. S. Military Academy, 1839.) International Law, or rules regulating the intercourse of States in peace and war. N. Y., 1861. 1 v., O.

Text-book department ethics and law, 1866 to 1875.—*Report Superintendent U. S. Military Academy*, 1896, p. 157.

341 V. 20 **Vattel, M. de**: The Law of Nations, or Principles of the Law of Nature applied to the conduct of affairs of Nations and Sovereigns . . . 4th Am. ed. Phila., 1835. 1 v., O.

Text-book department history, geography, and ethics, from 1821 to 1825.—*Report Superintendent U. S. Military Academy*, 1896, p. 156, and *Report of Board of Visitors*, 1821-1825.

341 W. 39 **Wheaton (Henry)**: Elements of International Law. Phila., 1836. 1 v., O.

Text-book department history, geography, and ethics, 1836 to 1839.—*Report Superintendent U. S. Military Academy*, 1896, p. 156.

341 W. 68 **Woolsey (Theodore D.)**: Introduction to the study of International Law . . . 2d ed. N. Y., 1864. 1 vol., O.

Text-book department of law, 1875 to 1891.—*Report Superintendent U. S. Military Academy*, 1896, p. 157, and *Cadet Register*, 1891, p. 31.

342.73 An. 30 **Andrews (Israel Ward)**: Manual of the Constitution of the United States. N. Y., 1887. 1 v., O.

Text-book department of law and history, 1898.—*Cadet Register*, 1898, p. 32.

342.73 C. 76 **Cooley (Thomas M.)**: The General Principles of Constitutional Law in the United States of America . . . 2d ed. by Alexis C. Angell. Boston, 1891. 1 v., O.

Text-book department of law, 1881 to 1896; department of law and history, 1896-1897.—*Report Superintendent U. S. Military Academy*, 1896, p. 157, and *Cadet Register*, 1881, p. 31, and 1897, p. 32.

342.73 F. 60 **Flanders (Henry)**: An Exposition of the Constitution of the United States . . . 4th ed. Phila., 1883. 1 v., O.

Text-book department law and history, 1898 to (?).—*Cadet Register*, 1898, p. 32.

342.73 **Pomeroy (J. N.)**: Introduction to the Constitutional Law of the United States. n. p., 1868. 1 v., O.

Text-book department law, 1875 to 1878.—*Report Superintendent U. S. Military Academy*, 1896, p. 157.

342.73 R. 20 **Rawle (William)**: A View of the Constitution of the United States of America. Phila., 1825. 1 v., O.

Text-book department of law from (?) to (?).—The copy of this book owned by Library U. S. Military Academy makes it very probable that it was used as a text-book.

345 K. 28 **Kent (James)**: Commentaries on American Law . . . Vol. I, Part II, Government and Constitutional Jurisprudence of the United States. N. Y., 1826. 1 v., O.

Text-book department geography, history, and ethics, 1839 to 1875, and law, 1878 to 1880.—*Report Superintendent U. S. Military Academy*, 1896, p. 156, and *Cadet Register*, 1878, p. 34, and 1880, p. 36.

345 K. 30 **Kent (James)**: Commentaries on American Law . . . Part I, The Law of Nations. 9th ed. Boston, 1858. 1 v., O.

Text-book department geography, history, and ethics, 1838 to 1866.—*Report Superintendent U. S. Military Academy*, 1896, p. 156.

Official Publications of Signal Department.

*Text-book department practical military engineering, 1902 to (?).—*Cadet Register*, 1902, p. 31.

398.9 T. 90 **Tuet (l'abbé)**: Matinées Sénonoises, ou Proverbes François. Paris, 1789. 1 v., O.

Text-book department modern languages from (?) to (?).—(The copy in the Library contains notes that show this book to have been used as a text-book.)

420 M. 30 **Meiklejohn (J. M. D.)**: The English Language, its Grammar, History, and Literature. Boston, Chicago, N. Y., 1896. 1 v., O.

Text-book department modern languages, 1893 to (?).—*Report Superintendent U. S. Military Academy*, 1896, p. 145.

420.7 (1008) **Abbott (E. A.) and Seeley (J. R.)**: English Lessons for English People. Boston, 1876. 1 v., O.

Text-book department history, geography, and ethics, 1877 to 1878; department French and department modern languages, 1878 to 1893.—*Report Superintendent U. S. Military Academy*, 1896, p. 142, and *Cadet Register*, 1893, p. 30.

423 **International Dictionary.**

* This book is furnished to Cadets and kept in their rooms during term time.

423 **Standard Dictionary.**

* This book is furnished to Cadets and kept in their rooms during term time.

424 R. 70 **Roget (Peter Mark)**: Thesaurus of English Words and Phrases, so classified and arranged as to facilitate the expression of ideas and assist in literary composition . . . Rev. and edited by Barnas Sears. Boston, 1857. 1 v., O.

Text-book department of geography, history, and ethics, 1859 to 1867.—*Cadet Register*, 1859, p. 17, and 1867, p. 24.

424 R. 71 **Roget (Peter Mark)**: Thesaurus of English Words and Phrases, so classified and arranged as to facilitate the expression of ideas and assist in literary composition . . . Rev. and edited by Barnas Sears. Boston, 1857. 1 v., O.

* Text-book department modern languages, 1893 to (?).—*Report Superintendent U. S. Military Academy*, 1896, p. 145.

424 Sm. 50 **Smith (Charles John)**: Synonyms Discriminated. A dictionary of synonymous words in the English language. London, 1882. 1 v., O.

* Text-book department modern languages, 1893 to (?).—*Report Superintendent U. S. Military Academy*, 1896, p. 145.

French (J. W.), Rev.: Vocabularies.

Text-book department history, geography, and ethics, 1860 to 1867.—*Cadet Register*, 1860, p. 19, and 1867, p. 24.

Whitney (William D.): Essentials of English Grammar.

Text-book department modern languages, 1879 to 1893.—*Cadet Register*, 1879, p. 33, and 1893, p. 30.

French (J. W.), Rev.: Prefixes and Suffixes.

Text-book department history, geography, and ethics, 1860 to 1861.—*Cadet Register*, 1860, p. 19, and 1861, p. 19.

425 B. 90 **Bullions (Peter), Rev.**: The Principles of English Grammar; comprising the substance of the most approved English grammars extant, with copious exercises in parsing and syntax, and an appendix of various and useful matter. N. Y., 1851. 1 v., O.

Text-book department history, geography, and ethics, 1845 to 1858, and 1860 to 1862.—*Cadet Register*, 1845, p. 21, and 1862, p. 17.

425 F. 69 **Fowler (William C.)**: English Grammar. The English language in its elements and forms, with a history of its origin and development . . . Revised and enlarged edition. N. Y., 1858. 1 v., O.

Text-book department history, geography, and ethics, 1859.—*Cadet Register*, 1859, p. 18.

425 F. 80 **French (J. W.) Rev.**: Grammar: Part of a course on Language, prepared for instruction of the U. S. Corps of Cadets . . . 2d ed. N. Y., 1865. 1 v., O.

Text-book department history, geography, and ethics, 1863 to 1867.—*Cadet Register*, 1863, p. 19, and 1867, p. 24.

425 K. 48 **Kirkham (Samuel)**: English Grammar, in Familiar Lectures, accompanied by a compendium, embracing a new systematic order of parsing, a new system of punctuation, exercises in false syntax, and a system of philosophical grammar, in notes . . . appendix . . . key to the exercises . . . New ed. N. Y., 1829. 1 v., O.

Text-book department history, geography, and ethics, 1842 to 1844.—*Cadet Register*, 1842, p. 23, and 1844, p. 21.

428.2 Ab. 30 **Abbott (Edwin A.) Rev.**: How to Write Clearly. Rules and Exercises on English Composition. Boston, 1888. 1 v., O.

Text-book department French and modern languages, 1880 to (?).—*Cadet Register*, 1880, p. 35.

R. 441.5 D. 81 **De Peiffer (Jean)**: French Pronunciation; Rules and Practice . . . 5th ed. N. Y., 1891. 1 v., O.

Text-book department modern languages, 1893 to (?).—*Report Superintendent U. S. Military Academy*, 1896, p. 146, and *Cadet Register*, 1894 and 1895, p. 30.

443 H. 30 **Hennequin (Alfred)**: Practical Lessons in Idiomatic French . . . New revised ed. N. Y., 1881. 1 v., O.

Text-book department modern languages, 1895 to (?).—*Cadet Register*, 1895, p. 30.

R. 443 Sp. 53 **Spiers (A.) and Surrenne (Gabriel)**: Standard Pronouncing Dictionary of the French and English Languages. N. Y., 1859. 1 v., O.

* Text-book department French and modern languages, 1856 to (?).—*Report Superintendent U. S. Military Academy*, 1896, p. 138.

Masson (?): French Grammar.

Text-book department French, 1814 to 1821.—*Report Superintendent U. S. Military Academy*, 1896, p. 138.

445 B. 30 **Berard (Claudius)**: A Grammar of the French Language. N. Y., 1826. 1 v., O.

Text-book department French, 1832 to 1840.—*Report Superintendent U. S. Military Academy*, 1896, p. 138.

445 B. 70 **Bolmar (A.)**: Theoretical and Practical Grammar of the French Language . . . New and rev. ed. N. Y., 1834. 1 v., O.

Text-book department Freneh, 1849 to 1872.—*Report Superintendent U. S. Military Academy*, 1896, p. 138.

445 B. 74 **Borel (Eugene)**: Grammaire Française à l'usage des Anglais. Stuttgart, 1867. 1 v., O.

Text-book department French and modern languages, 1872 to (?).—*Report Superintendent U. S. Military Academy*, 1896, p. 139.

445 Ed. 40 **Edgren (A. Hjalmar)**: A Compendious French Grammar in two independent parts, Introductory and Advanced. Boston, 1898. 1 v., O.

Text-book department modern languages, 1895 to (?).—*Cadet Register*, 1895, p. 30.

R. 445 K. 31 **Keetels (Jean Gustave)**: An Analytical and Practical French Grammar . . . New ed. N. Y., 1900. 1 v., O.

Text-book department French and modern languages, 1879 to (?).—*Cadet Register*, 1879, p. 33.

445 L. 29 **Lévizac, M. de:** Theoretical and practical grammar of the French Tongue, in which the present usage is displayed and all the principal difficulties explained . . . to which has been added a treatise on French Versification . . . Rev. and corrected by A. C. Houel. N. Y., 1823. 1 v., O.

Text-book department French (?) to (?). The copy in the Library contains notes that show this book to have been used as a text-book.

445 L. 30 **Lévizac, M. de:** Theoretical and Practical Grammar of the French Tongue. N. Y., 1824. 1 v., O.

Text-book department French, 1841 to 1872. *Report Superintendent U. S. Military Academy*, 1896, p. 138.

445 N. 30 A new Grammar of the French Tongue, originally compiled for the use of the American Military Academy . . . by a French Gentleman (Masson ?). N. Y., 1854. 1 v., O.

Text-book department French, 1804 to 1816 (?).—*Partridge Ms.*

445 Ot. 80 **Otto (Emil), Dr.:** French Conversation Grammar. A new and practical method of learning the French language . . . Rev. by Ferdinand Bôcher.

Text-book department French, 1872 to 1878.—*Report Superintendent U. S. Military Academy*, 1896, p. 139.

445 P. 30 **Perrin (John):** A grammar of the French tongue, grounded upon the decisions of the French Academy, wherein all the necessary rules, observations, and examples are exhibited in a manner entirely new. 11th ed. N. Y., 1804. 1 v., O.

Text-book (?) department French, from (?) to (?). The copy in Library contains notes that indicate that this book was used as text-book.

445 W. 22 **Wonostrocht (N.):** A grammar of the French Language, with practical exercises . . . 5th Am. from 14th Lond. ed. Boston, 1819. 1 v., O.

Text-book department French, 1821 to 1832 (?).—*Report Superintendent U. S. Military Academy*, 1896, p. 138.

445.4 F. 30 **Fenelon:** The Adventures of Telemachus, the son of Ulysses, by the Archbishop of Cambray . . . Revised and corrected by Jos. Nancrede. Boston, 1797. 1 v., O.

Text-book department French, from (?) to (?). The copy in Library contains notes that show this book to have been used as a text-book.

445.8 C. 20 **Castaréde (J.):** A complete treatise on the Conjugation of French Verbs . . . New ed. London, 1900. 1 v., O.

Text-book department modern languages, 1895 to (?).—*Cadet Register*, 1895, p. 30.

445.8 R. 30 **Reynal (Ch.):** The French Verb; containing the theory, and model conjugations of all the French verbs. N. Y., 1870. 1 v., O.

Text-book department French, 1872 to 1881.—*Report Superintendent U. S. Military Academy*, 1896, p. 139.

P. 447 Revue Militaire des Armées Etrangères.

Text-book department modern languages, 1895 to (?).—*Cadet Register*, 1895, p. 30.

448 R. 50 **Roemer (J.):** Cours de Lecture et de Traduction. N. Y., 1901. 2 v., O.

Text-book department modern languages, Vol. I, 1885 to 1902; Vol. II, 1899 to (?).—*Cadet Register*, 1885, p. 30; 1899, p. 30; 1902, p. 31.

448 R. 50 **Keetels (Jean G.)**: An Analytical French Reader.

Text-book department modern languages, 1882 to 1893.—*Cadet Register*, 1882, p. 31, and 1893, p. 30.

Bôcher (F.): Progressive French Reader, with vocabulary and notes.

Text-book department French, 1872 to 1881.—*Report Superintendent U. S. Military Academy*, 1896, p. 138.

Masson (?): French Reader.

Text-book department French, 1814 to 1821. *Report Superintendent U. S. Military Academy*, 1896, p. 139.

Agnel (H. R.): Tabular System.

Text-book department French, 1859 to 1883.—*Report Superintendent U. S. Military Academy*, 1896, p. 138.

448 Ag. 60 **Agnel (H. R.)**: Cours d'Idiotismes à l'usage, etc.

Text-book department French, 1859 to 1883.

448 B. 28 **Berard (C.)**: Leçons Françaises a l'usage des Commençans. Paris, 1822. 1 v., O.

Text-book department French, 1832 to 1872.—*Report Superintendent U. S. Military Academy*, 1896, p. 138; and *Cadet Register*, 1872, p. 27.

418 C. 38 **Chapsal (M.)**: Leçons et Modeles de Littérature Française ou Choix de Morceaux en Prose et en Vers . . . Nouvelle ed. N. Y., 1846. 1 v., O.

Text-book department French, 1848 to 1872.—*Cadet Register*, 1848, p. 23, and 1872, p. 27.

448 D. 90 **Dufief (N. G.)**: Nature displayed in her mode of teaching language to man . . . Adapted to the French . . . 3d ed. Phila., 1810. 2 v., O.

Text-book department French, 1816.—*Cullum's Address Thayer Monument Dedication*, p. 13.

448 L. 30 **Le Brethon (J. J. P.)**: Guide to the French Language . . . corrected, enlarged, and improved, by P. Bekeart . . . 2d Am. from 7th London ed. N. Y., 1846. 1 v., O.

Text-book department French, 1847 to 1849.—*Report Superintendent U. S. Military Academy*, 1896, p. 138.

448 M. 17 **Martel (Michael)**: Martel's elements, in 3 vols. Vol. I, New essays on education, relative especially to History, Moral Philosophy, and Composition; Vol. II, An introduction to the French Language . . . ; Vol. III, A selection of delicate bon-mots, Anecdotes, . . . N. Y., 1796. 3 v., O.

Text-book (?) department French, from (?) to (?). The copy in Library contains notes that indicate that this book was used as text-book.

448 M. 90 **Murray (Lindley)**: Lecteur Français ou recueil de pièces, en prose et en vers. Phila., 1812. 1 v., O.

Text-book department French, 1821 to (?).—*Report Superintendent U. S. Military Academy*, 1896, p. 138.

448 R. 77 **Rowan (F. M.)**: Morceaux Choisis des Auteurs Modernes, à l'usage de la Jeunesse. N. Y., 1870. 1 v., O.

Text-book department French and modern languages, 1849 to 1885.—*Report Superintendent U. S. Military Academy*, 1896, p. 138.

Murray (Lindley): English Reader.

Text-book department French, 1840 to 1847.—*Report Superintendent U. S. Military Academy*, 1896, p. 138; and *Cadet Register*, 1847, p. 23.

Eco de Madrid.

Text-book department modern languages, 1895 to (?)—*Cadet Register*, 1895, p. 30.

460.7 (3289) **Vingut (F. J.)**: A guide to Spanish and English conversation . . . by Emanuel Del Mar, revised by F. J. Vingut, who has added a treatise on Spanish pronunciation and orthography. N. Y., 1854. 1 v., O.

Text-book department Spanish, 1874 to 1883.—*Report Superintendent U. S. Military Academy*, 1896, p. 141.

460.7 (5534) **Josse (M.)**: A Grammar of the Spanish Language. N. Y., 1869, 1 v., O.

Text-book department Spanish, 1856 to 1874.—*Report Superintendent U. S. Military Academy*, 1896, p. 141.

460.7 (6391) **Mantilla (Luis F.)**: Libro de Lectura No. 3. N. Y., 1865. 1 v., O.

Text-book department Modern Languages, 1893 to 1900.—*Report Superintendent U. S. Military Academy*, 1896, p. 147; and *Cadet Register*, 1900, p. 30.

M. 463 V. 30 **Cadena (Mariano Velazquez) de la**: Pronouncing Dictionary of the Spanish and English Languages, compiled from the Spanish dictionaries of the Spanish Academy, Terreros, and Salva, upon the basis of Seoanes edn. of Neuman and Baretti, and from the English dictionaries of Webster, Worcester, and Walker. N. Y., 1857. 1 v., O.

Text-book department Spanish and modern languages, 1865 to (?)—*Report Superintendent U. S. Military Academy*, 1896, p. 141.

465 K. 60 **Knapp (William I.)**: A grammar of the Modern Spanish Language . . . 2d ed. Boston, 1892. 1 v., O.

Text-book department modern languages, 1883 to 1902.—*Report Superintendent U. S. Military Academy*, 1896, p. 144, and *Cadet Register*, 1902, p. 31.

465.18 T. 80 **Traub (Peter E.)**: (U. S. Military Academy, 1886.) The Spanish Verb, with an introduction on Spanish Pronunciation. N. Y., 1900. 1 v., O.

Text-book department modern languages, 1901 to (?).—*Cadet Register*, 1901, p. 31.

468 K. 60 **Knapp (William I.)**: Modern Spanish Readings, embracing text, notes, and an etymological vocabulary. Boston, 1895. 1 v., O.

Text-book department modern languages, 1883 to 1902.—*Report Superintendent U. S. Military Academy*, 1896, p. 144, and *Cadet Register*, 1902, p. 31.

468 M. 70 **Monsanto (H. M.) & Languellier (L. A.)**: A practical course with the Spanish Language. N. Y., 1875. 1 v., O.

Text-book department modern languages, 1895 to (?).—*Cadet Register*, 1895, p. 30.

468 (01.60) **Velazquez (M.) & Simonné (T.)**: Ollendorff's New Method of learning to read, write, and speak the Spanish language. N. Y., 1867. 1 v., O.

Text-book department Spanish, 1857 to 1883.—*Cadet Register*, 1857, p. 16, and *Report Superintendent U. S. Military Academy*, 1896, p. 141.

468 M. 76 **Morales (Augustin José)**: Progressive Spanish Reader, with an analytical study of the Spanish Language. N. Y., 1876. 1 v., O.

Text-book department Spanish, 1858 to 1883.—*Report Superintendent U. S. Military Academy*, 1896, p. 141.

468 R. 21 **Ramsey (M. Montrose)**: An elementary Spanish Reader. N. Y., 1900, 1 v., O.

Text-book department modern language, 1901 to (?).—*Cadet Register*, 1901, p. 31.

468 R. 70 **Roemer** (**J.**) and **Comancho** (**Simon:**) Polyglot Reader, and guide for translation, consisting of a series of English extracts, with their translation into French, German, Spanish, and Italian. N. Y., 1855. 1 v., O.

Text-book department Spanish, 1856 to 1858.—*Report Superintendent U. S. Military Academy*, 1896, p. 141.

510 H. 88a **Hutton** (**Charles**): Course of Mathematics . . . 3d ed. Lond., 1800. 1 v., O.

Text-book department mathematics from (?) to 1823.—*Report Superintendent U. S. Military Academy*, 1896, p. 39.

510 H. 89 **Hutton** (**Charles**): A course of mathematics in two volumes . . . Revised and corrected by Robert Adrian, from 5th and 6th London ed. N. Y., 1818. 2 v., O.

Part relating to conic sections used as text-book department mathematics, 1818 to 182-(?).—*Report Superintendent U. S. Military Academy*, 1896, p. 43.

510 M. 16 **Mansfield** (**J.**): Essays, Mathematical and Physical; containing new theories and illustrations of some very important and difficult subjects of the sciences. New Haven, n. d. 1 v., O.

Text-book (?) department of (?) from (?) to (?). The copy in the Library contains notes that seem to show that this book was used as a text-book.

Logarithm-tables by (?)

Text-book U. S. Military Academy, 1814 to 1816.—*Partridge Ms.*

510.8 Ad. 20 **Adams** (**George**): Geometrical and Graphical Essays, containing a general description of the mathematical instruments used in Geometry, Civil and Military Surveying, Levelling, and Perspective. Lond., 1803. 1 v., O.

Text-book department mathematics, October 7, 1808, to (?).—*W. D. Mily*, Bk. No. 2.

Davies (**C.**) (U. S. Military Academy, 1815): Mensuration.

Text-book department mathematics, 1832 to (?).—*Report Superintendent U. S. Military Academy*, 1896, p. 47.

512 B. 67 **Bourdon** (**M.**): Elements of Algebra . . . *tr.* from the French by Lieut. Edward C. Ross. [U. S. M. A. 1821.] N. Y., 1831. 1 v., O.

Text-book department mathematics, 1831 to (?).—*Report Superintendent U. S. Military Academy*, 1896, p. 46.

512 B. 68 **Bourdon** (**M.**): Elements of Algebra . . . *tr.* from the French by Charles Davies . . . Rev. ed. N. Y. 1839. 1 v., O.

Text-book department mathematics, 1839 to 1899.—*Report Superintendent U. S. Military Academy*, 1896, p. 48.

512 L. 15 **Lacroix** (**S. F.**): Elémens D'Algebre, à l'usage de L'Ecole Centrale des Quatre-Nations . . . Trezième ed. Paris, 1820. 1 v., O.

Text-book department mathematics, 1825 to (?).—*Report Superintendent U. S. Military Academy*, 1896, p. 46.

512 L. 16 **Lacroix** (**S. F.**): Elements of Algebra . . . *tr.* from the French by John Farrar. 2d ed. Cambridge, 1825. 1 v., O.

Text-book department mathematics, 1823 to (?).—*Report Superintndent U. S. Military Academy*, 1896, p. 45.

512 Sm. 50 **Smith** (**Charles**): A treatise on Algebra . . . 4th ed. Lond., 1893. 1 v., O.

Text-book department mathematics, 1900 to (?).—*Cadet Register*, 1900, p. 30.

512.83 **Knight (John G. D.), Lieut.** (U. S. Military Academy, 1868): Notes on Determinants, for the use of the Cadets of the U. S. Military Academy. West Point, 1880. 1 v., O.

Text-book department mathematics, 1880 to 1887.—*Report Superintendent U. S. Military Academy*, 1896, pp. 61 and 64.

512.83 P. 30 **Peck William (G.)** (U. S. Military Academy, 1844): Elementary treatise on Determinants. N. Y., 1888. 1 v., O.

Text-book department mathematics, 1899.—*Cadet Register*, 1899, p. 30.

513 L. 25 **Legendre (A. M.)**: Elements of Geometry . . . *tr.* from the French . . . by John Farrar . . . 2d ed. Cambridge, 1825. 1 v., O.

Text-book department mathematics, 1823 to (?).—*Report Superintendent U. S. Military Academy*, 1896, p. 45.

513 L. 26 **Legendre (A. M.)**: Elements of geometry and trigonometry, with notes . . . *tr.* from the French by David Brewster . . . Rev. and altered for the use of the Military Academy at West Point. N. Y., 1828. 1 v., O.

Text-book department mathematics, 1832 to (?).—*Report Superintendent U. S. Military Academy*, 1896, pp. 47 and 51.

513 L. 27 **Legendre (A. M.)**: Elements of geometry and trigonometry . . *tr.* from the French by David Brewster . . . Rev. and adapted to instruction in U. S. by Chas. Davies. N. Y., 1839. 1 v., O.

Text-book department mathematics, 1839 to 1853, and trigonometry to 1863.—*Report Superintendent U. S. Military Academy*, 1896, pp. 51 and 59.

R. 513 L. 28a **Legendre (A. M.)**: Elements of geometry and trigonometry . . . *tr.* from the French by Charles Davies, edited by J. H. Van Amringe. N. Y., 1890. 1 v., O.

Text-book department mathematics, 1895 to (?).—*Report Superintendent U. S. Military Academy*, 1896, p. 74.

513 P. 40 **Phillips (A. W.)** and **Fisher (Irving)**: Elements of Geometry. N. Y. and Lond., 1898. 1 v., O.

Text-book department mathematics, 1902 to (?).—*Cadet Register*, 1902, p. 31.

513.22 Si. 60 **Simson (Robert)**: Elements of Conic Sections . . . 2d ed. Edinburgh, 1792. 1 v., O.

Text-book department mathematics from (?) to 1818.—*Report Superintendent U. S. Military Academy*, 1896, p. 43.

513.22 Sm. 50 **Smith (Charles)**: An elementary treatise on Conic Sections. Lond., 1894. 1 v., O.

Text-book department mathematics, 1899 to (?).—*Cadet Register*, 1899, p. 30.

Church (Albert E.) (U. S. Military Academy, 1828): Plane and spherical trigonometry.

Text-book department mathematics, 1879 to 1887.—*Cadet Register*, 1879, p. 33, and 1887, p. 30.

Church (Albert E.) (U. S. Military Academy, 1828): Pamphlet on trigonometry.

Text-book department mathematics, 1863 to 1888.—*Report Superintendent U. S. Military Academy*, 1896, pp. 59 and 64.

513.3 Sm. 50 **Smith (Charles)**: An elementary treatise on solid geometry . . . 5th ed. . . . Lond., 1895. 1 v., O.

Text-book department mathematics, 1899 to (?).—*Cadet Register*, 1899, p. 30.

514 F. 20 **Farrar** (**J.**): An elementary treatise on the application of trigonometry to orthographic and stereographic projections . . . together with logarithmic and other tables. Cambridge, 1822. 1 v., O.

Text-book department mathematics, 1824 to (?).—*Report Superintendent U. S. Military Academy*, 1896, p. 45.

514 L. 17 An elementary treatise on plane and spherical trigonometry and on the application of algebra to geometry . . . *tr.* from the French by Cummings and Hilliard for the use of the students of the University at Cambridge . . . 1st ed. Cambridge, 1820. 1 v., O.

Text-book department mathematics 1823 to (?).—*Report Superintendent U. S. Military Academy*, 1896, p. 45.

514 L. 90 **Ludlow** (**Henry H.**) (U. S. Military Academy, 1876): Elements of trigonometry. N. Y., 1888. 1 v., O.

Text-book department mathematics 1888 to (?).—*Cadet Register*, 1888, p. 30.

514 L. 92 **Ludlow** (**Henry H.**) (U. S. Military Academy, 1876): Elements of trigonometry, with logarithmic and other tables . . . 3d ed. N. Y., 1893. 1 v., O.

Text-book department mathematics 1892 to (?).—*Cadet Register*, 1892, p. 30.

514 Si. 60 **Simpson** (**Thomas**): Trigonometry, plane and spherical; with the construction and application of logarithms. Lond., 1799. 1 v., O.

Text-book department mathematics in April, 1816.—*Partridge MS.*

515 C. 40 **Church** (**Albert E.**) (U. S. Military Academy, 1828): Elements of descriptive geometry, with applications to spherical, perspective, and isometric projections and to shades and shadows. N. Y., 1870. 1 v., O.

Text-book department mathematics 1864 to 1893.—*Cadet Register*, 1864, p. 19, and 1893, p. 30.

515 C. 80 **Crozet** (**C.**): A treatise on descriptive geometry . . . Pt. II . . . its application to perspective, shades, and shadows. N. Y., 1821. 1 v., O.

Text-book department mathematics 1824 to 1831.—*Report Superintendent U. S. Military Academy*, 1896 pp. 46-47, and *American State Papers Military Academy*, Vol. II, p. 661.

515 C. 80 **Crozet** (**C.**): A treatise on descriptive geometry. Pt. 1.—Containing the elementary principles of descriptive geometry and its application to spheric and conic sections.

Text-book department mathematics 1824 to (?).—*American State Papers, Military Academy*, Vol. II, p. 661.

515 D. 29 **Davies** (**Charles**) (U. S. Military Academy, 1815): Elements of descriptive geometry. Phila., 1844. 1 v., O.

Text-book department mathematics 1832 to 1864.—*Report Superintendent U. S. Military Academy*, 1896, p. 47, and *Cadet Register*, 1864, p. 18.

515 D. 30 **Davies** (**Charles**) (U. S. Military Academy, 1815): Elements of descriptive geometry, with their application to spherical trigonometry, spherical projections, and warped surfaces. Phila., 1826. 1 v., O.

Text-book department mathematics 1839 to 1864.—*Report Superintendent U. S. Military Academy*, 1896, pp. 52 and 59, and *Cadet Register*, 1864, p. 18.

515 M. 30 **Mahan (D. H.)** (U. S. Military Academy, 1824): Descriptive geometry as applied to the drawing of fortifications and stereotonomy. N. Y., 1900. 1 v., O.

Text-book department civil and military engineering, 1841 to 1863 and 1866 to (?).—*Cadet Register*, 1841, p. 22; 1863, p. 17; 1866, p. 25.

515.7 D. 80 **Davies (C.)** (U. S. Military Academy, 1815): A treatise on shades and shadows and linear perspective. N. Y., 1851. 1 v., O.

Text-book department mathematics 1832 to 1865.—*Report Superintendent U. S. Military Academy*, 1896, pp. 47 and 52, and *Cadet Register*, 1865, p. 25.

516 B. 50 **Biot (J. B.)**: Essai de Géométrie Analytique, appliquée aux courbes et aux surfaces du second ordre . . . Septiéme ed. Paris, 1826. 1 v., O.

Text-book department mathematics 1821 to 1825, and 1825 to (?).—*Report Superintendent U. S. Military Academy*, 1896, pp. 25 and 46.

516 B. 67 **Bourdon (M.)**: Application de L'Algebre a la Géométrie . . . Quatriéme ed. Paris, 1837. 1 v., O.

Text-book department mathematics (?).—The copy in the library contains notes that seem to show that this book was used as a text-book.

516 C. 40 **Church (Albert E.)** (U. S. Military Academy, 1828): Elements of analytical geometry. N. Y., 1851. 1 v., O.

Text-book department mathematics, 1852 to 1898.—*Cadet Register*, 1852, p. 21, and 1898, p. 30.

516 D. 20 **Davies (Charles)** (U. S. Military Academy, 1815): Elements of analytical geometry . . . 2d ed. N. Y., 1889. 1 v., O.

Text-book department mathematics, 1839 to 1852.—*Report Superintendent U. S. Military Academy*, 1896, pp. 53 and 55.

516 G. 20 **Garnier (J. G.)**: Géometrie analytique du application de L'Algebre a la Géometrie. Deuxiéme ed. Paris, 1813. 1 v., O.

Text-book department mathematics, 1823 to 1824.—*Report Superintendent U. S. Military Academy*, 1896, p. 45.

517 C. 40 **Church (Albert E.)** (U. S. Military Academy, 1828): Elements of the Differential and Integral Calculus. N. Y., 1842. 1 v., O.

Text-book department mathematics, 1843 to 1899.—*Cadet Register*, 1843, p. 21, and 1899, p. 30.

517 D. 20 **Davies (Charles)** (U. S. Military Academy, 1815): Elements of the Differential and Integral Calculus . . . 2d ed. N. Y., 1838. 1 v., O.

Text-book department mathematics, 1839 to 1842.—*Report Superintendent U. S. Military Academy*, 1896, pp. 54 and 55, and *Cadet Register*, 1842, p. 23.

517 L. 22 **Lacroix (S. F.)**: An elementary treatise on the differential and integral calculus. Cambridge, 1816. 1 v., O.

Text-book department mathematics, 1824 to (?).—*Report Superintendent U. S. Military Academy*, 1896, p. 45.

517.2 B. 20 **Bass (Edgar W.)** (U. S. Military Academy, 1868): Introduction to the Integral Calculus. West Point, 1887. 1 v., O.

Text-book department mathematics, 1887 to (?).—*Cadet Register*, 1887, p. 30.

517.2 B. 20 **Bass (Edgar W.)** (U. S. Military Academy, 1868): Differential Calculus, parts 1 and 2. West Point, 1889. 1 v., O.

Text-book department mathematics, Part I, 1889 to 1896; Part II, 1893 to 1896.—*Report Superintendent U. S. Military Academy*, 1896, p. 64.

517.3 M. 90 **Murray (Daniel Alexander)**: An Elementary Course in the Integral Calculus. N. Y., 1898. 1 v., O.

Text-book department mathematics, 1900 to (?).—*Cadet Register*, 1900, p. 30.

519 L. 18 **Lacroix S. F.**: Traité Elémentaire de Calcul Différentiel et de Calcul Intégral. Paris, 1820. 1 v., O.

Text-book department mathematics, 1824 to (?).—*Report Superintendent U. S. Military Academy*, 1896, pp. 45 and 46.

519.8 J. 70 **Johnson (William Woolsey)**: The Theory of Errors and Method of Least Squares . . . 1st ed. N. Y., 1896. 1 v., O.

Text-book department mathematics, 1891. *Cadet Register*, 1891, p. 30.

520 G. 87 **Gummere (John)**: An elementary treatise on astronomy, in two parts, the first containing a clear and compendious view of the theory, the second a number of practical problems, to which are added solar, lunar, and some other astronomical tables. Phila., 1822. 1 v., O.

Text-book department natural and experimental philosophy, 1834 to 1855.—*Report Superintendent U. S. Military Academy*, 1896, pp. 16 and 18.

520 Y. 70 **Young (Charles A.)**: A text-book of general astronomy. Boston, 1895. 1 v., O.

Text-book department natural and experimental philosophy, 1889 to (?).—*Report Superintendent U. S. Military Academy*, 1896, p. 19.

522 **Chauvenet (William)**: Method of Least Squares. Phila., 1 v., O. [This is a reprint of the Appendix to his Manual of Special and Practical Astronomy (1863).]

Text-book department mathematics, 1879 to 1891.—*Report Superintendent U. S. Military Academy*, 1896, pp. 61 and 64.

522 M. 50 **Michie (P. S.)** (U. S. Military Academy, 1863), and **Harlow (F. S.)**, (U. S. Military Academy, 1879): Practical Astronomy . . . 2 ed. N. Y., 1893. 1 v., O.

Text-book department natural and experimental philosophy, 1891 to (?).—*Report Superintendent U. S. Military Academy*, 1896, p. 19.

522.7 B. 20 **Bartlett (W. H. C.)** (U. S. Military Academy, 1826): Elements of Natural Philosophy; Vol. IV, Spherical Astronomy. N. Y., 1855. 1 v., O.

Text-book department natural and experimental philosophy, 1855 to 1891.—*Report Superintendent U. S. Military Academy*, 1896, pp. 18 and 19.

526.9 D. 17 **Davies (Charles)** (U. S. Military Academy, 1815): Elements of Surveying, with the necessary tables. N. Y., 1830. 1 v., O.

Text-book department mathematics, 1839 to 1899.—*Report Superintendent U. S. Military Academy*, 1896, p. 52, and *Cadet Register*, 1899, p. 30.

526.9 J. 71 **Johnson (J. B.)**: The Theory and Practice of Surveying . . . 16th ed. N. Y., 1902. 1 v., O.

Text-book department mathematics, 1900 to 1902; * text-book department practical military engineering, 1902 to (?).—*Cadet Registers*, 1900, p. 30, and 1902, p. 31.

526.98 R. 30 **Reed (Henry A.)** Lieut. U.S. Army (U. S. Military Academy, 1870): Topographical drawing and sketching, including applications of photography. N. Y., 1886. 1 v., Q.

* Text-book department drawing, 1887 to (?).—*Cadet Register*, 1887, p. 30.

530 B. 22 **Bartlett (W. H. C.)** (U. S. Military Academy, 1826): Elements of Natural Philosophy. Part II, Acoustics. Part III, Optics. N. Y., 1852. 1 v., O.

Text-book department natural and experimental philosophy, 1852 to 1881.

530 F. 20 **Farrar** (**John**): An elementary treatise on astronomy, adapted to the present improved state of the science. Cambridge, 1827. 1 v., O.

Text-book department natural and experimental philosophy from (?) to 1834.—*Report Superintendent U. S. Military Academy*, 1896, p. 16.

530 H. 20 **Hauy, M. L'Abbé**: Traité Elémentaire de Physique . . . 2d ed. Paris, 1806. 1 v., O.

Text-book department natural and experimental philosophy, 1819 to (?).—*Report Superintendent U. S. Military Academy*, 1896, p. 15.

530 M. 18 **Martin** (**Benjamin**): The Philosophical Grammar; being a view of the present state of experimental physiology or natural philosophy . . . In four parts. Lond., 1762. 1 v., O.

Text-book department natural and experimental philosophy, April, 1817.—*Partridge MS.*

530 M. 40 **Enfield** (**William**): Institutes of Natural Philosophy, theoretical and practical . . . with some corrections, change in the order of the branches, and the addition of an appendix to the astronomical part, selected from Mr. Ewing's Practical Astronomy, by Samuel Webber . . . 2d Am. ed. Boston, 1811. 1 v., O.

Text-book department natural and experimental philosophy from 1816 to 1818.—*Report Superintendent U. S. Military Academy*, 1896, p. 15, and *Partridge MS.*

530 N. 33 **Newton** (**Isaac**) **Sir**: Mathematical principles of Natural Philosophy . . . Revised and corrected by W. Davis. Lond., 1819. 1 v., O.

Text-book department natural and experimental philosophy, 1819 to ——. *Report Superintendent U. S. Military Academy*, 1896, p. 16.

Poncelet (**J. V.**): Synthetical Mechanics . . . *tr.* by W. H. C. Bartlett.

Text-book department natural and experimental philosophy, 1850 to 1887.—*Report Superintendent U. S. Military Academy*, 1896, p. 17, and *Cadet Register*, 1887, p. 31.

531 B. 18 **Bartlett** (**W. H. C.**) (U. S. Military Academy, 1826): Elements of Analytical Mechanics . . . 3d ed. N. Y., 1855. 1 v., O.

Text-book department natural and experimental philosophy, 1853 to 1887.—*Report Superintendent U. S. Military Academy*, 1896, pp. 18 and 19.

531 B. 67 **Boucharlat** (**M.**): An elementary treatise on mechanics . . . *tr.* from the French by E. H. Courtenay. N. Y., 1878. 1 v., O.

Text-book department natural and experimental philosophy, 1833 to 1850.—*Report Superintendent U. S. Military Academy*, 1896, pp. 16 and 17.

531 B. 67 **Boucharlat** (**J. L.**): Elémens de Mécanique. Paris, 1827. 1 v., O.

Text-book department natural and experimental philosophy, 1833 to 1850.—*Report Superintendent U. S. Military Academy*, 1896, p. 16.

531 B. 80 **Bridge** (**B.**) **Rev.**: A treatise on Mechanics, intended as an introduction to the study of Natural Philosophy. Lond., 1814. 1 v., O.

Text-book department natural and experimental philosophy, 1824 to (?).—*Report Superintendent U. S. Military Academy*, 1896, p. 16.

531 F. 80 **Francœur** (**L. B.**): Traité Elémentaire de Mécanique, adopte dans l'instruction publique . . . Quatrième ed. Paris, 1807. 1 v., O.

Text-book department natural and experimental philosophy from (?) to (?).—*Report Superintendent U. S. Military Academy*, 1896, p. 16.

531 G. 80 **Gregory** (**Olinthus**): A treatise on Mechanics, theoretical, practical, and descriptive . . . 3d ed. Lond., 1815. 2 v., O.

Text-book department natural and experimental philosophy, 1818 to (?).—*Report Superintendent U. S. Military Academy*, 1896, p. 15.

531 M. 50 **Michie (Peter S.)** (U. S. Military Academy, 1863): Elements of Analytical Mechanics . . . 4th ed. N. Y., 1897. 1 v., O.

Text-book department natural and experimental philosophy, 1893 to (?). The portion of this book relating to Hydrodynamics used as text-book department natural and experimental philosophy, 1887 to (?).—*Report Superintendent U. S. Military Academy*, 1896, p. 19, and *Cadet Register*, 1893, p. 31.

531 M. 50 **Michie (P. S.)** (U. S. Military Academy, 1863): Elements of Analytical Mechanics . . . 4th ed. N. Y., 1898, 1 v., O.

Text-book department natural and experimental philosophy, 1887 to 1892. *Cadet Register*, 1887, p. 31, and 1892, p. 31.

534.1 M. 50 **Michie (Peter S.)** (U. S. Military Academy, 1863): Elements of wave motion relating to sound and light . . . 2d ed., revised. N. Y., 1886, 1 v., O.

Text-book department natural and experimental philosophy, 1882 to (?).—*Report Superintendent U. S. Military Academy*, 1896, p. 20, and *Cadet Register*, 1882, p. 32.

535 B. 20 **Bartlett (William H. C.)** (U. S. Military Academy, 1826): An elementary treatise on Optics. N. Y., 1839. 2 v., O.

Text-book department natural and experimental philosophy, 1839 to 1852.—*Report Superintendent U. S. Military Academy*, 1896, pp. 17 and 18.

535 B. 79 **Brewster (David) Sir:** A treatise on Optics. Lond., 1831.

Text-book department natural and experimental philosophy, 1832 to 1839.—*Report Superintendent U. S. Military Academy*, 1896, pp. 16 and 17.

Deschanel (A. P.): Heat, Elementary Treatise Natural Philosophy . . . *tr.* by J. D. Everett.

Text-book department chemistry, 1885 to 1887.—*Cadet Registers*, 1885 and 1887, pp. 31.

536 T. 50 **Tillman (Samuel E.)** (U. S. Military Academy, 1869): Elementary lessons in heat . . . 2d ed. N. Y., 1892, 1 v., O.

Text-book department chemistry, 1887 to (?).—*Report Superintendent U. S. Military Academy*, 1896, p. 106.

537 R. 70 **Roget (P. M.):** Treatise on Magnetism, Electro-Magnetism and Electro-Dynamics. n. p., n. d., 1 v., O.

Text-book department natural and experimental philosophy, 1839 to 1850.—*Report Superintendent U. S. Military Academy*, 1896, p. 17, and *Cadet Register*, 1850, p. 22.

537 T. 38 **Thompson (Sylvanus P.):** Elementary lessons in electricity and magnetism . . . new ed. N. Y., 1901. 1 v., O.

Text-book department chemistry, 1883 to (?).—*Report Superintendent U. S. Military Academy*, 1896, p. 104.

Library of Useful Knowledge . . . Magnetism, Electro-Magnetism, and Electro-Dynamics.

Text-book department natural and experimental philosophy, from (?) to 1839.—*Report Superintendent U. S. Military Academy*, 1896, p. 17.

538 D. 20 **Davis (Daniel) Jr.:** Manual of Magnetism, including also Electro-Magnetism, Magneto-Electricity, and Thermo-Electricity. Boston, 1842. 1 v., O.

Text-book department natural and experimental philosophy, 1851 to 1856.—*Cadet Register*, 1851, p. 20, and 1856, p. 21.

540 B. 60 **Bloxham (Charles Loudon):** Chemistry, Inorganic and Organic, with experiments . . . 4th ed. Lond., 1880. 1 v., O.

Text-book department chemistry, 1884 to 1897.—*Cadet Registers*, 1885 and 1897, pp. 31.

540 F. 68 **Fownes (George)**: Elementary Chemistry, Theoretical and Practical . . . edited, with additions, by Robert Bridges. Phila., 1854. 1 v., O.

Text-book department chemistry, 1858 to 1884.—*Report Superintendent U. S. Military Academy*, 1896, p. 105.

540 K. 20 **Kane (Robert, Sir)**: Elements of Chemistry, Theoretical and Practical . . . 2d ed. Dublin, 1849. 1 v., O.

Text-book department chemistry, 1843 to 1858.—*Report Superintendent U. S. Military Academy*, 1896, p. 105.

540 M. 50 **Miller (William Allen)**: Physics of Chemistry [later called Chemical Physics, and after about 1866 called Magnetism and Electricity].

Text-book department chemistry, 1853 to 1883.—*Report Superintendent U. S. Military Academy*, 1896, p. 105.

540 R. 32 **Regnault (M. V.)**: Elements of Chemistry . . . *tr.* from the French by Thomas T. Betton, M. D. Phila., 1852. 2 v., O.

Text-book department chemistry, 1859 to 1860.—*Report Superintendent U. S. Military Academy*, 1896, p. 106.

540 T. 50 **Tillman (Samuel E.)** (U. S. Military Academy, 1869): Descriptive General Chemistry . . . 2d ed. N. Y., 1899. 1 v., O.

Text-book department chemistry, 1897 to (?).—*Cadet Register*, 1898, p. 31.

540 T. 90 **Turner (Edward)**: Elements of Chemistry. Edinburgh, 1827. 1 v., O.

Text-book department chemistry, 1829 to 1840.—*Report Superintendent U. S. Military Academy*, 1896, p. 105.

540 W. 30 **Webster (John W.)**: Manual of Chemistry. Boston, 1826. 1 v., O.

Text-book department chemistry, 1840 to 1843.—*Report Superintendent U. S. Military Academy*, 1896, p. 106.

540.1 (9071) **Tillman (Samuel E.)** (U. S. Military Academy, 1869): Principles of Chemical Philosophy. West Point, 1885. 1 v., O.

Text-book department chemistry, 1885 to 1887.—*Cadet Registers*, 1885 and 1887, pp. 31.

540.7 (9072) **Tillman (S. E.)** (U. S. Military Academy, 1869): Essential Principles of Chemistry . . . West Point, 1888. 1 v., O.

Text-book department chemistry, 1887 to 1897.—*Cadet Registers*, 1888 and 1898, pp. 31.

542 H. 30 **Henry (William)**: Elements of Experimental Chemistry. Phila., 1823. 1 v., O.

Text-book department chemistry, 1820 to 1829.—*Report Superintendent U. S. Military Academy*, 1896, p. 105.

549 C. 60 **Cleaveland (Parker)**: Elementary Treatise on Mineralogy and Geology . . . 2d ed. Boston, 1822. 1 v., O.

Text-book department chemistry, 1820 to 1833 or 1834.—*Report Superintendent U. S. Military Academy*, 1896, p. 104.

549 D. 17 **Dana (James D.)**: Manual of Mineralogy, including observations on mines, rocks, reduction of ores, etc. New Haven, 1871. 1 v., O.

Text-book department chemistry, 1839 to 1887.—*Report Superintendent U. S. Military Academy*, 1896, p. 104, and *Cadet Register*, 1887, p. 31.

549 D. 22 **Dana (James D.)**: Manual of Mineralogy and Petrography . . . 5th ed. N. Y., 1868. 1 v., O.

Text-book department chemistry, 1888 to 1894.—*Cadet Registers*, 1888 and 1893, pp. 31.

549 T. 50 **Tillman (Samuel E.)** (U. S. Military Academy, 1869): Text-book of Important Minerals and Rocks . . . 1st ed. N. Y., 1900. 1 v., O.

Text-book department chemistry, 1901 to (?).—*Cadet Register*, 1901, p. 32.

550 B. 20 **Bakewell (Robert)**: Introduction to Geology . . . 3d ed. New Haven, 1829. 1 v., O.

Text-book department chemistry, 1833 or 1834 to 1841.—*Report Superintendent U. S. Military Academy*, 1896, p. 104.

550 D. 23 **Dana (James D.)**: Text-book of Geology. Phila., 1864. 1 v., O.

Text-book department chemistry, 1872 to 1882.—*Report Superintendent U. S. Military Academy*, 1896, p. 104.

550 H. 52 **Hitchcock (Charles H.)**: Elementary Geology . . . new ed. N. Y., 1867. 1 v., O.

Text-book department chemistry, 1842 to 1872.—*Report Superintendent U. S. Military Academy*, 1896, p. 104.

550 L. 32 **Le Conte (Joseph)**: Elements of Geology. N. Y., 1891. 1 v., O.

Text-book department chemistry, 1882 to (?).—*Report Superintendent U. S. Military Academy*, 1896, p. 104.

Tillman (S. E.) (U. S. Military Academy, 1869): Elementary Text-book of Mineralogy.

Text-book department chemistry, 1894 to 1900.—*Cadet Registers*, 1894 and 1900, pp. 31.

550 L. 95 **Lyell (Charles)**: Principles of Geology . . . 5th ed. Lond., 1837. 1 v., O.

Text-book department chemistry, 1841 to 1842.—*Report Superintendent U. S. Military Academy*, 1896, p. 104.

Brown (Eli F.): Eclectic Physiology.

Text-book department chemistry, 1887 to 1891.—*Cadet Registers*, 1887 and and 1891, pp. 31.

612 T. 80 **Tracy (Roger S., M. D.)**: The Essentials of Anatomy, Physiology, and Hygiene . . . new ed. N. Y., 1886. 1 v., O.

Text-book department chemistry, 1892 to (?).—*Report Superintendent U. S. Military Academy*, 1896, p. 106.

620 M. 20 **Mahan (D. H.)** (U. S. Military Academy, 1824): An Elementary Course of Civil Engineering for the use of Cadets of the U. S. Military Academy . . . new ed. N. Y., 1846, 1 v., O.

Text-book department civil and military engineering, 1841 to 1877.—*Report Superintendent U. S. Military Academy*, 1896, p. 161, and *Cadet Register*, 1877, p. 36.

620 M. 75 **Moseley (Henry)**: The Mechanical Principles of Engineering and Architecture . . . with additions by D. H. Mahan . . . 1st Am., from 2d Lond. ed. N. Y., 1860. 1 v., O.

Text-book department civil and military engineering, 1858 to 1882.—*Report Superintendent U. S. Military Academy*, 1896, p. 132.

620 Sg. 20 **Sganzin (M. J.)**: Programme ou Résumé des Lecons d'un Cours de Constructions . . . Quatrième ed. Paris, 1839. 3 v., O.

Text-book department mathematics, 1823 to (?).—*Report Superintendent U. S. Military Academy*, 1896, p. 45.

620 Sg. 22 **Sganzin (M. I.)**: An Elementary Course of Civil Engineering . . . *tr.* from the Fr. in 1827 . . . 3d Fr. ed. Boston, 1827. 1 v., O.

Text-book department civil and military engineering, 1819 to (?).—*Report Superintendent U. S. Military Academy*, 1896, p. 164.

620 W. 40 **Wheeler (J. B.)** (U. S. Military Academy, 1855): An Elementary Course of Civil Engineering for the use of Cadets of the U. S. Military Academy. N. Y., 1877. 1 v., O.

Text-book department civil and military engineering, 1878 to (?).—*Cadet Register*, 1878, p. 34.

Mahan (D. H.) (U. S. Military Academy, 1824): Lithographic Notes on Machines.

Text-book department civil and military engineering, 1841 to 1878.—*Report Superintendent U. S. Military Academy*, 1896, p. 161, and *Cadet Register*, 1858, p. 17.

Hachette (J. N. P.): Traité Elémentaire des Machines.

Text-book department civil and military engineering, 1819 to (?).—*Report Superintendent U. S. Military Academy*, 1896, p. 160.

744 M. 20 **Mahan (D. H.)** (U. S. Military Academy, 1824): Industrial Drawing: comprising the description and uses of drawing instruments, the construction of plane figures, the projections and sections of geometrical solids, architectural elements, mechanism and topographical drawing, with remarks on the method of teaching the subject. N. Y., 1852. 1 v., O.

Text-book department civil and military engineering, 1870 to 1882.—*Report Superintendent U. S. Military Academy*, 1896, p. 132.

808 B. 60 **Blair (Hugh)**: Lectures on Rhetoric and Belles Lettres . . . to which are added copious questions and an analysis of each lecture by Abraham Mills. N. Y., 1830. 1 v., O.

Text-book department history, geography, and ethics, 1841 to 1861.—*Cadet Register*, 1841, p. 22, and 1861, p. 19.

808 H. 20 **Hart (John S.)**: A Manual of Composition and Rhetoric. Phila., 1871. 1 v., O.

Text-book department history, geography, and ethics, 1877 to 1878, and department French and English studies and modern languages, 1878 to 1893.—*Report Superintendent U. S. Military Academy*, 1896, p. 144.

808 P. 20 **Parker (Richard Green)**: Aids to English Composition . . . 20th ed. N. Y., 1858. 1 v., O.

Text-book department ethics, 1860 to 1867.—*Cadet Register*, 1860, p 18, and 1867, p. 24.

808 W. 50 **Williams (William)**: Composition and Rhetoric by Practice . . . Revised and enlarged. Boston, 1898. 1 v., O.

Text-book department modern languages, 1893 to (?).—*Report Superintendent U. S. Military Academy*, 1896, p. 145.

808.5 Sa. 79 **Sargent (Epes)**: The Standard Speaker, containing exercises in prose and poetry for declamation in schools, academies . . . a treatise on oratory and elocution . . . 1st ed. Phila., 1854. 1 v., O.

Text-book department ethics, 1855 to 1867.—*Cadet Register*, 1855, p. 22, and 1867, p. 24.

842 B. 70 **Bôcher (Ferdinand)**: College Series of French Plays, with English Notes . . . 5th ed. N. Y., 1864. 1 v., O.

Text-book department French and modern languages, 1872 to (?).—*Report Superintendent U. S. Military Academy*, 1896, p. 139.

843.5 Lh **Sage, Le**: Histoire de Gil Blas de Santillane, Vols. I, II, III, IV. Paris, 1829. 1 v., O.

Text-book department French, 1821 to 1841.—*Report Superintendent U. S. Military Academy*, 1896, p. 138.

909 D. 91 **Duruy (Victor):** General History of the World . . . *tr.* by E. A. Grosvenor. N. Y., 1898. 1 v., O.

Text-book department law and history, 1900 to (?).—*Cadet Register*, 1900, p. 32.

909 F. 50 **Fisher (George Park):** A Brief History of the Nations and of Their Progress in Civilization. N. Y., 1896. 1 v., O.

Text-book department law and history, 1899.—*Cadet Register*, 1899, p. 32.

909 F. 52 **Fisher (George Park):** Outlines of Universal History, designed as a text-book . . . N. Y., 1885. 1 v., O.

Text-book department law and history, 1898.—*Cadet Register*, 1898, p. 32.

909 M. 95 **Myers (P. V. N.):** General History. Bost. and Lond., 1892. 1 v., O.

Text-book department law and history, 1896 and 1897.—*Report Superintendent U. S. Military Academy*, 1896, p. 159, and *Cadet Register*, p. 32, for 1897.

909 Sw. 50 **Swinton (William):** Outlines of the World's History, Ancient, Mediæval, and Modern, with special relation to the history of civilization and the progress of mankind. N. Y., 1874. 1 v., O.

Text-book department history, geography, and ethics, 1883 to 1896.—*Report Superintendent U. S. Military Academy*, 1896, p. 156.

909 T. 92 **Tytler (Alexander Fraser):** Elements of General History, Ancient and Modern, to which are added a table of Chronology, etc. . . . 2d Am. from 5th British ed. Phila., 1813. 1 v., O.

Text-book department history, geography, and ethics, 1820 to 1825.—*Am. State Papers, Military Affairs*, Vol. II, pp. 661, and *Report of Board of Visitors*, 1821–1825.

909 W. 30 **Weber (George, Dr.):** Outlines of Universal History, from the creation of the world to the present time . . . *tr.* from the German by Dr. M. Behr . . . 3d ed. Boston, 1854. 1 v., O.

Text-book department history, geography, and ethics, 1856 to 1861.—*Cadet Register*, 1856, p. 22, and 1861, p. 17.

Geography, (by Morse ?) *See* the next entry.

Text-book U. S. Military Academy, 1814 to 1816.— *Partridge MS.*

910 M. 70 **Morse (Jedidiah):** The American Universal Geography, or a view of the present state of all the Kingdoms, States, and Colonies in the known world . . . 6th ed. Boston, 1812. 1 v., O.

Text-book department geography, history, and ethics, 1820 to 1825 and 1848 to 1867.—*Cadet Register*, 1848, p. 23, and 1867, p. 24, and *Report of Board of Visitors*, 1821–1825.

910 W. 50 **Willetts (Jacob):** New and Improved School Geography, accompanied by a new and correct atlas . . . 5th ed. Poughkeepsie, 1842. 1 v., O.

Text-book department history, geography, and ethics, 1844 to 1846.—*Cadet Register*, 1844, p. 21, and 1846, p. 21.

911 L. 13 **Labberton (Robert H.):** Historical Atlas, 3800 B. C. to 1886 A. D. . . . 5th ed. [Title changed to "Universal History" in 1902.] N. Y., 1891. 1 v., O.

* Text-book department history, geography, and ethics, 1885 to 1896, and law and history, 1896 to (?).—*Cadet Register*, 1885, p. 31.

912 **Times Atlas:**

* This book is furnished to Cadets and kept in their rooms during term time since 1902.

912 **Century Atlas:**

* This book is furnished to Cadets and kept in their rooms during term time since 1902.

914.95 B. 25 **Barthélemy** (**J. J.**): Voyage de Jeune Anacharsis en Grèce vers le milieu du IVe siécle avant l'ére vulgaire. Paris, 1848. 1 v., O.

Text-book department French, 1841 to 1847. *Report Superintendent U. S. Military Academy*, 1896, p. 138, and *Cadet Register*, 1847, p. 23.

C. 916 Extracts from McClellan's Military Commission to Europe.

Text-book department civil and military engineering, 1860.—*Cadet Register*, 1860, p. 17.

973 L. 60 **Lossing** (**Benson J.**): A Pictorial History of the United States. N. Y., 1854. 1 v., O.

Text-book department history, geography, and ethics, 1855 to 1858.—*Cadet Register*, 1855, p. 22, and 1858, p. 19.

1224.105 (By authority.) Cavalry Tactics U. S. Army, assimilated to the tactics of infantry and artillery. N. Y., 1878. 1 v., O.

Text-book department tactics, 1855 to (?).—*Cadet Register*, 1855, p. 20.

1222.821 U. S. Cavalry Drill Regulations.

Text-book department tactics, 1896 to present date.—*Cadet Register*, 1896, p. 31.

1300 Tentative Infantry Drill Regulations.

* Text-book department tactics, 1902 to present date.—*Regulations U. S. Military Academy*, 1902, par. 28.

1332 Manual of Arms.

* Text-book department tactics, 1895 to present date.—*Regulations U. S. Military Academy*, 1895, pars. 28, 42, and 55.

1333 Manual of Guard Duty.

* Text-book department tactics, 1893 to 1901.

——— Revised Manual of Guard Duty.

* Text-book department tactics, 1902 to date.—*Regulations U. S. Military Academy*, pars. 270 and 282.

——— U. S. Army Infantry Drill Regulations.

Text-book department tactics, 1892 to (?).—*Cadet Register*, 1892, p. 31.

——— U. S. Army Drill Regulations.

Text-book department tactics, 1860 to (?).—*Cadet Register*, 1860, p. 18.

——— Tactics; Rules and regulations prescribed for infantry drill service.

Text-book department tactics, from (?) to 1821.—*Report Superintendent U. S. Military Academy*, 1896, p. 124.

1367.90 Extracts from an Infantry Captain's Journal. General Von Arnim—Colonel Wagner.

* Text-book department tactics, 1897 to present date.—*Regulations U. S. Military Academy*, 1897, pars. 28, 29 and 30.

1381.15 **Scott** (**W. S.**), Maj. Gen.: (By authority). Infantry tactics, or rules for the exercise and maneuvers of the U. S. Infantry. N. Y., 1846. 3 v., O.

Text-book department tactics, 1841 to 1870.—*Cadet Register*, 1841, p. 22, and 1870, p. 26.

1381.30 **Upton** (**Emory**) Maj. Gen. (U. S. Military Academy, 1861): (By authority). Infantry tactics; double and single rank, adapted to American topography and improved firearms. N. Y., 1880. 1 v., O.

Text-book department tactics, 1871 to 1891.—*Cadet Register*, 1871, p. 21, and 1891, p. 31.

1366.120 **Beach (Wm. D.)**, Capt. U. S. A. (U. S. Military Academy, 1879): Manual of military field engineering for the use of officers and troops of the line. Fort Leavenworth, 1894. 1 v., O.

Text-book department practical military engineering. 1902 to (?).—*Cadet Register*, 1902, p. 31.

1427.30 **Carter (William H.)**, Capt. U. S. A. (U. S. Military Academy, 1873): Horses, Saddles, and Bridles. Leavenworth, Kans., 1895. 1 v., O.

*Text-book department tactics, 1902 to (?).—*Cadet Register*, 1902, p. 32.

1434.800 **Fitzwygram (F.)**, Sir: Horses and Stables . . . 3d ed. London, 1886. 1 v., O.

Text-book department tactics, 1896 to (?).—*Report Superintendent U. S. Military Academy*, 1896, p. 127.

1486.950 **Youatt (Wm.)**: On the Horse . . . A new edition . . . together with a general history of the horse, and an essay on the ass and the mule. Phila., 1844. 1 v., O.

Text-book department tactics, 1859 to 1861.—*Report Superintendent U. S. Military Academy*, 1896, p. 126, and *Cadet Register*, 1861, p. 18.

1566.12 **Wagner (Arthur L.)** (U. S. Military Academy, 1865): Organization and Tactics. N. Y., 1895. 1 v., O.

Text-book department civil and military engineering, 1899 to (?).—*Cadet Register*, 1899, p. 32.

Gardiner (Asa Bird): Practical Forms for use in Courts-Martial and Head Notes on the Law of Evidence in Courts-Martial, etc.

Text-book department law, 1875 to 1878.—*Report Superintendent U. S. Military Academy*, 1896, and *Cadet Register*, 1878, p. 34.

1658 General Orders, No. 100—A. G. O. (1863.) Washington, 1864. 1 v., O.

Text-book department law, 1879 to 1896.—*Cadet Register*, 1879, p. 34, and 1896, p. 32.

1676.20 **Benét (S. V.)** (U. S. Military Academy, 1849): A Treatise on Military Law and the Practice of Courts-Martial. N. Y., 1862. 1 v., O.

Text-book department history, geography, and ethics, 1863 to 1875.—*Report Superintendent U. S. Military Academy*, 1896, p. 157, and *Cadet Registers*, 1863, p. 17, and 1875 p. 28.

1680 **De Hart (William C.)**: Observations on Military Law and the Constitution and Practice of Courts-Martial, with a summary of the law of evidence as applicable to military trials. N. Y., 1846. 1 v., O.

Text-book department history, geography, and ethics 1858 to 1862.—*Report Superintendent U. S. Military Academy*, 1896, p. 156, and *Cadet Register*, 1862, p. 17.

1683.20 **French (J. W.)**, Rev.: Law and Military Law, with an analysis by subjects. N. Y., 1861. 1 v., O.

Text-book department history, geography, and ethics 1862 to 1875, and department of law 1875 to 1877.—*Report Superintendent U. S. Military Academy*, 1896, p. 157, and *Cadet Register*, 1877, p. 36. [Note: This book was not used in 1869-70. E. E. W.]

1686 **Ives (Rollin A.)** (U. S. Military Academy, 1870): A treatise on Military Law and the Jurisdiction, Constitution, and Procedure of Military Courts. N. Y., 1879. 1 v., O.

Text-book department law, 1878 to 1886.—*Report Superintendent U. S. Military Academy*, 1896, p. 31.

1719.96 **Winthrop (W.)**: An abridgment of military law . . . 2d revised ed. N. Y., 1895. 1 v., O.

Text-book department law, 1886 to 1897.—*Report Superintendent U. S. Military Academy*, 1896, p. 157, and *Cadet Register*, 1897, p. 32.

1744.500 Articles of War, Military Laws, and Rules and Regulations for the Army of the United States. A. &. I. G. O., 1816. 1 v., O.

Text-book department history, geography, and ethics, 1860.—*Cadet Register*, 1860, p. 27.

R. 7009.90 **Willcox (Cornélis de Witt)** (U. S. Military Academy, 1885): A French-English Military Technical Dictionary. Washington, 1899. 1 v., O.

*Text-book department modern languages, 1902 to (?).—*Cadet Register*, 1902, p. 31.

7025.120 **Cooke (A. C.)**, Col., and others: Aide-Mémoire for the use of Officers of Royal Engineers, pts. 1 and 2. London, (n. d.) 1 v., O.

*Text-book department civil and military engineering, 1886 to 1895.—*Cadet Register*, 1886, p. 31, and 1895, p. 32.

7026.750 **Ernst (O. H.)**, Capt. (U. S. Military Academy, 1864): A manual of Practical Military Engineering. N. Y., 1873. 1 v., O.

*Text-book department practical military engineering, 1874 to 1901.—*Report Superintendent U. S. Military Academy*, 1896, p. 173, and *Cadet Register*, 1874, p. 29, and 1901, p. 32.

7026.903 Instruction in Military Engineering, embodying a portion of the course of instruction at the School of Military Engineering, Chatham, England. London, 1898. 6 v., O.

*Text-book department practical military engineering, 1895 to (?).—*Report Superintendent U. S. Military Academy*, 1896, p. 173.

7028.29 Professional Papers of the Corps of Engineers, U. S. Army, No. 29—Topographical Reconnaissance; being Chapter I of the Engineer Field Manual, prepared under the direction of the commanding officer of the Engineer School of Application. Washington, 1901, 1 v., O.

Text-book department practical military engineering, 1902 to (?).—*Cadet Register*, 1902, p. 31.

7030 **Bailey (J. W.)** (U. S. Military Academy, 1832): Chemical Notes on Gunpowder and its Materials (lithographed).

Text-book department chemistry, (?) 1840 to (?).

—— The copy in the Library contains notes that show this book to have been used as a text-book.

7030.250 **Mahan (D. H.)** (U. S. Military Academy, 1824): Lithographic Notes on Architecture. West Point, 1840. 1 v., F.

Report Superintendent U. S. Military Academy, 1896, p. 161, and *Cadet Register*, 1858, p. 17.

7030.250 **Mahan (D. H.)** (U. S. Military Academy, 1824): Lithographic Notes supplementary to the Course of Permanent Fortifications. West Point, 1840. 1 v., F.

Text-book department civil and military engineering, 1841 to 1864.—*Report Superintendent U. S. Military Academy*, 1896, p. 117, and *Cadet Register*, 1864, p. 17.

7030.300 **Wheeler (J. B.)** (U. S. Military Academy, 1855): A text-book of Military Engineering for the use of Cadets of the U. S. Military Academy. Part I. Permanent Fortifications; Parts II and III. Siege Operations and Military Mining. N. Y., 1885. 2 v., O.

Text-book department civil and military engineering, 1883 to 1894.—*Cadet Register*, 1883, p. 31, and 1894, p. 31.

7080 The Elements of Fortification . . . *tr.* from the French by Jonathan Williams . . . 2d ed. (n. p.) 1801. 1 v., O.

Text-book department civil and military engineering 1808 (?).—*Report Superintendent U. S. Military Academy*, 1896, p. 160.

7098.50 **Fiebeger (G. J.)** (U. S. Military Academy, 1879): A text-book of Field Fortification . . . 1st ed. N. Y., 1901.

Text-book department civil and military engineering, 1899 to (?).—*Cadet Register*, 1899, p. 32.

Fiebeger (G. J.) (U. S. Military Academy, 1879): Pamphlet on Permanent Fortifications.

Text-book department civil and military engineering, 1901 to (?).—*Cadet Register*, 1901, p. 32.

7194.600 **Mahan (D. H.)** (U. S. Military Academy, 1824): Permanent Fortifications, revised and enlarged by James Mercur. 2d ed. N. Y., 1888. 1 v., O.

Text-book department civil and military engineering, 1888 to 1900.—*Report Superintendent U. S. Military Academy*, 1896, pp. 131 and 132.

Mahan (D. H.) (U. S. Military Academy, 1824): Elementary Course of Permanent Fortification . . . Revised by J. B. Wheeler.

Text-book department civil and military engineering, 1874 to 1883.—*Cadet Register*, 1874, p. 29, and 1883, p. 31.

7194.602 **Mahan (D. H.)** (U. S. Military Academy, 1824): Lithographic Notes on Mines and other Accessories. West Point (n. d.). 1 v., Q.

Text-book department civil and military engineering, 1841 to 1864.—*Report Superintendent U. S. Military Academy*, 1896, p. 125.

7194.602 **Mahan (D. H.)** (U. S. Military Academy, 1824): Summary of the Course of Permanent Fortification and the Attack and Defense of Permanent Works. West Point, 1850. 1 v., O.

Text-book U. S. Military Academy, 1850. The copy in the library contains notes that show this book to have been used as a text-book.

7195 **Mahan (D. H.)** (U. S. Military Academy, 1824): Outlines of Permanent Fortifications . . . See A Treatise on Field Fortification, containing . . . general outlines . . . of permanent fortifications. N. Y., 1848. 1 v., O.

Text-book department civil and military engineering, 1865 to 1873.—*Cadet Register*, 1865, p. 25, and 1873, p. 28.

7196 **Mahan (D. H.)** (U. S. Military Academy, 1824): A Treatise on Field fortification; containing instructions on the methods of laying out, constructing, defending, and attacking intrenchments, with the general outlines also of the arrangement, the attack and defense of permanent fortifications. 4th enlarged ed. Richmond, 1862. 1 v., O.

Text-book department civil and military engineering 1841 to 1879.—*Report Superintendent U. S. Military Academy*, 1896, p. 161, and *Cadet Register*, 1879, p. 34.

7233.50 **Mercur (James)** (U. S. Military Academy, 1866): Attack of Fortified Places, including Siege works, Mining, and Demolitions . . . 1st ed. N. Y., 1894. 1 v., O.

Text-book department civil and military engineering 1895 to (?).—*Cadet Register*, 1895, p. 32.

7345.125 Text-book of Fortification and Military Engineering, for use at the Royal Military Academy, Woolwich. Lond., 1878. 1 v., O.

*Text-book department practical military engineering, 1896 to (?).—*Report Superintendent U. S. Military Academy*, 1896, p. 173.

7377.500 **Wheeler (J. B.)** (U. S. Military Academy, 1855): Elements of Field Fortification. N. Y. 1882. 1 v., O.

Text-book department civil and military engineering, 1879 to 1898.—*Report Superintendent U. S. Military Academy*, 1896, p. 32.

7388.50 Organization of the Bridge Equipage of the U. S. Army; with directions for the construction of military bridges . . . Prepared by a board of Engineer officers. Washington, 1870. 1 v., O.

Text-book department practical military engineering, 1895 to (?).—*Report Superintendent U. S. Military Academy*, 1896, p. 173.

7390.500 **Mercur (James)** (U. S. Military Academy, 1866): Military Mining. n. p., n. d., 1 v., O.

Text-book department civil and military engineering, 1892 to 1894.—*Cadet Register* 1892 and 1894, p. 31.

7430.212 **Bruff (Lawrence L.)** (U. S. Military Academy, 1876): Exterior Ballistics, Gun Construction, and U. S. Seacoast Guns. West Point, 1892. 1 v., O.

Text-book department ordnance and gunnery, 1870 to 1886.—*Report Superintendent U. S. Military Academy*, 1896, p. 180.

7430.214 **Bruff (Lawrence L.)** (U. S. Military Academy, 1876): Gunpowder and Interior Ballistics. West Point, 1892. 1 v., O.

Text-book department ordnance and gunnery, 1893 to 1898.—*Cadet Register*, 1893 and 1898, p. 32.

7430.281 **Ingalls (J. M.)**: Ballistic Tables for Direct, Curved, and High-angle Fire.

Text-book department ordnance and gunnery, 1899 to present date.—*Cadet Register*, 1899, p. 32.

7483.290 **Anderson (Robert)** (U. S. Military Academy, 1825): Instruction for Field Artillery, Horse and Foot, translated from the French and arranged for the service of the United States. Phila., 1839. 1 v., O.

Text-book department tactics, 1841 to 1848.—*Cadet Register*, 1841, p. 22, and 1848, p. 22.

——— Exercise and Instruction in Field Artillery; a system prepared by a board of officers at Washington in 1826, by order of the Secretary of War.

Text-book department tactics from (?) to (?).—*Report Superintendent U. S. Military Academy*, 1896, p. 180.

7503.20 **Scheele (M. de)**: Treatise of Artillery; containing a new system. Phila., 1800. 1 v., O.

Text-book department tactics from (?) to (?).—*Report Superintendent U. S. Military Academy*, 1896, p. 179.

7508 M. **Ingalls (James M.)**: Course of Instruction for Artillery Gunners. Ballistics, with supplement. Washington, 1893 and 1895. 2 v., O.

Text-book department ordnance and gunnery, 1892 to (?).—*Report Superintendent U. S. Military Academy*, 1896, p. 180, and *Cadet Register*, 1892, p. 32.

7510.900 **Lallemand (H.)**: A Treatise on Artillery; to which is added a summary of military reconnoitering, of fortification, of the attack and defense of places, and of castramentation . . . *tr.* from the manuscript of the author by James Renwick. N. Y., 1820. 2 v., O.

Text-book department tactics, 1824.—*American State Papers, Military Academy*, Vol. II, p. 661.

7514 **Thiroux (M.)**: Instruction théorique et pratique d'Artillerie à l'usage des elèves de l'école militaire de Saint-Cyr . . . Troisième ed. Paris, 1849. 1 v., O.

Text-book department ordnance and gunnery, 1841 to 1860.—*Report Superintendent U. S. Military Academy*, 1896, p. 180, and *Cadet Register*, 1860, p. 17.

7514.150 **Tousard (Louis) de**: American Artillerist's Companion, or Elements of Artillery. Phila., 1809. 3 v., O.

Text-book U. S. Military Academy, 1816.—*Proc. C. C. M. MS.*, p. 98.

7506.755 **Knowlton (Miner)** (U. S. Military Academy, 1829): Notes on Gunpowder, Percussion Powder, Cannon, and Projectiles. West Point, 1839. 1 v., F.

Text-book department ordnance and gunnery, 1841 to 1856.—*Report Superintendent U. S. Military Academy*, 1896, p. 179, and *Cadet Register*, 1856, p. 20.

7516.760 **Mordecai (Alfred)** (U. S. Military Academy, 1861): Report of Experiments on Gunpowder made at Washington Arsenal in 1843 and 1844. Washington, 1845. 1 v., O.

Text-book department ordnance and gunnery, 1850 to 1859.—*Report Superintendent U. S. Military Academy*, 1896, p. 180, and *Cadet Register*, 1859, p. 16.

7519.500 **Tidball (John C.)** (U. S. Military Academy, 1848): (By authority.) Manual of Heavy Artillery Service for the use of the Army and Militia of the United States . . . 4th ed. Washington, 1891. 1 v., O.

Text-book department tactics, 1881 to 1898.—*Report Superintendeut U. S. Military Academy*, 1896, p. 127, and *Cadet Register*, 1881 and 1898, p. 31.

7543 **Dyer (A. B.)** (U. S. Military Academy, 1837): Handbook for Light Artillery . . . 1st ed. N. Y., 1896. 1 v., O.

*Text-book department tactics, 1900 to (?).—*Cadet Register*, 1900, p. 31.

——— Manual of Instruction, Mountain, Siege, Artillery, etc.

*Text-book department tactics, 1901 to present date.—*Regulations U. S. Military Academy*, 1901, pars. 28–29.

7545 Light Artillery Drill Regulations, U. S. Army. Washington, 1891. 1 v., 16mo.

Text-book department tactics, 1850 to (?).—*Report Superintendent U. S. Military Academy*, 1896, p. 126, and *Cadet Register*, 1850, p. 22.

——— Notes on Fabrication of Cannon and Projectiles.

Text-book department ordnance and gunnery, 1858 to 1859.—*Cadet Registers*, 1858, p. 17, and 1859, p. 16, and *Report Superintendent U. S. Military Academy*, 1896, p. 180.

7570 **Benton (J. G.)** (U. S. Military Academy, 1842): A Course of Instruction in Ordnance and Gunnery. N. Y., 1867. 1 v., O.

Text-book department ordnance and gunnery, 1861 to 1889.—*Cadet Registers*, 1861, p. 17, and 1889, p. 32.

7570.600 **Bruff (Lawrence L.)** (U. S. Military Academy, 1876): A Text-book of Ordnance and Gunnery . . . 1st ed. N. Y., 1896. 1 v., O.

Text-book department ordnance and gunnery, 1895 to 1901.—*Cadet Register*, 1895, p. 32.

2d ed. of above, revised and enlarged by F. E. Hobbs (N. Y.), 1901, 1 v., O, used from 1902 to ———.

——— **Kinsley (Z. J. D.)** (?): Pyrotechny.

Text-book department ordnance and gunnery, 1841 to 1853.—*Report Superintendent U. S. Military Academy*, 1896, p. 179, and *Cadet Register*, 1853, p. 22.

7573.161 **Mordecai (Alfred)** (U. S. Military Academy, 1861): Ordnance and Gunnery Pamphlets Nos. 1, 2, 3, 4, and 5. n. p., n. d. 5 v., O.

Text-book department ordnance and gunnery, 1883 to 1889.—*Cadet Register*, 1883, p. 32, and 1889, p. 32.

7573.150 **Metcalfe (Henry)** (U. S. Military Academy, 1868): A course of Instruction in Ordnance and Gunnery . . . 3d ed. N. Y., 1894. 1 v., O.

Text-book department ordnance and gunnery, 1890 to 1894.—*Report Superintendent U. S. Military Academy*, 1896, p. 180, and *Cadet Register*, 1890, p. 32, and 1894, p. 32.

7573.200 The Ordnance Manual for the use of the Officers of the United States Army . . . 2d ed. Washington, 1850. 1 v., O.

Text-book department ordnance and gunnery, 1859 to 1861.—*Report Superintendent U. S. Military Academy*, 1896, p. 130.

Tactics for Garrison Artillery.

Text-book department tactics, 1850 to (?).—*Report Superintendent U. S. Military Academy*, 1896, p. 126, and *Cadet Register*, 1850, p. 22.

7641.120 **Blunt (Stanhope E.), Capt.** (U. S. Military Academy, 1872): (By authority.) Firing Regulations for Small Arms for the United States Army. N. Y., 1889. 1 v., O.

Text-book department tactics, 1887 to 1898.—*Report Superintendent U. S. Military Academy*, 1896, p. 127, and *Cadet Register*, 1887 and 1898, par. 30.

7643.75 Outlines of instruction in Small-Arms Firing, based on small-arms firing regulations as modified by General Orders, No. 36, Adjutant-General's Office, 1897. West Point, 1898. 1 v., O.

Text-book department tactics, 1899 to (?).—*Cadet Register*, p. 31.

7676.200 **Roberts (Joseph), Capt.** (U. S. Military Academy, 1835): The hand-book of artillery for the service of the United States. N. Y., 1860. 1 v., O.

Text-book department tactics, 1878 to 1880.—*Cadet Register*, 1878, p. 34, and 1880, p. 36.

7913.1 **Jomini, Baron de:** Summary of the Art of War, or a new analytical compend of the principal combinations of strategy, of grand tactics and of military policy . . . *tr.* from the French by Maj. O. F. Winship and Lieut. E. E. McLean. N. Y., 1854. 1 v., O.,

Text-book department tactics, 1859 to 1860.—*Report Superintendent U. S. Military Academy*, 1896, p. 126, and *Cadet Register*, 1860, p. 17.

7914.990 **Mercur (James)** (U. S. Military Academy, 1866): Elements of the Art of War. West Point, 1889. 1 v., O.

Text-book department civil and military engineering, 1889 to 1898.—*Report Superintendent U. S. Military Academy*, 1896, p. 31, and *Cadet Register*, 1898, p. 32.

7917.80 **Vernon (Guy) de:** A treatise on the science of war and fortification . . . *tr.* by Jno. J. O'Connor, captain, U. S. Army. N. Y., 1817. 2 v., O.

Text-book department civil and military engineering, 1818 to (?).—*Report Superintendent U. S. Military Academy*, 1896, p. 160.

7928 **Wheeler (J. B.)** (U. S. Military Academy, 1855): A course of instruction in the Elements of the Art and Science of War. N. Y., 1879. 1 v., O.

Text-book department civil and military engineering, 1879 to 1888.—*Cadet Register*, 1879, p. 34, and 1888, p. 31.

7969.30 **Beach (W. D.)** (U. S. Military Academy, 1879): Military Map reading.

Text-book deparment tactics, 1897 to present date.—*Regulations U. S Military Academy*, 1897, pars. 28 to 30.

8031.97 **Mahan (D. H.)** (U. S. Military Academy, 1824): Lithographic Notes on . . . Composition of Armies and Strategy. (West Point), n. d. 1 v., O.

Text-book department civil and military engineering, 1841 to 1859.—*Report Superintendent U. S. Military Academy*, 1896, p. 116, and *Cadet Register*, 1859, p. 16.

8031.97 **Mahan (D. H.)** (U. S. Military Academy, 1824): Lithographic notes on the Attack and Defense of Permanent Works. West Point, 1840. 1 v., Q.

Text-book department civil and military engineering, 1841 to 1864.—*Report Superintendent U. S. Militaey Academy*, 1896, p. 117.

8031.98 **Mahan (D. H.)** (U. S. Military Academy, 1824): An elementary treatise on Advanced-Guard, Out-post, and Detachment service of troops, and the manner of posting and handling them in the presence of an enemy. N. Y., 1847. 1 v., O.

Text-book department civil and military engineering, 1841 to 1859.—*Cadet Register*, 1841, p. 22, and 1859, p. 16.

8032 **Mahan (D. H.)** (U. S. Military Academy, 1824): Advanced-Guard, Outpost, and Detachment service of Troops, with the essential principles of strategy and grand tactics, for the use of officers of the militia and volunteers . . . New ed. N. Y., 1863. 1 v., O.

Text-book department civil and military engineering, 1848 to 1872.—*Report Superintendent U. S. Military Academy*, 1896, p. 161, and *Cadet Register*, 1872, p. 28.

8032.1 **Mahan D. H.** (U. S. Military Academy, 1824): Advanced-Guard, Outpost, and Detachment service of Troops, with the essential principles of strategy and grand tactics. N. Y., 1864. 1 v., O.

Text-book department tactics, 1859 to (?).—*Report Superintendent U. S. Military Academy*, 1896, p. 126.

8050.70 **Anderson (Edward), First Lieut., U. S. Army** (U. S. Military Academy, 1888): Manual of the service of security and information, prepared for the use of Cadets at the U. S. Military Academy, by order of Lieut. Col. O. L. Hein, Commandant of Cadets. West Point, 1900. 1 v., O.

Text-book department tactics, 1900 to (?).—*Cadet Register*, 1900, p. 32.

8051 **Wagner (Arthur L.)** (U. S. Military Academy, 1875:) The service of Security and Information. Washington, 1893. 1 v., O.

Text-book department tactics, 1896 to (?).—*Report Superintendent U. S. Military Academy*, 1896, p. 127.

8051 Manual of the Service of Security and Information.

Text-book department tactics, 1901 to present date.—*Cadet Register*, 1901, p. 32.

8051.28 **Myer (Albert J.)**: A manual of signals for the use of signal officers in the field, and for military and naval students, military schools, etc. . . . New ed. N. Y., 1866. 1 v., O.

Text-book department practical military engineering, 1868 to 1887.—*Cadet Register*, 1868, p. 25, and 1887, p. 31.

8065 **Dufour (G. H.) Gen.:** Strategy and Tactics . . . *tr.* from the latest French edition by Wm. P. Craighill. N. Y., 1864. 1 v., O.

Text-book department civil aud military engineering, 1873 to 1878.—*Cadet Register*, 1873, p. 28, and 1878, p. 34.

8132 Manual of Instruction, Packtrain, etc.

Text-book department tactics, 1901 to present date.—*Regulations U. S. Military Academy*, 1901, pars. 28, 29, and 30.

Tactics for Siege Artillery.

Text-book department tactics, 1850 to (?).—*Report Superintendent U. S. Military Academy*, 1896, p. 126, and *Cadet Register*, 1850, p. 22.

Tactics for Garrison, Siege, and Field Artillery.

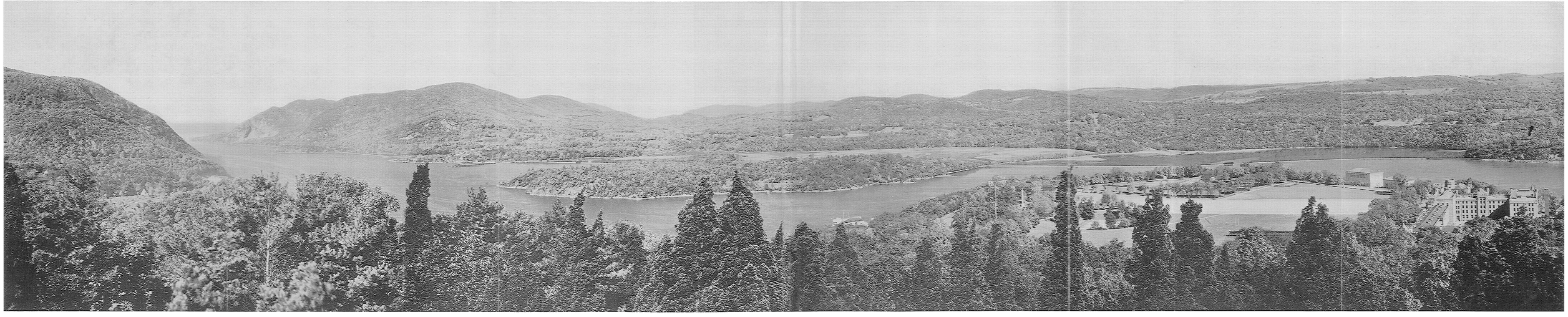
Text-book department ordnance and gunnery, 1850 to (?).—*Report Superintendent U. S. Military Academy*, 1896, p. 180.

8681.72 **Voltaire, M. de:** History of Charles XII, King of Sweden. Boston, 1884. 1 v., O.

Text-book department French, 1832 to (?).—*Report Superintendent U. S. Military Academy*, 1896, p. 138.

P. 70 **Figaro (Daily):** (3 months subscription each year.)

Text-book department modern languages, 1895 to (?).—*Cadet Register*, 1895, p. 30.



PANORAMA OF WEST POINT, FROM FORT PUTNAM, I.

(Taken by Mr. W. H. Stockbridge, Department of Drawing, U. S. M. A., 1904.)

THE GENIUS OF WEST POINT.

By Colonel CHARLES W. LARNED, U. S. Army,
Professor of Drawing, United States Military Academy; United States Military Academy, 1870.

ARTILLERY PRIVATE, 1823.

THE position of West Point among institutions of learning possesses a certain aloofness that separates it, not so much by virtue of any single difference in matter or method, as by a special association of these addressed to a particular end and with a single purpose. To understand West Point and its achievement it must be borne in mind that it is a school of definite purpose and of carefully adjusted methods, rigidly applied. It is perhaps more than any other educational institution *sui generis;* and in its adherence to an organic standard and a characteristic ideal it is more conservative and consistent than any but theological seminaries of the most orthodox type. Its traditions are its strength; while its consistency of operation and singleness of purpose insure a high average standard of attainment within those limitations. They achieve something more—a something whose value is apt to be lost sight of by those who see only in limitation of scope a hampering of the flights of genius and an oppressive restriction of the liberty of *laisser faire* in intellectual attainment. This something is a well-balanced development of the mechanism of thinking based upon a thorough understanding of elementary principles.

The genesis of a great school is a gradual process depending mainly upon principle, personnel, and environment. In all of these the Military Academy has been fortunate. The

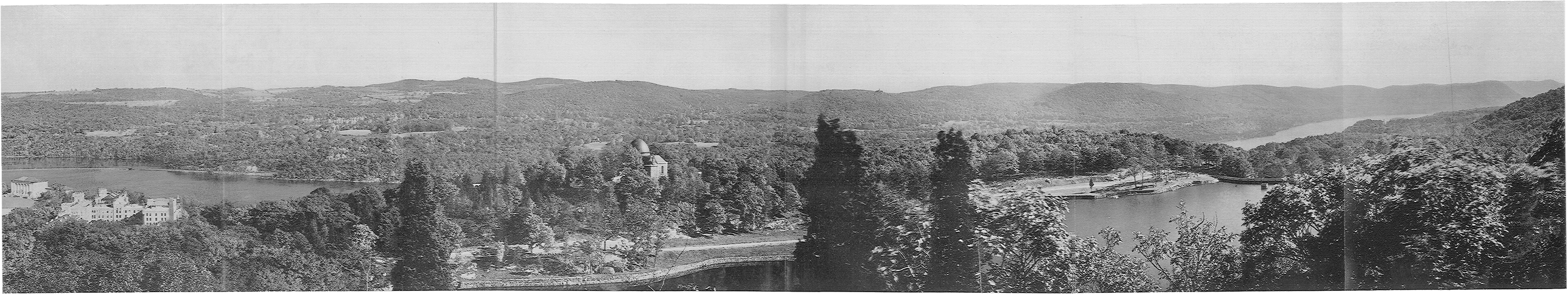
basic principles of its purpose and methods; the personality of the men guiding its formation and early operation; its ideal location for its special functions—all have been remarkable and admirable.

It is no small thing for an institution to trace its origin to the vital energy of great struggles and formative epochs and the initiative of heroic men.

West Point derives from George Washington the initial impulse of its existence; and, in the following words from his last annual message to Congress, the reason of its being and development are clearly expressed:—"Whatever arguments may be drawn from particular examples, superficially viewed, a thorough examination of the subject will evince that the art of war is both comprehensive and complicated; that it demands much previous study, and that the possession of it in its most improved and perfect state is always of great moment to the security of a nation."

It is doubly fortunate when to such an origin is added the providential gift of a great organizing mind associated with a character of superlative integrity and poise; and these qualities presided over its formative period in the personality of its great Superintendent, Thayer.

The birth of this school, however, was attended with throes and pangs that threatened its life, and for a period of several years it could without sensible error have been pronounced a miscarriage. Twice it was without graduates; in 1819 it was under the command of a second lieutenant and deprived of supplies of every kind; in 1812, and for some time after, it was without students or instructors. The Secretary of War under Madison—William Eustis—sought to strangle the infant school during this struggle for existence, and only the exigencies of the war of 1812 saved it from his hostile designs. It was again indebted to the stress of war for rescue from its opponents in Congress, who, just before the war with Mexico, had very nearly accomplished its overthrow. The vindication of that conflict, however, was so complete as to silence all hostility, and the great struggle of 1861 added such overwhelming testimony to its worth that no authoritative voice has since been raised against its existence.



PANORAMA OF WEST POINT, FROM FORT PUTNAM, II.

(Taken by Mr. W. H. Stockbridge, Department of Drawing, U. S. M. A., 1904.)

That war is a science whose details must be mastered in advance is the lesson that Prussia has twice taught the modern world; and Washington, at the beginning of our national career, saw this clearly, even under the less complex conditions of that day. From this consideration springs the *raison d'être* of the military school; and it is well to bear in mind that, whatever be the policy of this nation as to the size or character of its military establishment, the necessity for the school is paramount. Indeed, the necessity for the school grows greater in proportion as the size of the standing army diminishes. An ideal condition for a republic would be a minimum armed force and a maximum of thorough military instruction in high-grade military schools; a large supply of accomplished officers distributed throughout the land, ready at call to organize and lead the volunteer levies of the nation. At all times of military emergency the great embarrassment has been and will continue to be the lack of trained officers for the handling of such levies. There never will be a lack of men.

It is natural to a strong and self-reliant republic, which has developed aloof from the glitter and clash of modern militarism, to set small store on military matters and to underrate the discipline of military preparation. America has had too much to do on the farm and in the shop to spend much time in soldiering. From 1812 to 1898 it had but one foreign war, and that a little and very one-sided one. Eighteen hundred and sixty-one brought a sharp and stern awakening to the meaning of war on a large scale, but when the great volunteer armies went back to the farms and shops, after the family quarrel was settled, no one had any more taste for soldiering than before; and, as there was nothing to fear from the outside, the military lessons of the war were speedily ignored or forgotten. One of these lessons, which was rather ignored than forgotten, was the value of West Point as a military school of the first rank—of an institution whose record in the struggle was preëminent; of whose sons on both sides 445 wore the stars of a general's rank and held all the chief commands; West Point, which had organized victory in the scientific and supply corps, and which at Appomattox held

on the one side the sword of the victor; and, on the other, the pen of honorable capitulation. And yet there undoubtedly existed among a large body of our citizens a latent consciousness of the worth to these United States of America of the spirit of patriotism, duty, and integrity developed in the small corps of its servants who are nursed to their professional maturity by the Alma Mater in the Hudson Highlands.

The Military Academy is responsible to the Nation and not to the individual, both in its methods and in its results. It must guarantee a standard in its performance that will justify its existence as a national school; and, in consequence, it can not leave to the student an independent initiative in any matter bearing upon his development as a professional soldier. It is a machine in which a heterogeneous mass of raw material is transformed in the short space of four years into a finished product, molded, tested, and stamped with the sterling mark which has come to be recognized the world over. This brand of the Military Academy stands primarily for *character*. It does not mean that the individual is a finished expert in mathematics or engineering, or even in the science of war. It does not mean that he is a perfect automaton in military drill, a superior marksman, a rough rider, or a skilled artillerist. It means that, having had a sound, exacting grounding in all these things and in many more covering the whole field of usefulness of a soldier, he has had also the inestimable seasoning of his moral fiber which results from four years' immersion in an atmosphere of hard work, unsparing criticism, strict personal accountability for every act, large or small; simplicity of life; an exalted ideal of integrity, of duty, of truth telling; a tradition of a century of honor upheld by hundreds of names borne on the pages of his country's story.

In a fundamental respect West Point stands alone among military schools. The continental system is one of separated schools for the different arms of the service, and there is no high-grade general academy educating for all. West Point, however, has always and above all stood for something more—something which the foreign systems have lacked and which we have believed preëminently desirable; something

which it would appear has been well accomplished, and whose superlative worth has been abundantly proved and acclaimed in the achievements of the career of a century and the test of the greatest war of modern times. That something has three constituent principles:

I. Morale. The molding of character by a thorough, consistent, and continued discipline.

II. Mental Discipline. A thorough general training of the rational faculties.

III. The Military University. A general and comprehensive instruction of officers of all arms of the service in the elements of every military branch.

MORALE.

In regard to the first of the principles above enumerated it may be said to be basic, and that the paramount feature of West Point's work is its character developing and forming power. It must stand or fall principally by its achievement in this line of development. The wise purpose of its founders and the trend of its natural evolution have tended to make this feature of its work the dominant one, and the results have shown the production of tone and morale to be the supreme end as well of a military as of all education.

The progress in character development of the Cadet student is clearly defined. The status of the second-year man is as distinct and as much advanced above that of the first-year man as is successively that of his seniors above him in every quality of character, of mind, and of body. It is doubtful if such a metamorphosis as is presented by a comparison of the graduated Cadet with the "plebe" of four years before can be found in any other institution in the world. Erect, vigorous in physique, alert and active, with a mind trained to be thorough and systematic and to take nothing for granted; clean in habits of life, reverencing the truth, with a high sense of responsibility for every act; subordinate and respectful, and with a profound conviction that nothing is impossible so long as he "has the written order in his pocket," the graduate emerges from this four years' apprenticeship to hard work

and unrelenting discipline with all his energies at a maximum of efficiency and his character tempered like a Toledo blade.

The mechanism by which this transformation is effected has, over that of civil institutions, the immense advantages of single mindedness and authority. It aims at a special result for a specific purpose, and it possesses absolute authority for enforcing its methods. To this may be added the powerful leverage given by the fact that the prize of graduation is an honorable office in an honorable profession which bestows rank and competence. Unlike other institutions, it can not be indifferent to the general performance of its students. It exacts of every individual rigid conformity to its standard, and its minimum standard is proficiency in every branch of study taught in its curriculum. It stands *in loco parentis* not only over the mental but the moral, physical and, so to speak, the official man. It dominates every phase of his development, every moment of his academic existence. It becomes responsible for his physical, social, and official being. There is very little of his time over which it does not exercise a close scrutiny, and for which it does not demand a rigid accountability. To the layman this sounds intolerable and tyrannical, and as tending to a mechanical product, deficient in originality and initiative. Under other conditions and an administration less judicious than that formed by the experience of the wise and conscientious founders of its system, this might be true of a process savoring so strongly of Procrustes. As a matter of fact, it makes a "West Pointer;" and perhaps no other institution in the world has so strongly impressed its stamp upon the whole body of its alumni as the West Point Military Academy; while very few have endowed their graduates by their diplomas with a guaranty so universally accepted as *prima facie* evidence of character and high ability.

In its process of character development it possesses the powerful auxiliaries of self-interest and coercion. The candidate for the diploma of the Academy has his profession as well as his education at stake; in its dealings with him it has the autocratic power of military law—the legislative and executive authority of the nation behind it, and it uses both

these forces as unremitting impulses toward the attainment of high ideals of rectitude. It takes small heed of sentiment. It endeavors to keep its decisions unimpaired by those subtle and demoralizing influences which are involved in personal considerations and to hold the individual to strict responsibility for his use of the advantages offered him.

The only proper concern that the institution can have regarding the individual is that of exact and impartial justice. It offers him unusual opportunities and an honorable career: it exacts conformity with certain definite standards: it has no possible interest in his retention as a student other than this conformity; and its function between him and the interests of the nation is a purely judicial one—to decide whether or not he has reached these standards. If he fails, the connection is severed, and there are thousands ready and eager to fill the vacant place. Besides these two underlying forces of self-interest and the discipline of authority there is ever in operation the passive influence of tradition, not less potent in effect if less aggressive in character, which has developed with the growth and penetrated the vital system of the academic training. The atmosphere of West Point is surcharged with this tradition—this belief in its standards and methods. All careers are shaped by the point of view, and in an institution like this, in which a severe discipline controls the activities of the student body, the aspect in which truth and integrity are viewed becomes impressed upon the character—stamped into it, as a matter of fact, with a force that is quite indelible. A graduate may afterwards fall from the standard of his alma mater, but he never loses the impression of her work. The coin is stamped, although the metal may be base. How little base metal has been able to stand the fire and forge of this workshop the record shows—a record I believe unparalleled in the annals of professional education.

The purpose of West Point is to make a soldier who shall be an honorable, courageous, self-reliant, clear-thinking man, having a broad grasp of all the essentials of his profession.

It stands to a certain extent in its relation to the special schools of application as does the college to the professional

schools, in so far as it lays a broad foundation in the fundamentals of each, and aims so to prepare its graduates that, while possessing a firm grasp of the principles of operation of all corps of the Army, they shall be prepared to develop themselves in any special branch to the best advantage and with the greatest economy of time. It acts on the principle that *an officer is more efficient in any corps who is well posted in the technique of every corps*, and that general command and responsibility impose general knowledge and preparation.

The material upon which it works is the most heterogeneous imaginable—youth of good education, poor education, no education at all; from the plow, the office, the machine shop, luxury, destitution, competence; with brilliant, mediocre, or little ability; with high moral development, or with tendencies colored by demoralizing environment; with strict and with lax views of the obligations of truth. From these are to be weeded out the impossible, and of the rest are to be molded men whose temper is up to the standard test, so far as any human standard can be a test. West Point does this and in a way that has made its brand upon its wares recognized and respected the world over. Now and then faulty material will slip through. No human agency can prevent occasional evasion of fixed standards, but the final test is the general result.

The first point in its character-making is *Honor*. The views of rectitude and personal accountability, which have grown into the marrow of the institution, which are fostered by its authorities and have become its sacred code of honor, have a formative power impossible to be understood other than by experience. The Corps itself is the chief custodian and executive of this tradition, and it is this fact that makes it effective. Any code of honor which has its root in coercion lacks vital force, and its imposition carries neither conviction nor reformation. The youth gathered from the four corners of the Republic who come to West Point with many shades of habit and conviction regarding the protean aspects of a lie, are met here at the outset by one principle, uncompromising and stern. All shiftiness and evasion—the whole body of casuistry—must

be "policed" once and for all, for a man caught in a lie is damned—has lost his caste—and the Corps of Cadets is not for him. When this point of view is attained by a body of men, a very healthy and high plane of action has been reached. Hatred of a lie is a splendid disinfectant.

The next point in the ethical scale is, very naturally, *Courage;* which we who know our ethics understand to be divided into physical and moral. West Point demands both. The Corps is strenuous in its insistence upon the physical as a *sine qua non.* The logic of the matter is very simple:—War is Force and all its active situations demand physical bravery; a soldier is the agent of war—therefore he must be physically brave. Moral courage is admirable above physical bravery; but moral courage whose legs run the wrong way, although it may have a high and useful function, has it not on the battlefield. The Corps is, therefore, somewhat exacting in its criteria in this regard, and the Corps is right.

The third point is *Subordination.* The entire existence of the Cadet is one of subordination. From the "plebe" to the Superintendent he is surrounded by a hierarchy of graded responsibility and obligation. An order from a superior has the force of a cannon shot. To resist is not consistent with reason.

The fourth point is *Hard Work* for every one—the unending, uncompromising exactions of duty from reveille to taps. For four years there is no relaxation but a single furlough and the very rare and brief leaves of a day or two at holidays, dependent upon demerit records. Nowhere, except at the national schools, is so much exacted of every individual from first to last. There is no option; every Cadet must exactly perform every military and academic requirement or suffer the penalty; and the high value set upon the diploma of the Academy is shown by the desperate tenacity with which its students struggle to remain. A resignation, except in face of deficiency, is almost unknown.

MENTAL DISCIPLINE—THE CURRICULUM.

The academic course is based upon three fundamentals:

I. *Every man in every subject.*

II. *Every man proficient in everything.*

III. *Every man every day.*

In other words, every Cadet must take the whole course—there are no optional or exceptional studies; every Cadet must attain the standard in everything—deficiency in one subject is deficiency in the course; each Cadet must be prepared to recite every day upon all the subjects of study upon which he is engaged at that time. While all these are adhered to in principle and in practice, there is a slight qualification in each sufficient to give some flexibility of application. In the first, although all go through the same course of study, the highest men in the class go a little further in some subjects. In the second, although proficiency in all subjects is demanded, a Cadet standing well in other studies may, if deficient in one, be allowed to continue and make up a deficiency by the next examination or be turned back to join the next class if, in the judgment of the Academic Board, the conditions warrant this leniency. In the third, although every Cadet is likely to be called upon to recite at every attendance, occasionally he is passed over owing to lack of time. But the escape is so rare that it can never be counted upon, and the necessity for unremitting preparation is as great as though there were no exceptions. The recitations are not merely occasional or scattered questions, but a demonstration of principle at the board or the solution of problems, and are also frequently converted into written examinations either of principles or problems. There are, in addition, the regular semiannual examinations for the determination of proficiency which now are wholly written for the first two years, and largely so for the remaining ones.

At these examinations the burden of proof is upon the Cadet. The general standard of proficiency is 66 per cent. Should his mark for the term in any subject fall below that percentage of the maximum in that subject he is, *ipse facto*, deficient and must justify himself at examination or be dis-

charged. Any form of deception at recitations, besides being practically impossible, is frowned upon by the ethics of the Corps. The student stands absolutely upon his merits.

Each subject of study has a certain weight. The standing of a Cadet in each subject is determined by the total of his marks therein, while his count in the subject is obtained by giving to the head man its maximum count and to each other man the proportional part of that number, to the nearest hundredth, that his final total bears to the final total of the head man. His general standing is determined by the aggregate of his counts in all subjects of study and discipline.

In order that the principle of *every man every day* may be carried out the classes are divided into small sections of from 10 to 14 men, each section having a separate instructor. The student rises or falls in his class by transfer from one section to another, according to his weekly marks. These marks for all recitations are posted every week and each man has accurate knowledge of his status at all times. Study is in quarters during specified hours, and is varied with gymnastic and military duties.

The corner stone of the course is mathematics, and the bulk of the structure is made up of the exact sciences. The exceptions are the languages—English, French, Spanish; Constitutional, International, and Military Law; General History; the professional study of the Art of War, and lectures on Art and Architecture in the otherwise technical course of Drawing.

The course of study as it now stands is so exacting and extended that it demands under these conditions the utmost energies both of students and instructors. The strain is very severe and unrelenting, and the writer has seen, during his service of twenty-eight years, six of his associates break down under it—all in the prime of their faculties; two forced into premature retirement with shattered health, and four dying in harness after heroic struggles against disease. The story of their devoted lives is but little known beyond the scene of their activities; and the members of their shattered households, forced to leave their homes, in the majority of cases in straitened circumstances, have only the

heritage of honor bequeathed by lives of unpretentious devotion to a high ideal of duty.

It is not the function of this paper to treat of the details of the military course of instruction the purpose of which is to familiarize the Cadet with the duties and needs of a private in the ranks by practical experience; to impress indelibly upon his character the habit of discipline; and to train him to the function of command by its repeated exercise.

THE MILITARY UNIVERSITY.

The modern soldier requires, in addition to character and force, a versatility of resource and a wide range of military accomplishment which demand a fair and fundamental knowledge of all branches of his profession. Under advancing conditions this need of breadth of view and professional intelligence is a growing and not a diminishing necessity in military educational methods. The quality of mind and character with which the Military Academy has equipped its graduates in the past has made of them a grade of officers of general intelligence and resourcefulness superior to that of any other similar body of officers in the world—a fact which I believe to be abundantly shown by their record in military history, and generally acknowledged by foreigners who have come in contact with them.

This is not to say that the West Pointer thereby stands in any way preëminent for any of that specialistic knowledge which it is the function of special schools alone to give; but that he has attained, preliminary to any such technical perfection, a general grasp of the military profession, its requirements and interdependent relations, and a conception of the duties of a soldier altogether superior to that which can be acquired in any special course of instruction. Upon this broad ground of attainment can be built to the best advantage all of the various technical superstructures required for the perfect fulfillment of the duties of a separate or scientific branch of the service; and the habits of thought, of study, and of discipline of mind and body acquired in this great preparatory school of the soldier are of inestimable advantage to anyone achieving greater development in special lines, as

well as to each individual as his rank and responsibility increase.

The history of past wars in which graduates of this institution have participated shows that there is always demanded of the American soldier a variety of duties and responsibilities which are inherent in the very character of American institutions and the nature of the service which they impose upon all public servants. The graduates of the Military Academy in all, conspicuously in recent, wars have been called upon to fill every office and to perform every function, both civil and military, which the particular exigencies of the occasion have brought about; and it has been one of the most convincing proofs of the soundness of the general principles upon which the institution is based that, with hardly an exception, these various functions have been filled with the greatest credit to the individual and the highest degree of successful accomplishment.

The three principles just analyzed make West Point unique not alone in results, but in its position as the only existing military university which is antecedent and preparatory to the special professional schools. We have already instituted and in successful operation the special schools for different arms of the service analogous to those of the Continent; and we have, in addition, West Point with all that it stands for in its exalted code of integrity, duty, resourcefulness, self-confidence, discipline of character, and habit of thought. For the making of this broad foundation is needed four years of the influences and work which coöperate to produce it. Not a moment can be spared from these periods of cumulative influence which in each year leave so marked and easily discerned an effect upon the character development of the Cadet.

Four years of constant drill, practical instruction in military operations, and respectful submission to the will of his superiors makes him a soldier in the true meaning of the word. He may or may not have the talents of a great general, but he has at least the instincts of a soldier and a knowledge of the duties and technical requirements of his profession. He has, above all, an understanding of the term *duty*,

which makes it the motive power of his professional life and simplifies for him all complex questions of practical ethics. The motto of his alma mater is the philosophy of his life. To do his *duty*, keep bright his *honor*, and serve faithfully his *country* is the hereditary ideal of every son of West Point.

Military schools belong to the professional and technical class of educational institutions, and derive both their value and character from their special functions. It happens, however, that these functions demand of their personnel a high development of certain qualities of character and mind which are of transcendent importance in the evolution of a fine type of man and citizen; and the widespread tendency to introduce into civil institutions some elements of military instruction is in conformity with a realization of the value to the civilian of these qualities in character development. The superstructure raised upon the basic principle of self-devotion to country is a fabric of real virtues, of importance to the State, society, and the individual. Discipline and regularity of habits; respect for authority; obedience; simplicity of life; truth telling; integrity; personal accountability—these bring vigor, not evil, to society; peace, not combativeness and the disposition of a bully. They evolve dignity; good citizenship, and reverence for law.

It is essentially the genius of West Point to develop these qualities in its personnel, and a century of tradition and evolution has produced this educational mechanism so unique in its operations and results. The record of accomplishment of its graduates in civilian walks alone is altogether phenomenal when considered in connection with the limited number of its alumni and the fact that its primary function is a military one. Their achievements in the military field are even more remarkable, and an examination of its historical statistics will show that no military institution was ever more superbly vindicated by the trial of war than the National School on the Hudson, or has more clearly demonstrated the fitness of its purpose and methods to accomplish proposed ends. It stands to-day foremost among the military schools of the world, of acknowledged preëminence in its field, and with a record of integrity and high command unexcelled by

any. A political creation, deriving its students and financial support from political sources, it has sometimes to defend its integrity at the expense of its popularity, and even of the friendship of the men who legislate upon its existence. But this struggle for the integrity of its methods is vital. Destroy the independence of the Military Academy within its proper jurisdiction, and its power for good is withered. Should the taint of improper political methods—the power of pull and the domination of influence—ever corrupt its blood, the hour of its decadence has sounded. The American people have created and now possess one institution, at least, wherein the criteria of success lie in the individual—the fruit of his honest toil, unaffected by the sinister bias of expediency or exterior personal interests. If there comes a time when they fail to appreciate its worth to them practically and morally, the future will not fail to exact the full price of their mistake. What is said here of the Military Academy is equally true of its younger sister—the Naval Academy at Annapolis. The two Government schools are built on like foundations.

CIVIL RECORD.

On the 16th of March, 1902, the U. S. Military Academy at West Point completed the first century of its existence. The total number of graduates from the institution from 1802 to 1902, inclusive, is 4,121. In 1902 there were 1,945 living, of whom 1,630 were in the Army—1,446 of these being on the active list and 184 retired. The number in civil life was 315. Including the appropriation for the fiscal year ending June 30, 1902, the total appropriations for the support of the Academy for the first century since its foundation aggregate $22,259,274.55 (about the cost for one year of the Regular Army before enlargement), or an average of $222,592.74 per year, and of $5,401.42 per graduate. During this period its sons have served in one civil and four foreign wars, and an almost uninterrupted Indian conflict; in civil life they have held almost every office of honor and trust in the gift of their fellow-countrymen from President of the United States and of the Confederate States, presidents of universities, railroads,

and banks to mayors and legislators, principals of schools and heads of minor corporations. They have been bishops and judges, distinguished clergymen, artists and lawyers, successful physicians, noted scientists, and civil engineers. In foreign lands they have been ambassadors, ministers plenipotentiary, consuls-general, and special envoys.

To its military record reference will be made further on. It will be interesting to dwell for a moment upon some features of its relations and contribution to the civil and productive life of the nation, and to compare the two following tables showing, on the one hand, the sources of its personnel; and on the other, the versatility of resource and adaptability to varied conditions of its graduates.

Summary showing Occupations, and number engaged in each, of Parents of Candidates for admission to the Military Academy, 1842 to 1891, and of Parents of Cadets admitted to the Academy, 1892 to 1899, inclusive.

Accountants	3
Agents	62
Architects	5
Artists	4
Auctioneer	1
Auditor	1
Author	1
Baggagemaster	1
Bakers	4
Bankers and bank officers	90
Barbers	4
Bookkeepers	18
Brewers	3
Brokers	40
Builders	2
Butchers	2
Capitalist	1
Chief of police	1
City marshal	1
Clergymen	128
Clerks	90
Clerk of House of Representatives	1
Collectors	4
Commercial travelers	13
Cutlery commissioner	1
Conductors	2
Contractors	38
Cook	1
Cotton buyer	1
County officers	74
Dairymen	2
Detectives	2
Dentists	14
Distiller	1
Dock master	1
Dock commissioner	1
Draftsman	1
Druggists	13
Editors	62
Electroplater	1
Engineers:	
Civil	13
Mechanical	10
Locomotive	3
Stationary	1
Enlisted men	4
Express business	2
Farmers and planters	1,149
Fishing master	1
Foreman	1
Gardeners	3
General business	5
Hatter	1
Heads of corporations	10
Hotel keepers	55
Iceman	1
Importer	1
Inspectors of police	2
Inspectors of factories	2
Inspector of buildings	1

Insurance business	38
Inventor	1
Jewelers	3
Journalists	8
Justice of the peace	1
Laborers	29
Lawyers and judges	645
Letter carrier	1
Librarians	2
Lithographer	1
Liverymen	15
Lumbermen	20
Manager of engines and boilers	1
Manager of brewery	1
Manager of land company	1
Manager of factory	1
Manufacturers	151
Marble dealer	1
Mechanics	341
Member of city board	1
Members of Congress	32
Member of State Legislature	1
Merchants	722
Merchant tailor	1
Messenger	1
Millers	11
Mining	26
Museum keeper	1
Musicians	2
Musician, band leader	1
Newspaper correspondent	1
Newspaper manager	1
No occupation	191
Nurserymen	6
Officers of the Army	362
Officers of the Navy	59
Officers of volunteers	21
Oil business	2
Overseers	4
Photographers	6
Physicians	367
Pilot	1
Policemen	7
Police justices	2
Politicians	3
Postmasters	5
Presidents of colleges	4
Presidents of insurance companies	3
President of steam heating company	1
President of manufacturing company	1
President of wire mill	1
Printers	12
Professors	27
Proprietor of elevator company	1
Publishers	8
Railroad employees	6
Railroad officers	13
Ranchmen	2
Real estate	37
Restaurant keeper	1
Salesmen	5
Saloonkeeper	1
School teachers	56
Secretaries	14
Ship captains	25
Speculators	10
State officers	27
Steamboatman	1
Steward	1
Stock dealers (cattle)	10
Stocks	1
Stock raisers	6
Superintendent of factory	1
Superintendent of coal and iron company	1
Superintendents of gas works	2
Superintendent of mine	1
Superintendent of prison	1
Superintendent of railroad	1
Superintendents of schools	4
Superintendent of iron work	1
Surveyors	5
Tanners	2
Teamster	1
Theater manager	1
Teacher of music	1
Teacher of garment cutting	1
Undertakers	5
Unknown	39
United States civil officers	85
Wagonmaster	1
Warden of prison	1

Civil occupations of graduates of the U. S. Military Academy to 1903.

President of the United States	1
President of the Confederate States	1
Presidential candidates	3
Vice-Presidential candidates	2
Members of the Cabinet of the United States	4
Ambassador	1

Ministers from the United States to foreign courts	14
Chargés d'affaires from the United States to foreign courts	2
United States consuls-general and consuls	12
Members of the United States Senate and House of Representatives	24
United States civil officers of various kinds	171
Presidential electors	8
Governors of States and Territories	16
Bishop	1
Lieutenant-governors of States	2
Judges	14
Members of State Legislatures	77
Presiding officers of State Senates and Houses of Representatives	8
Members of conventions to form State constitutions	13
State officers of various grades	81
Adjutants, inspectors, and quartermasters-general and chief engineers of States and Territories	29
Officers of State militia	158
Mayors of cities	17
City officers	57
Presidents of universities, colleges, etc	46
Principals of academies and schools	32
Regents and chancellors of educational institutions	14
Professors and teachers	136
Superintendent of Coast Survey	1
Surveyors-general of States and Territories	11
Chief engineers of States	14
Presidents of railroads and other corporations	87
Chief engineers of railroads and other public works	63
Superintendents of railroads and other public works	62
Treasurers and receivers of railroads and other corporations	24
Civil engineers	228
Electrical engineers	5
Attorneys and counselors at law	200
Superior-general of clerical order	1
Clergymen	20
Physicians	14
Merchants	122
Manufacturers	77
Artists	3
Architects	7
Farmers and planters	230
Bankers	18
Bank presidents	8
Bank officers	23
Editors	30
Authors	179
Total	2,371

It will be seen at a glance that no institution in the land, not excepting Congress, is at once so representative of every condition and locality, so purely democratic. It will be observed also that no institution, however liberal, can show a

more plastic conformity to varied conditions and requirements than is shown by this list of distinguished successes in every walk of civil life. It is a convincing refutation of the assertion that a military education unfits for civil functions and occupations.

Dr. John Hurston Finley, president of the College of the City of New York, in an investigation of the question of the value of collegiate education as a factor of success in life—meaning, I presume, by success a considerable degree of recognized eminence in the various careers of the professional and business world—prepared a table whose data are based upon standard biographic dictionaries, giving the percentage of success for the total number of graduates covering varying periods.

This list contained eighteen of our leading universities and colleges, including Harvard, Yale, Columbia, Princeton, Cornell, Dartmouth, the Massachusetts Institute of Technology, and the two national academies. West Point heads the list, with 5.9 per cent, followed by the Naval Academy, 5.5 per cent, and Harvard, 5.5 per cent. It is to be observed that, whereas the estimated period for West Point and Annapolis is only about fifty years, closing with the last century; that for Harvard is from 1636 to 1900, two hundred and sixty-four years, covering a long stretch of time when the country was thinly populated, advanced education very rare, and when, in the more primitive and less complex conditions, a man of education counted for more and received much more deference than now.

From the list of civil occupations of graduates given above, if those in the following list be accepted as indicating a fair degree of success and distinction, there results a total of 446 out of an aggregate of 2,371, or *nearly 19 per cent of success in civil walks alone.*

President of United States	1
President of Confederate States	1
Presidential candidates	3
Vice-Presidential candidates	2
Ambassadors	1
Ministers plenipotentiary	14
Chargé d'affaires	2

United States consuls-general and consuls	12
Members of United States Senate and House	24
Presidential electors	8
Governors of States and Territories	16
Bishops	1
Lieutenant-governors of States and Territories	2
Judges	14
Presiding officers of State senates and houses	8
Members of conventions to form State constitutions	13
Mayors of cities	17
Presidents of universities and colleges	46
Regents and chancellors	14
Superintendent of Coast Survey	1
Surveyors-general	11
Chief engineers of States	14
Presidents of railroads and corporations	87
Chief engineers of railroads and public works	63
Superintendents of railroads and public works	62
Superior-general	1
Bank presidents	8
Total	446

If the attainment of full rank of general officer is accepted as a criterion of success in the military profession, it will be found that the percentage of success is about 11 per cent—448 out of a total of 4,121—as is shown in the tables given further on.

The Engineer Corps of the Army has been since the foundation of the Academy almost wholly composed of graduates of the Academy. Its most important work as a corps has been of a civil nature, connected with the river and harbor improvements and public works. During this period the disbursements by its officers for these works have amounted to $453,000,000, including 1903. Some of the more important of their constructions are here given.

Surveys.—Explorations and surveys of the great Northwest, first surveys for transcontinental railroads, international boundary surveys, and the survey of the Great Lakes.

Light-house construction.—Building Minots Ledge light-house, Boston; Spectacle Reef light-house, Lake Huron; Tillamook Rock light-house, Oregon, and many other light-houses.

River and harbor improvements.—Davis Island Dam, Louisville Canal and locks, Ohio River; Des Moines Rapids Canal,

Mississippi River; Saulte Ste. Marie Canal and locks, Lakes Superior and Huron; Great Kanawha River canalization; the Delaware Breakwater; Hell Gate channel, Hallett Reef and Flood Rock removed; New York Harbor, main entrance, dredging 40-foot channel; Blossom Rock, Shag Rock, Arch Rock removed from San Francisco Harbor; jetties at Charleston, S. C., Cumberland Sound, Ga., and Galveston, Tex.

Buildings, etc., erected.—Washington Monument; Washington Acqueduct; State, War and Navy Department building; the Library of Congress; and the Government Printing Office.

MILITARY RECORD.

Turning to the story of its work in the line of its essential function as a military academy, it will be interesting to inquire how it has justified the purposes of its foundation and the expenditures for its maintenance as a school of war. In this regard its tests have been varied and exacting. How has it met them?

The war of 1812, with Great Britain, found the Academy feeble and struggling for existence against adverse influences. There were at that time but 89 graduates, educated under primitive conditions, and all of junior rank; of these but 65 were in military service. Our few regulars had little or no experience under fire. Of the young graduates serving in the field one-sixth were killed in action; one-fourth were killed or wounded; and one-fifth of the survivors received one or more brevets for distinguished services.

At the outbreak of the Mexican war there were over 500 graduates in the Service. The small Regular Army was mostly officered by them, and the volunteer regiments and battalions were generally under their command, although the highest commands were in the hands of their seniors, the veterans of pre-academic armies. The armies in Mexico won 30 victories against immense odds; took 1,000 cannon and huge quantities of small arms and munitions; captured ten fortified places and conquered a vast country. Of this, General Scott, a nongraduate, the commanding general, said:

"I give it as my fixed opinion that, but for our graduated Cadets, the war between the United States and Mexico might, and probably would,

have lasted some four or five years, with, in its first half, more defeats than victories falling to our share; whereas, in less than two campaigns, we conquered a great country and a peace, without the loss of a single battle or skirmish.

During this period, and up to recent times, the Regular Army (officered until 1861 almost wholly, and since then largely, by graduates) has fought a pioneer war against the fierce nomads of the land. In over 300 fights they have won the progressive boundary of civilization and held it for their brothers of the plow, braving hardship and death in all seasons. Living the best years of their lives in remote frontier posts with rare glimpses of the refinements of civilization; having little reward in sight but a sense of duty done; growing gray in junior grades under the slow promotions of peace conditions; kept poor by the necessities of frequent changes of stations, these exiles in their own land were the guardians of a territory which they did not possess, and the promoters of a great industrial development whose fruit was not theirs.

When the great war of the States burst upon the land it found the Academy, as now, recruited from the four quarters of the Union, and its Cadets representing the convictions and traditions of their homes. The political doctrines of his native State, its traditions and prejudices, were by nature those of the young man. Feeling and contention here ran high and fierce as everywhere else. Even the North was divided against itself. Notwithstanding this, it is a remarkable fact that of the officers of the Army appointed from civil life one-half went with the Confederacy, while only one-fifth of the West Pointers went South; and of those West Pointers from the Southern States one-half remained loyal. One hundred and sixty-two Southern graduates withstood the terrible strain of kin and birth and stood by the flag; while from every other institution and position—the Supreme Bench, the Cabinet, Congress, the agents of the State, and institutions of learning—the Southerners flocked en masse to their native States. So much for the question of fidelity at a time when convictions upon the questions at issue were in good faith and in fierce intensity at variance. Now for the

military aspects of the results. A brief statement will sum up the evidence of the tables subjoined.

At the conclusion of a titanic struggle between an aggregate of about three millions of combatants, all the armies in the field on both sides were commanded by graduates; nearly all the corps; a large majority of the divisions; the staff corps of organization, of supply, and of science of both forces; and many of the brigades. Every important battle of the war was commanded on one or both sides by a graduate—generally both. Out of 60 on the list given below, containing all the very important battles and campaigns, all but 5 were commanded on both sides by graduates. Of the 5 exceptions the Army on one side was commanded by a graduate, and in four of these was victorious. This was the verdict of the end of the conflict after every expedient and personality had been put to the test:

Number of graduates who have become general officers in the Regular and Volunteer armies of the United States	294
Total number of general officers of each grade in the Regular and Volunteer armies of the United States, graduates of the Military Academy:	
Generals	3
Lieutenant-generals	1
Major-generals	85
Brigadier-generals	205
Number of graduates who, during their service as general officers in the U. S. Army—	
Commanded separate armies	24
Commanded army corps	46
Commanded divisions	88
Commanded brigades	105
Number of graduates who were general officers in the Confederate Army	151
Of this number there were—	
Generals	8
Lieutenant-generals	15
Major-generals	40
Brigadier-generals	88
Number of graduates who have become general officers in foreign armies	3
Grand total of general officers, graduates U. S. Military Academy	448

This total is over 11 per cent of the total number of graduates for the first century.

Graduates who have become General Officers in the Regular and Volunteer armi of the United States.

GENERALS.

Grant, Ulysses S.
Sheridan, Philip H.
Sherman, William T.

LIEUTENANT-GENERAL.

Schofield, John M.

MAJOR-GENERALS.

Augur, Christopher C.
Bates, Alfred E.
Bliss, Zenas R.
Buell, Don Carlos.
Buford, John.
Burns, William W.
Burnside, Ambrose E.
Canby, Edward R. S.
Casey, Silas.
Couch, Darius N.
Crook, George.
Curtis, Samuel R.
Custer, George A.
Dana, Napoleon J. T.
Doubleday, Abner.
Emory, William H.
Forsyth, James W.
Foster, John G.
Franklin, William B.
French, William H.
Gibbon, John.
Gillespie, George L.
Gillmore, Quincy A.
Granger, Gordon.
Greene, Francis V.
Griffin, Charles.
Halleck, Henry W.
Hamilton, Charles S.
Hamilton, Schuyler.
Hancock, Winfield S.
Hartsuff, George L.
Hazen, William B.
Heintzelman, Samuel P.
Henry, Guy V.
Hitchcock, Ethan A.
Hooker, Joseph.
Howard, Oliver O.
Humphreys, Andrew A.
Hunter, David.
Kent, J. Ford.
Keyes, Erasmus D.
Kilpatrick, Judson.
Lee, Fitzhugh.
Ludlow, William.
Mansfield, Joseph K. F.
Meade, George G.
Merritt, Wesley.
Mitchel, Ormsby McKnight.
Morell, George W.
McClellan, George B.
McCook, Alexander McDowell.
McDowell, Irvin.
McPherson, James B.
Newton, John.
Ord, Edward O. C.
Parke, John G.
Peck, John J.
Pleasonton, Alfred.
Pope, John.
Porter, Fitz-John.
Reno, Jesse L.
Reynolds, John F.
Reynolds, Joseph J.
Richardson, Israel B.
Rosecrans, William S.
Ruger, Thomas H.
Sedgwick, John.
Slocum, Henry W.
Smith, Andrew J.
Smith, Charles F.
Smith, William F.
Stanley, David S.
Steele, Frederick.
Stevens, Isaac I.
Stoneman, George.
Strong, George C.
Sykes, George.
Thomas, George H.
Warren, Gouverneur K.
Weitzel, Godfrey.
Wheeler, Joseph.
Whipple, Amiel W.
Wilson, James H.
Wood, Thomas J.
Wright, Horatio G.

BRIGADIER-GENERALS

Abercrombie, John J.
Allen, Charles J.
Allen, James.
Allen, Robert.
Alvord, Benjamin.
Ames, Adelbert.
Ammen, Jacob.
Anderson, Robert.
Andrews, George L.
Arnold, Abraham K.
Arnold, Lewis G.
Arnold, Richard.
Averell, William W.
Ayers, Romeyn B.
Baird, Absalom.
Ballance, John G.
Barber, Thomas H.
Barlow, John W.
Barnes, James.
Barnard, John G.
Barry, Thomas H.
Barry, William F.
Bayard, George D.
Bell, J. Franklin.
Bell, William H.
Benét, Stephen V.
Benham, Henry W.
Bliss, Tasker H.
Brannan, John M.
Breck, Samuel.
Brice, Benjamin W.
Brooks, William T. H.
Buchanan, Robert C.
Buckingham, Catharinus P.
Buffington, Adelbert R.
Buford, Napoleon B.
Burton, George H.
Butler, John G.
Carey, Asa B.
Carlin, William P.
Carr, Eugene A.
Carrol, Samuel S.

Carlton, Caleb H.
Carter, William H.
Casey, Thomas L.
Chambers, Alexander.
Cooke, Philip St. George.
Craighill, William P.
Crowder, Enoch H.
Crozier, William.
Cullum, George W.
Cushing, Samuel T.
Davies, Thomas A.
Davidson, John W.
Davis, George B.
Davis, Nelson H.
Delafield, Richard.
Dent, Frederick T.
Duane, James C.
Du Barry, Beekman.
Dyer, Alexander B.
Eaton, Amos B.
Ernst, Oswald H.
Eustis, Henry L.
Farley, Joseph P.
Flagler, Daniel W.
Frank, Royal T.
Fry, James B.
Garrard, Kenner.
Garretson, George A.
Getty, George W.
Gibbs, Alfred.
Gilbert, Charles C.
Gillem, Alvan C.
Gordon, George H.
Granger, Robert S.
Grant, Frederick D.
Greene, George S.
Gregg, David McM.
Griffin, Eugene.
Grover, Cuvier.
Guenther, Francis L.
Hains, Peter C.
Hale, Irving.
Hall, Robert H.
Hardin, Martin D.
Hare, Luther R.
Harker, Charles G.
Hasbrouck, Henry C.
Hascall, Milo S.
Haskin, Joseph A.
Hatch, John P.
Hawkins, John P.
Hays, Alexander.
Hays, William.
Holabird, Samuel B.
Howe, Albion P.
Howze, Robert L.
Hunt, Henry J.
Hunt, Lewis C.
Ingalls, Rufus.
Johnson, Richard W.
Johnston, John A.
Johnston, Joseph E.
Jones, Roger.
Judah, Henry M.
Kautz, August V.
Kelton, John C.
Ketchum, William S.
King, Charles.
King, Rufus.
Lockwood, Henry H.
Long, Oscar F.
Lyon, Nathaniel.
Macfeely, Robert.
Mackenzie, Alexander.
Mackenzie, Ranald S.
Mansfield, Samuel M.
Marcy, Randolph B.
Martindale, John H.
Mason, John S.
Meigs, Montgomery C.
Miller, Marcus P.
Mizner, John K.
Mordecai, Alfred.
Morgan, Charles H.
Morgan, Michael R.
Morton, James St. C.
Morris, William H.
McCall, George A.
McCrea, Tully.
McKean, Thomas J.
McKinstry, Justus.
Naglee, Henry M.
Neill, Thomas H.
Paine, Eleazer A.
Palmer, Innis N.
Patrick, Marsena R.
Paul, Gabriel R.
Pennington, Alexander C. M.
Pitcher, Thomas G.
Phelps, John W.
Plummer, Joseph B.
Poland, John S.
Potter, Joseph H.
Prince, Henry.
Ramsay, George D.
Rawles, Jacob B.
Ricketts, James B.
Ripley, James W.
Robert, Henry M.
Roberts, Benjamin S.
Rodgers, John I.
Roe, Charles F.
Ruggles, George D.
Russell, David A.
Sacket, Delos B.
Sanders, William P.
Sawtelle, Charles G.
Saxton, Rufus.
Scammon, E. Parker.
Seymour, Truman.
Sherman, Thomas W.
Shiras, Alexander E.
Sill, Joshua W.
Sinclair, William.
Slemmer, Adam J.
Smith, Jared A.
Smith, William S.
Stokes, James H.
Stone, Charles P.
Story, John P.
Stoughton, Edwin H.
Sturgis, Samuel D.
Sullivan, Thomas C.
Sully, Alfred.
Terrill, William R.
Thomas, Lorenzo.
Todd, John B. S.
Torbert, Alfred T. A.
Totten, Joseph G.
Tower, Zealous B.
Townsend, Edward D.
Turner, John W.
Tyler, Daniel.
Tyler, Robert O.
Upton, Emory.
Van Cleve, Horatio P.
Van Vliet, Stewart.
Viele, Egbert L.
Vodges, Israel.
Ward, Thomas.
Webb, Alexander S.
Weed, Stephen H.
Weeks, George H.
Wessells, Henry W.
Whipple, William D.
Willcox, Orlando B.
Williams, Robert.
Williams, Seth.
Williams, Thomas.
Wilson, John M.
Woodbury, Daniel P.
Woods, Charles R.
Wright, George.

List of Graduates who attained the grade of General Officers in the Confederat Service.

GENERALS.

Beauregard, P. G. T.
Bragg, Braxton.
Cooper, Samuel.[a]
Hood, John B.
Johnston, Albert S.
Johnston, Joseph E.
Lee, Robert E.
Smith, Edmund K.

LIEUTENANT-GENERALS.

Anderson, Richard H.
Buckner, Simon B.
Early, Jubal A.
Ewell, Richard S.
Hardee, William J.
Hill, Ambrose P.
Hill, Daniel H.
Holmes, Theophilus H.
Jackson, Thomas J.
Lee, Stephen D.
Longstreet, James.
Pemberton, John C.
Polk, Leonidas.
Stewart, Alexander P.
Wheeler, Joseph.

MAJOR-GENERALS.

Bowen, John S.
Crittenden, George B.
Donelson, Daniel S.
Elzey, Arnold.
Field, Charles W.
Forney, John H.
French, Samuel G.
Gardner, Franklin.
Gilmer, Jeremy F.
Gracie, Archibald.
Heth, Henry.
Huger, Benjamin.
Johnson, Bushrod R.
Johnson, Edward.
Jones, David R.
Jones, Samuel.
Lee, Fitzhugh.
Lee, G. W. Custis.
Lomax, Lunsford L.
Lovell, Mansfield.
Magruder, John B.
Marmaduke, John S.
Maury, Dabney H.
Maxey, Samuel B.
McCown, John P.
McLaws, Lafayette.
Pegram, John.
Pender, William D.
Pickett, George E.
Ramseur, Stephen D.
Ransom, Robert.
Smith, Gustavus W.
Smith, Martin L.
Stevenson, Carter L.
Stuart, James E. B.
Van Dorn, Earl.
Walker, W. H. T.
Whiting, William H. C.
Wilcox, Cadmus M.
Withers, Jones M.

BRIGADIER-GENERALS.

Adams, John.
Alexander, E. Porter.
Anderson, George B.
Anderson, Joseph R.
Anderson, Robert H.
Archer, John.
Bagby, Arthur P.
Baker, Lawrence S.
Barton, Seth M.
Beall, Wm. N. R.
Bee, Barnard E.
Blanchard, Albert G.
Boggs, William R.
Bryan, Goode.
Buford, Abraham.
Cabell, William L.
Chambliss, John R.
Chilton, Robert H.
Cocke, Philip St. G.
Cosby, George B.
Cumming, Alfred.
Daniel, Junius.
Davidson, Henry B.
Deshler, James.
D'Lagnel, Julius A.
Drayton, Thomas F.
Duncan, Johnson K.
Evans, N. George.
Ferguson, Samuel W.
Frazer, John W.
Frost, Daniel M.
Gardner, William H.
Garnett, Richard B.
Garnett, Robert S.
Gatlin, Richard C.
Gorgas, Josiah.
Grayson, John B.
Harris, David B.
Hawes, James M.
Helm, Ben Hardin.
Hébert, Louis.
Hebert, Paul O.
Jackson, William H.
Jones, John M.
Jones, William E.
Jordan, Thomas.
Lawton, Alexander R.
Leadbetter, Danville.
Long, Armistead L.
Lyon, Hylan B.
Mackall, William W.
Maclay, Robert P.
Major, James P.
Marshall, Humphrey.
Martin, James G.
Mercer, Hugh W.
Mouton, John J. A. A.
Moore, John C.
Myers, Abraham C.
Nicholls, Francis R. T.
Pearce, N. Bartlett.
Pendleton, William N
Rains, Gabriel J.
Rains, George W.
Randal, Horace.
Reynolds, Alexander W.

[a] Adjutant and inspector-general.

Ripley, Roswell S.
Robertson, Beverley H.
Ross, Reuben R.
Ruggles, Daniel.
Sears, Claudius W.
Shoup, Francis A.
Sibley, Henry H.
Smith, James A.
Smith, William D.
Steele, William.
Steuart, George H.
Stevens, Walter H.
Tilghman, Lloyd.
Trapier, James H.
Trimble, Isaac R.
Thomas, Bryan M.
Villepigue, John B.
Walker, Henry H.
Walker, Lucius M.
Wayne, Henry C.
Winder, Charles S.
Winder, John H.

Important battles of the Civil War, with names of Commanders and the Forces Engaged on both sides.

NOTE.—The names marked with an asterisk are those of graduates.

Battle.	Date.	Union commander.	Force.	Confederate commander.	Force.
	1861.				
Bull Run	July 21	Irvin McDowell*	28,452	J. E. Johnston* P. G. T. Beauregard*	32,232
Wilson Creek	Aug. 10	Nathaniel Lyon*	5,400	Ben. McCulloch	11,600
	1862.				
Fort Donelson	Feb. 12–16	U. S. Grant*	27,000	John B. Floyd	21,000
Pea Ridge	Mar. 7	S. R. Curtis*	11,250	Earl Von Dorn*	14,000
Shiloh	Apr. 6, 7	U. S. Grant*	62,682	A. S. Johnston* P. G. T. Beauregard*	40,335
Williamsburg	May 4, 5	Geo. B. McClellan*	40,768	J. E. Johnston*	31,823
Fair Oaks	May 31–June 1	do	41,797	do	41,816
Mechanicsville	June 26	do	15,631	Robert E. Lee*	16,356
Gaines's Mill	June 27	do	34,214	do	57,018
Peach Orchard, Malvern Hill.	June 29–July 1	do	83,345	do	86,748
Seven days' battles	June 25–July 1	do	91,169	do	95,481
Cedar Mountain	Aug. 9	John Pope*	8,030	"Stonewall" Jackson*	16,868
Manassas and Chantilly.	Aug. 27–Sept. 2	do	75,696	Robert E. Lee*	48,527
South Mountain	Sept. 14	Geo. B. McClellan*	28,480	do	18,714
Antietam	Sept. 16, 17	do	75,316	do	51,844
Corinth	Oct. 3, 4	W. S. Rosecrans*	21,147	Earl Von Dorn*	22,000
Perryville	Oct. 8	Don C. Buell*	36,940	Braxton Bragg*	16,000
Fredericksburg	Dec. 13	A. E. Burnside*	100,007	Robert E. Lee*	72,497
Chickasaw Bayou	Dec. 27–29	W. T. Sherman*	30,720	J. C. Pemberton*	13,792
Stone River	Dec. 31	W. S. Rosecrans*	41,400	Braxton Bragg*	34,732
	1863.				
Chancellorsville	May 1–4	Joseph Hooker*	97,382	Robert E. Lee*	57,352
Champion Hill	May 16	U. S. Grant*	29,373	J. C. Pemberton*	20,000
Vicksburg	May 22	do	45,556	do	22,301
Port Hudson	May 27	Nathaniel Banks	13,000	Franklin Gardner*	4,192
Do	June 14	do	6,000	do	3,487
Gettysburg	July 1–3	Geo. G. Meade*	83,289	Robert E. Lee*	75,054
Fort Wagner	July 18	Quincy A. Gillmore*	5,264	P. G. T. Beauregard*	1,785
Chickamauga	Sept. 19, 20	W. S. Rosecrans*	58,222	Braxton Bragg*	66,326
Chattanooga	Nov. 23–25	U. S. Grant*	56,359	do	46,165
Mine Run	Nov. 27–Dec. 1	Geo. G. Meade*	69,643	R. E. Lee*	44,426
	1864.				
Wilderness and Spottsylvania.	May 5–12	U. S. Grant*	88,892	do	61,025
Wilderness	May 5–7	do	101,895	do	61,025
Spottsylvania	May 10	do	37,822	do	(†)
Do	May 12	do	65,785	do	(†)

* Graduate of Military Academy. † Unknown.

Important battles of the Civil War, with names of Commanders and the Forces Engaged on both sides—Continued.

Battle.	Date.	Union commander.	Force.	Confederate commander.	Force.
	1864.				
Drewrys Bluff	May 12-16	B. F. Butler	15,800	P. T. Beauregard*	18,025
Atlanta campaign	May	W. T. Sherman*	110,123	J. E. Johnston*	66,089
Cold Harbor	June 1-3	U. S. Grant*	107,907	R. E. Lee*	(†)
Petersburg	June 15-18	U. S. Grant*	63,797	R. E. Lee*	41,499
The Mine	July 30	do	20,708	do	11,466
Deep Bottom	Aug. 14-19	do	27,974	do	20,008
Weldon Railroad	Aug. 18-21	do	20,289	do	14,787
Kenesaw Mountain	June 27	W. T. Sherman*	16,225	J. E. Johnston*	17,733
Tupelo	July 13-15	A. T. Smith*	14,000	S. D. Lee*	6,600
Peach Tree Creek	July 20	W. T. Sherman*	20,139	J. B. Hood*	18,832
Atlanta	July 22	do	30,477	do	36,934
Do	July 28	do	13,226	do	18,450
Jonesboro	Aug. 31	do	14,170	do	23,811
Do	Sept. 1	do	20,460	do	12,661
Winchester	Sept. 19	Phil Sheridan*	37,711	J. A. Early*	17,103
Chaffin's farm	Sept. 29, 30	U. S. Grant*	19,639	R. E. Lee*	10,836
Cedar Creek	Oct. 19	Phil Sheridan*	30,829	J. A. Early*	18,410
Boydton Plank Road	Oct. 27, 28	U. S. Grant*	42,823	R. E. Lee*	20,324
Franklin	Nov. 30	J. M. Schofield*	27,939	J. B. Hood*	26,897
Nashville	Dec. 15, 16	George H. Thomas*	49,773	do	23,207
	1865.				
Fort Fisher	Jan. 15	A. Terry	9,632	W. H. C. Whiting*	7,800
Hatchers Run	Feb. 5-7	U. S. Grant*	34,517	R. E. Lee*	13,835
Bentonville	Mar. 19	W. T. Sherman*	16,127	J. E. Johnston*	16,895
Appomattox campaign	Mar. 29-Apr. 5	U. S. Grant*	114,826	R. E. Lee*	49,496
Dinwiddie	Mar. 29-31	do	45,247	do	20,030
Petersburg	Apr. 2	do	63,299	do	19,652

*Graduate of Military Academy. † Unknown.

The outbreak of the Spanish war found the senior positions in the Regular Army held by nongraduates, brave men and splendid soldiers, whose school had been the civil war, followed by more than thirty years of frontier service. The graduates of high rank had all passed out except one. All of the staff corps except the scientific ones were commanded by nongraduates, and their senior officers were of the same class. The principal commands fell, therefore, into their hands, and it was left to the graduates to distinguish themselves as line officers, regimental commanders, and staff officers, which they have not failed to do. Captains and lieutenants have taken regimental commands, and one, but recently a captain of cavalry, has won by heroism and ability in Cuba and in the Philippines the star of brigadier-general in the Regular Army; another, a major of subsistence, by marked ability in

reorganizing the customs service of the island, attained the same rank. Still another received a testimonial from citizens of Cuba for his high fidelity to trust, as treasurer in the civil government, in the disbursing of public funds to the amount of many millions.

In Cuba and the Philippines they have acted as governors of provinces; mayors of cities and towns; collectors and organizers of revenue; treasurers and disbursing officers; chief engineers of cities; sanitary and constructive engineers; superintendents of education; railroad engineers; superintendents of railroads; medical officers, in the absence of professional surgeons; directors of transport service; architects and building constructors; surveyors. These various functions were not rare or exceptional but frequent; and were performed, not alone, or even principally by officers of the scientific staff, but by young officers of the Line, and for considerable periods of time.

A captain of infantry had under his charge the surveys of a large district with many native assistants largely instructed by him, as well as the design and construction of important buildings and engineering works. Another officer of infantry—a lieutenant—using only native labor taught by himself, built 27 bridges, stone-arch and truss, varying in length from 30 to 150 feet, and more than 50 miles of highway. The same officer mapped a large district, repaired broken locomotives, and performed in addition the duties of staff officer. A lieutenant of cavalry was chief engineer of a city.

The work of young graduates at Santiago, in the organization camps, in delicate and hazardous duties of scouting and reconnaissance, is well known to their commanders.

At the outbreak of the Spanish war a captain and assistant adjutant-general of volunteers, disguised as a stoker in a steamship, inspected the fortifications of San Juan in Porto Rico and secured valuable information. A captain of infantry crossed the Caribbean Sea in an open boat and was the first United States Army officer to land in Cuba after the declaration of war with Spain, returning by the north coast of Cuba with valuable information. Later, when lieutenant-colonel of volunteers, in company with a lieutenant of artillery, he

penetrated into the interior on reconnaissance duty, covering some 2,000 miles under circumstances of great difficulty and hardship. A captain of infantry on staff duty before Santiago made, while in the trenches under fire during the drenching rains, a military sketch of the entire front occupied by the enemy, showing the position and strength of batteries and entrenchments and the topographical configuration of the country, which was of the highest value to the general commanding. These are only a few of similar acts performed and responsibilities assumed during this period by graduates, and are cited as illustrations of their versatility of resource and adaptability to varying conditions.

Although the Spanish war was but a brief episode, with only a feeble resistance, it cost the lives of fifteen graduates killed in action, besides deaths from disease. In the Philippines they have been present in over 500 actions and skirmishes, and have lost up to the present time nineteen officers in action, besides many who have died of disease. The aggregate of deaths of graduates of the Military Academy from battle and disease incident to active service in the field during the Spanish war and hostilities in the Philippines up to the date of publication is seventy-six. In the two wars they have served in every grade from major-general down to second lieutenant and were to be found on the staff of every commander in the field. They still form the entire personnel of the two scientific corps—the Engineers and the Ordnance—with the exception of two officers of ordnance.

The designing and building of all the seacoast fortifications of the United States, involving a disbursement of $115,000,000, has been the chief military work of the Corps of Engineers.

The Ordnance Department has been distinctively a graduate corps, 155 of the 166 officers commissioned in it since 1832 having graduated at the Military Academy.

The work accomplished by it has always kept the country abreast of the most advanced nations of the world in all that pertains to armament and ordnance supply throughout the several wars and expeditions in which we have become engaged.

The total expenditures for military purposes, all of which have been made without loss to the Government, have amounted to about $372,000,000.

Several splendid manufacturing establishments have been planned and built up in various parts of the country by its officers—Watertown, Springfield, Watervliet, Frankford, and Rock Island.

Rock Island, the most extensive of the arsenals, represents an investment for plant of more than $10,000,000, and there is actual and full value to show for the expenditure. It has been built up to its present efficient state by the administrative ability of seven officers of the Department and has the capacity to turn out yearly more than $3,000,000 worth of ordnance stores of all kinds. Worked to its full capacity, equipments can be manufactured to furnish current supplies for an army of 750,000 men.

Watervliet Arsenal has been almost entirely rebuilt in the past fifteen years. It is the site of the Army Gun Factory. The establishment, organization, and successful conduct of this factory constitutes one of the specially creditable performances of the Department. The principal shop is the seacoast-gun factory, about 1,200 feet long and 130 feet wide, containing the enormous machinery required for the heavy, careful, and refined work necessary in gun construction. In these shops are applied the theoretical deductions, worked out by officers of the Department, giving the guns the strength which permits the development of high power. About 800 cannon of all calibers, from the 3-inch field piece to the 16-inch seacoast gun, have been turned out from these shops, without subsequent development of weakness in any single case.

Watertown Arsenal is the principal factory for seacoast gun carriages, where all type and some service carriages are manufactured, and the standards for work done under contract established. The 500-ton United States testing machine is located at this arsenal. A very great amount of investigative work, in the qualities of metals and of structural materials generally, is conducted here, the results of which guide and

modify the designs of engineers and architects. Tests made with this machine are accepted as standard and conclusive in all departments of the Government, and also throughout the business world. A well-equipped chemical laboratory is an important adjunct to the testing department.

Springfield Armory has always been the principal, and for many years the only, Government manufactory for small arms, rifles, carbines, and swords. This small-arm plant has coexisted with the Department, and has been added to from time to time as the necessities of the country required.

Frankford Arsenal, in the suburbs of Philadelphia, produces the small-arms cartridges, shrapnel projectiles, fuses, and primers of all classes for service. This busy factory is one of the oldest of those established by the Government and its output has always been standard for the class of work done.

Other important achievements of the officers of the Department have been in general in working out results through patient and properly directed scientific investigations and deduction. Some of these which are specially noteworthy are:

The first application of correct principles to the manufacture of cast cannon.

The pioneer determination of the proper graining of gunpowder.

Important and valuable investigations in ballistics.

The designing and production of single-loading and magazine small arms of special excellence.

The development of trustworthy high explosives.

The deduction of the practical working formula to be applied in the manufacture of built-up cannon.

The design of nearly all the gun carriages used in service.

The development of rotating devices for both muzzle and breech loading rifle projectiles, and fuses of all classes.

The work accomplished by the Department and the results of its investigations have been in various ways of great value to the technical professions and business world, especially in establishing and requiring the attainment of high standards of excellence in manufacture, and in pointing out the proper

direction for improvements. Several instances have occurred where individuals have freely attributed the success of their business to the insistence of inspecting officers upon these high standards of excellence; and manufacturing concerns have also acknowledged their indebtedness for improvements in their commercial product to what had been learned in meeting the Department's requirements. The practical formulæ deduced and the results of the investigations have a wide application in many of the manufacturing industries.

GRADUATES KILLED IN ACTION OR WHO HAVE DIED OF WOUNDS THERE RECEIVED.

WAR OF 1812 TO 1815.

1. James Gibson.
2. H. A. Hobart.
3. S. B. Rathbone.
4. George Ronan.
5. W. W. Smith.
6. A. J. Williams.
7. E. D. Wood.

MEXICAN WAR.

1. J. W. Anderson.
2. William Armstrong.
3. G. W. Ayers.
4. J. D. Bacon.
5. P. N. Barbour.
6. Calvin Benjamin.
7. J. E. Blake.
8. J. G. Burbank.
9. J. H. K. Burgwin.
10. M. J. Burke.
11. W. T. Burwell.
12. E. A. Capron.
13. T. L. Chadbourne.
14. Henry Clay.
15. R. M. Cochran.
16. C. B. Daniels.
17. Rankin Dilworth.
18. S. H. Drum.
19. Thomas Easley.
20. R. F. Ernst.
21. J. T. Farry.
22. G. P. Field.
23. Levi Gantt.
24. R. H. Graham.
25. W. M. Graham.
26. T. C. Hammond.
27. Robert Hazlitt.
28. Charles Hoskins.
29. Z. M. P. Inge.
30. J. F. Irons.
31. D. S. Irwin.
32. A. R. Johnston.
33. J. P. Johnstone.
34. G. T. Mason.
35. Henry McKavett.
36. W. R. McKee.
37. M. E. Merrill.
38. C. F. Morris.
39. L. N. Morris.
40. J. A. Richey.
41. Randolph Ridgely.
42. Samuel Ringgold.
43. A. H. Rodgers.
44. M. L. Shackleford.
45. E. K. Smith.
46. J. P. Smith.
47. E. B. Strong.
48. J. R. Vinton.
49. W. G. Williams.
50. J. S. Woods.

INDIAN WARS.

1. J. K. Allen.
2. Jacob Almy.
3. W. E. Basinger.
4. F. J. Brooke.
5. H. A. Burchstead.
6. E. R. S. Canby.
7. E. W. Casey.
8. J. P. Center.
9. S. A. Cherry.
10. Arthur Cranston.
11. G. A. Custer.
12. J. H. French.
13. G. W. Gardiner.
14. Wm. Gaston.
15. J. L. Grattan.
16. J. W. Gunnison.
17. G. M. Harris.
18. M. P. Harrison.
19. H. M. Harrington.
20. Richard Henderson.
21. B. H. Hodgson.
22. Wm. Hulbert.
23. J. F. Izard.
24. J. L. Keais.
25. W. H. Lewis.
26. J. D. Mann.
27. J. E. Maxwell.
28. J. A. McKinney.
29. David Moniac.
30. R. R. Mudge.
31. J. E. Porter.
32. S. M. Rains.
33. Edmund Russell.
34. Walter Sherwood.
35. W. A. Slaughter.
36. H. W. Stanton.
37. R. T. Stewart.
38. James Stuart.
39. J. G. Sturgis.
40. O. H. P. Taylor.
41. A. R. Thompson.
42. T. T. Thornburgh.
43. Cornelius Van Camp.
44. Joseph Van Swearingen
45. G. D. Wallace.
46. W. H. Warner.
47. J. M. Wilcox.
48. W. B. Weir.
49. Franklin Yeaton.

CIVIL WAR.

1. John Adams.
2. G. B. Anderson.
3. G. D. Bailey.
4. G. N. Bascom.
5. G. D. Bayard.
6. R. F. Beckham.
7. B. E. Bee.
8. C. H. Brightly.
9. R. H. Brewer.
10. R. P. Campbell.
11. S. D. Carpenter.
12. J. R. Chambliss.
13. C. R. Collins.
14. C. E. Cross.
15. A. H. Cushing.
16. Junius Daniel.
17. B. F. Davis.
18. H. V. De Hart.
19. James Deshler.
20. J. E. Dimick.
21. Joseph Dixon.
22. A. H. Dutton.
23. J. P. Garesché.
24. R. B. Garnett.
25. R. S. Garnett.
26. Archibald Gracie.
27. J. T. Greble.
28. C. G. Harker.
29. Alexander Hays.
30. G. W. Hazzard.
31. C. E. Hazlett.
32. B. H. Helm.
33. A. P. Hill.
34. E. B. Holloway.
35. T. J. (Stonewall) Jackson.
36. A. S. Johnston.
37. J. M. Jones.
38. R. T. Jones.
39. W. E. Jones.
40. W. G. Jones.
41. H. W. Kingsbury.
42. Edmund Kirby.
43. C. C. Lee.
44. Nathaniel Lyon.
45. W. T. Magruder.
46. J. K. F. Mansfield.
47. S. S. Marsh.
48. W. W. McCreery.
49. James McIntosh.
50. Samuel McKee.
51. O. K. McLemore.
52. J. B. McPherson.
33. J. F. McQuesten.
54. Alexander McRae.
55. J. R. Meigs.
56. J. T. Mercer.
57. D. S. Miles.
58. Lyman Mishler.
59. J. St. C. Morton.
60. J. J. A. A. Mouton.
61. Edgar O'Connor.
62. P. H. O'Rorke.
63. C. E. Patterson.
64. John Pegram.
65. W. D. Pender.
66. Leonidas Polk.
67. Curran Pope.
68. H. S. Putnam.
69. S. D. Ramseur.
70. Horace Randal.
71. J. L. Reno.
72. J. F. Reynolds.
73. L. L. Rich.
74. I. B. Richardson.
75. R. R. Ross.
76. D. A. Russell.
77. George Ryan.
78. W. P. Sanders.
79. J. A. Sanderson.
80. John Sedgwick.
81. J. W. Sill.
82. S. G. Simmons.
83. J. R. Smead.
84. J. L. K. Smith.
85. I. I. Stevens.
86. Roderick Stone.
87. G. C. Strong.
88. J. E. B. Stuart.
89. J. J. Sweet.
90. W. R. Terrill.
91. F. J. Thomas.
92. Lloyd Tilghman.
93. O. H. Tillinghast.
94. O. G. Wagner.
95. W. H. T. Walker.
96. S. H. Weed.
97. W. H. C. Whiting.
98. A. W. Whipple.
99. Charles Wickliffe.
100. Solomon Williams.
101. Thomas Williams.
102. C. S. Winder.
103. G. A. Woodruff.
104. P. T. Wyman.

WAR WITH SPAIN.

1. J. N. Augustin, Jr.
2. E. N. Benchley.
3. Clarke Churchman.
4. W. M. Dickinson.
5. James Fornance.
6. A. G. Forse.
7. J. A. Gurney.
8. H. A. Lafferty.
9. L. H. Lewis.
10. D. M. Michie.
11. C. W. Rowell.
12. W. A. Sater.
13. W. E. Shipp.
14. W. H. Smith.
15. T. A. Wansboro.

FILIPINO INSURRECTION.

1. Thomas W. Connell.
2. Alfred W. Drew.
3. Woodbridge Geary.
4. G. J. Godfrey.
5. J. C. Gregg.
6. H. Y. Grubbs.
7. Benjamin M. Hartshorne, Jr.
8. M. G. Krayenbuhl.
9. Walter H. Lee.
10. H. J. McGrath.
11. John Morrison, Jr.
12. W. L. Murphy.
13. M. B. Saffold.
14. E. D. Smith.
15. Anton Springer, Jr.
16. J. M. Stotsenburg.
17. R. B. Wallace.
18. H. N. Way.
19. William H. Wilhelm.
20. David P. Wheeler.

GRADUATES OF THE MILITARY ACADEMY WHO HAVE RECEIVED THE THANKS OF CONGRESS.

There have been but 22 officers of the Army who have received the thanks of Congress, and of these 11 were graduates of the Military Academy. One graduate in addition to these received the thanks of the House of Representatives. A number have received the thanks of State Legislatures. Of the 22 thanked by Congress, 6 were for service in the war of 1812, 3 for the Mexican war, and 13 for the civil war. The 11 graduates who received this distinction, all for service in the civil war, are:

AMBROSE E. BURNSIDE.—Joint resolution of January 28, 1864: "That the thanks of Congress be, and they hereby are, presented to Major-General Ambrose E. Burnside, and through him to the officers and men who have fought under his command, for their gallantry, good conduct, and soldierly endurance."

ULYSSES S. GRANT.—Joint resolution of December 17, 1863: "That the thanks of Congress be, and they hereby are, presented to Major-General Ulysses S. Grant, and through him to the officers and soldiers who have fought under his command during this rebellion, for their gallantry and good conduct in the battles in which they have been engaged."

WINFIELD S. HANCOCK.—Joint resolution of April 21, 1866: "That in addition to the thanks heretofore voted by joint resolution, approved January twenty-eighth, eighteen hundred and sixty-four, to Major-General George G. Meade, Major-General Oliver O. Howard, and to the officers and soldiers of the Army of the Potomac for the skill and heroic valor which at Gettysburg repulsed, defeated, and drove back broken and dispirited the veteran army of the rebellion, the gratitude of the American people and the thanks of their representatives in Congress are likewise due, and are hereby tendered, to Major-General Winfield S. Hancock for his gallant, meritorious, and conspicuous share in that great and decisive victory."

JOSEPH HOOKER.—Joint resolution of January 28, 1864: "That the gratitude of the American people and the thanks of their representatives in Congress are due, and are hereby tendered, to Major-General Joseph Hooker and the officers and soldiers of the Army of the Potomac for the skill, energy, and endurance which first covered Washington and Baltimore from the meditated blow of the advancing and powerful army of rebels led by General Robert E. Lee, * * * and for the skil land heroic valor which at Gettysburg repulsed, defeated, and drove back broken and dispirited beyond the Rappahannock the veteran army of the rebellion."

OLIVER O. HOWARD.—Joint resolution of January 28, 1864: "That the thanks of the American people and the thanks of their representatives in Congress are due, and are hereby tendered to * * * Major-General Oliver O. Howard, and the officers and soldiers of that army, for the skill and heroic valor which at Gettysburg repulsed, defeated, and drove back, broken and dispirited, beyond the Rappahannock, the veteran army of the rebellion."

NATHANIEL LYON.—Joint resolution of December 24, 1861: "That Congress deems it just and proper to enter upon its records a recognition of the eminent and patriotic services of the late Brigadier-General Nathaniel Lyon. The country to whose service he devoted his life will guard and preserve his fame as a part of its own glory."

GEORGE B. MCCLELLAN.—Thanks of the House of Representatives: "That the thanks of the House be presented to Major-General George B. McClellan, and the

officers and soldiers of his command, for the series of brilliant and decisive victories achieved on the battlefields of West Virginia."

GEORGE G. MEADE.—Joint resolution of January 28, 1864: "That the thanks of the American people and the thanks of their representatives in Congress are due, and are hereby tendered, to * * * Major-General George G. Meade and the officers and soldiers of that army, for the skill and heroic valor which at Gettysburg repulsed, defeated, and drove back, broken and dispirited, beyond the Rappahannock, the veteran army of the rebellion.

WILLIAM S. ROSECRANS.—Joint resolution of March 3, 1863: "That the thanks of Congress be, and they are hereby, presented to Major-General William S. Rosecrans, and, through him, to the officers and men under his command, for their distinguished gallantry and good conduct at the battle of Murfreesborough, Tennessee, where they achieved a signal victory for our arms."

PHILIP H. SHERIDAN.—Joint resolution of February 9, 1865: "That the thanks of Congress are hereby tendered to Major-General Philip H. Sheridan, and to the officers and men under his command, for the gallantry, military skill, and courage displayed in the brilliant series of victories achieved by them in the valley of the Shenandoah, and especially for their services at Cedar Run on the nineteenth day of October, eighteen hundred and sixty-four, which retrieved the fortunes of the day, and thus averted a great disaster."

WILLIAM T. SHERMAN.—Joint resolution of February 19, 1864: "That the thanks of Congress and of the people of the United States are due, and that the same are hereby tendered, to Major-General W. T. Sherman, commander of the Department of the Army of the Tennessee, and the officers and soldiers who served under him, for their gallant and arduous services in marching to the relief of the Army of the Cumberland, and for their gallantry and heroism in the battle of Chattanooga, which contributed in a great degree to the success of our arms in that glorious victory."

GEORGE H. THOMAS.—Joint resolution of March 3, 1865: "That the thanks of Congress are due, and are hereby tendered, to Major-General George H. Thomas and the officers and soldiers under his command for their skill and dauntless courage, by which the rebel army under General Hood was signally defeated and driven from the State of Tennessee."

GRADUATES OF THE MILITARY ACADEMY WHO HAVE BEEN PRESENTED BY CONGRESS WITH GOLD MEDAL AND MEDALS OF HONOR.

GOLD MEDAL.

ULYSSES S. GRANT.—Joint resolution of December 17, 1863: "* * * that the President of the United States be requested to cause a gold medal to be struck, with suitable emblems, devices, and inscriptions, to be presented to Major-General Grant.

"2. *And be it further resolved*, That when said medal shall have been struck, the President shall cause a copy of this joint resolution to be engrossed on parchment, and shall transmit the same, together with the said medal, to Major-General Grant, to be presented to him in the name of the people of the United States of America."

MEDALS OF HONOR.

Ames, Adelbert.
Arnold, Abraham K.
Baird, Absalom.
Beaumont, Eugene B.
Beebe, William S.
Bell, J. Franklin.
Benjamin, Samuel N.
Benyaurd, William H. H.
Birkhimer, William E.
Brett, Lloyd M.
Burnett, George R.
Carr, Eugene A.
Carter, Robert G.
Carter, William H.
Clarke, Powhatan H.
Cruse, Thomas.
Day, Mathias W.
Garlington, Ernest A.
Gillespie, George L.
Godfrey, Edward S.
Greene, Oliver D.
Gresham, John C.
Hall, William P.
Hatch, John P.
Heard, John W.
Henry, Guy V.
Howard, Oliver O.
Howze, Robert L.
Kerr, John B.
Lawton, Louis B.
Long, Oscar F.
McClernand, Edward J.
Maus, Marion P.
Mills, Albert L.
Morgan, George H.
Osgood, Henry B.
Parker, James.
Roberts, Charles D.
Sage, William H.
Saxton, Rufus.
Schofield, John M.
Stanley, David S.
Titus, Calvin P. (cadet).
Varnum, Charles A.
Webb, Alexander S.
Welborn, Ira C.
West, Frank.
Willcox, Orlando B.
Wilder, Wilber E.
Wilson, John M.

COMMISSIONS FOR DISTINGUISHED SERVICES.

ANDREWS, GEORGE L.—For highly meritorious service at the battles of Winchester, Cedar Mountain, and Antietam.

AUGUR, CHRISTOPHER C.—For distinguished and meritorious service in the battle of Cedar Mountain, Virginia.

AVERELL, WILLIAM W.—For distinguished service at Fair Oaks.

CARR, EUGENE A.—For distinguished services in the battle of Pea Ridge.

CARROLL, SAMUEL S.—For gallant and distinguished services in the eight days' battle in the Old Wilderness and at Spottsylvania Court House, Va.

CROOK, GEORGE.—For gallant and meritorious service in the field.

FORSYTH, JAMES W.—For gallant and meritorious services.

GILBERT, CHARLES C.—For gallant conduct at Springfield, Mo., and Pittsburg Landing, Tenn.

GILLMORE, QUINCY A.—For the distinguished skill, ability, and gallantry displayed in the operations under his charge in Charleston Harbor, the descent upon Morris Island, the reduction of Fort Sumter, and the taking of Fort Wagner and Battery Gregg.

GRANT, U. S.—Grade of lieutenant-general revived by act of February 29, 1864, and selection made under act as being "most distinguished for courage, skill, and

ability among officers not below rank of major-general." Grade of general created by act of Congress, July 25, 1866, and selection made under act as being most distinguished for courage, skill, and ability among officers in the military service of the United States.

HANCOCK, WINFIELD S.—For gallant and distinguished services in the battles of the Wilderness, Spottsylvania, and Cold Harbor, and in all the operations of the army in Virginia under Lieutenant-General Grant.

HAZEN, WILLIAM B.—For long and continued service of the highest character, and for special gallantry and service at Fort McAllister.

HUNT, HENRY J.—For meritorious services.

MACKENZIE, RANALD S.—For gallant and meritorious services in the battles of Opequan, Fishers Hill, and Middletown, Va.

MERRITT, WESLEY.—For gallant services.

REYNOLDS, JOSEPH J.—For meritorious services in West Virginia.

RICKETTS, JAMES B.—For gallant and meritorious conduct in the battle of Bull Run, Virginia.

SHERIDAN, PHILIP H.—For the personal gallantry, military skill, and just confidence in the patriotism of his troops displayed by him on the 19th day of October at Cedar Run, whereby, under the blessing of Providence, his routed army was reorganized, a great national disaster averted, and a brilliant victory achieved over the rebels for the third time, in pitched battle, within thirty days.

SHERMAN, WILLIAM T.—For gallant and distinguished services, as commander of the Mississippi Division, in the conduct of the campaign in Georgia.

UPTON, EMORY.—For gallant and distinguished service in the eight days' battles in the Old Wilderness and at Spottsylvania Court House, Va.

WARREN, GOUVERNEUR K.—For distinguished conduct in the battle of Gaines Mills.

Total number of graduates from 1802 to 1903, and table showing number of graduates each year; number entering different arms of the service each year; total number entering each arm from 1802 to 1903.

[I am indebted to Maj. Frank E. Hobbs, Ordnance Department, for the description of the service of the Ordnance Corps, and to Maj. Mason M. Patrick, Corps of Engineers, for that of the Corps of Engineers; also to Capt. Chauncey B. Humphrey, Twenty-second Infantry, for valuable assistance in the preparation and correction of tabulated data. Much of the data used is taken from Cullums and Heitman's Registers and from the records of the Adjutant's Office, U. S. M. A., subjected to careful revision and correction, and has been brought up to date as far as practicable.]

Year.	Corps of Engineers.	Topographic Engineers.	Ordnance.[a]	Light Artillery.	Artillery.	Light Dragoons.	Dragoons.	Cavalry.	Infantry.	Rifles.	Mounted Rifles.	Mounted Rangers.	Marines.	Not commissioned.	Aggregate number of graduates each year.
1802	2														2
1803	1				2										3
1804					2										2
1805	3														3
1806	5				8				2						15
1807					4				1						7
1808	3			5	3				4						5
1809					5	1			1						15

[a] Since 1874 entrance to Ordnance Corps has been by transfer after competitive examination from *all* arms of the service.

Total number of graduates from 1802 to 1903, etc.—Continued.

Year.	Corps of Engineers.	Topographic Engineers.	Ordnance.	Light Artillery.	Artillery.	Light Dragoons.	Dragoons.	Cavalry.	Infantry.	Rifles.	Mounted Rifles.	Mounted Rangers.	Marines.	Not commissioned.	Aggregate number of graduates each year.
1810															
1811	1			6	5				6					1	19
1812	2			8	3				5						18
1813	1														1
1814	1			9	18				1				1		30
1815	6		8	9	17										40
1816															
1817					17								2		19
1818	2	1	1	3	11				5						23
1819	5		2	6	12				3	1					29
1820	2		7	3	8				10						30
1821	1				12				11						24
1822	2				16				22						40
1823	1				11				23						35
1824	1				12				18						31
1825	4				15				16				2		37
1826	2				16				23						41
1827					12				26						38
1828					12				20					1	33
1829	2				15				29						46
1830	1				13				28						42
1831	1				13				19						33
1832					23				17			5			45
1833	4				16				23						43
1834	2				14		1		19						36
1835	2				16		8		30						56
1836	2				36		4		7						49
1837	1				36		5		8						50
1838					23		9		13						45
1839	5	1	1		16		4		4						31
1840	1		2		12		9		18						42
1841	3		3		15		6		25						52
1842	7	2	1		17		5		24						56
1843		2			10				23	4					39
1844		1			5		4		15						25
1845	3	2	2		9		8		17						41
1846	4	2	2		16		10		20		5				59
1847					22				16						38
1848	5	2			10		5		14		2				38
1849	1	1	1		14		3		21		2				43
1850	1	1	1		14		7		19		1				44
1851	2		2		11		6		16		5				42
1852	2	2	2		9		2		24		2				43
1853	2	1	2		17		5		22		3				52
1854	2	2	2		17		5		14		3			1	46
1855	2				8		4	4	14		2				34
1856	3	1	1		14		4	8	16		2				49
1857	4	3	2		8		4	4	11		2				37
1858	2	1	1		4		3	1	13		2				82

Total number of graduates from 1802 to 1903, etc.—Continued.

Year.	Corps of Engineers.	Topographic Engineers.	Ordnance.	Light Artillery.	Artillery.	Light Dragoons.	Dragoons.	Cavalry.	Infantry.	Rifles.	Mounted Rifles.	Mounted Rangers.	Marines.	Not commissioned.	Aggregate number of graduates each year.
1859	3	3	1	....	4	....	2	1	8	....	....	....	....	....	22
1860	2	2	2	....	7	....	3	4	20	....	1	....	....	....	41
1861, May	3	....	3	....	19	....	5	4	10	....	1	....	....	....	45
1861, June	4	1	4	....	8	....	5	3	7	....	2	....	....	....	34
1862	7	....	4	....	15	....	....	2	....	....	....	....	....	....	28
1863	8	....	7	....	6	....	....	2	2	....	....	....	....	....	25
1864	15	....	2	....	....	....	....	....	10	....	....	....	....	....	27
1865	9	....	....	....	6	....	....	10	43	....	....	....	....	....	68
1866	9	....	3	....	16	....	....	6	7	....	....	....	....	....	41
1867	11	....	2	....	43	....	....	6	1	....	....	....	....	....	63
1868	8	....	1	....	15	....	....	18	12	....	....	....	....	....	54
1869	....	....	....	....	12	....	....	26	....	....	....	....	....	1	39
1870	....	....	....	....	18	....	....	40	....	....	....	....	....	....	58
1871	....	....	....	....	....	....	....	20	21	....	....	....	....	....	41
1872	....	....	....	....	....	....	....	23	34	....	....	....	....	....	57
1873	4	....	....	....	12	....	....	11	14	....	....	....	....	....	41
1874	1	....	....	....	13	....	....	5	22	....	....	....	....	....	41
1875	4	....	....	....	15	....	....	10	14	....	....	....	....	....	43
1876	....	....	....	....	14	....	....	13	21	....	....	....	....	....	48
1877	3	....	....	....	12	....	....	33	28	....	....	....	....	....	76
1878	2	....	....	....	1	....	....	10	30	....	....	....	....	....	43
1879	5	....	....	....	....	....	....	24	38	....	....	....	....	....	67
1880	2	....	....	....	9	....	....	17	20	....	....	....	....	4	52
1881	5	....	....	....	9	....	....	15	23	....	....	....	....	1	53
1882	3	....	....	....	12	....	....	7	15	....	....	....	....	....	37
1883	3	....	....	....	9	....	....	16	24	....	....	....	....	....	52
1884	7	....	....	....	7	....	....	13	10	....	....	....	....	....	37
1885	2	....	....	....	7	....	....	11	19	....	....	....	....	....	39
1886	4	....	....	....	9	....	....	23	41	....	....	....	....	....	77
1887	2	....	....	....	14	....	....	16	32	....	....	....	....	....	64
1888	3	....	....	....	7	....	....	13	21	....	....	....	....	....	44
1889	6	....	....	....	16	....	....	7	19	....	....	....	....	1	49
1890	4	....	....	....	16	....	....	12	22	....	....	....	....	....	54
1891	5	....	....	....	....	....	....	18	42	....	....	....	....	....	65
1892	2	....	....	....	14	....	....	13	33	....	....	....	....	....	62
1893	5	....	....	....	9	....	....	15	21	....	....	....	....	1	51
1894	2	....	....	....	7	....	....	11	34	....	....	....	....	....	54
1895	2	....	....	....	7	....	....	13	30	....	....	....	....	....	52
1896	2	....	....	....	13	....	....	30	28	....	....	....	....	....	73
1897	7	....	....	....	7	....	....	18	35	....	....	....	....	....	67
1898	7	....	....	....	12	....	....	....	40	....	....	....	....	....	59
1899, February	6	....	....	....	16	....	....	12	38	....	....	....	....	....	72
1900	5	....	....	....	17	....	....	22	10	....	....	....	....	....	54
1901, February	10	....	....	....	28	....	....	34	....	....	....	....	....	2	74
1902, June	7	....	....	....	14	....	....	23	10	....	....	....	....	....	54
1903, June	11	....	....	....	18	....	....	21	43	....	....	....	....	....	93
Total	318	32	72	49	1,187	1	136	668	1,688	5	35	5	5	13	4,214

THE UNIFORM OF CADETS, 1794–1902.

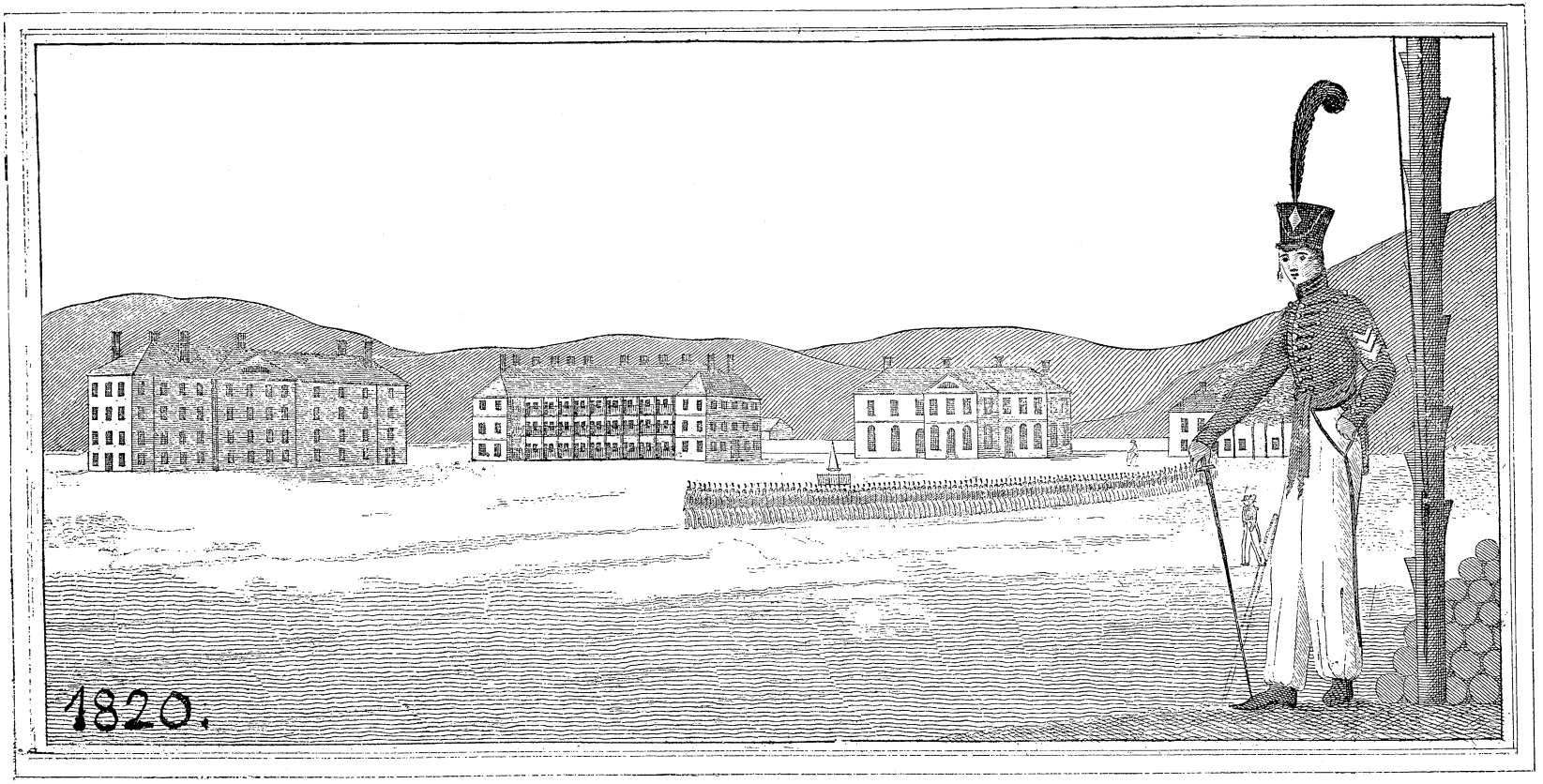
By Captain FRED. W. SLADEN,
Fourteenth U. S. Infantry, United States Military Academy, 1890.

CADET, 1836.

AN act of Congress, May 9, 1794, provided for the organization of a Corps of Artillerists and Engineers, each company to have two *Cadets* with the pay, clothing, and rations of a sergeant. Only 9 were appointed before March 16, 1802. The law of April 12, 1808, authorized 156 additional Cadets, and that of January 11, 1812, provided 64 more, making a total of 310, which was reduced to 260 by the law of April 29, 1812. (Laws of Congress relative to West Point and the United States Military Academy, Library U. S. Military Academy.)

The first record of the uniform and equipment of Cadets is found in the clothing book of the First Regiment of Artillerists and Engineers, dating back to 1795, and in the "West Point Ordnance Waste Book" of the same date (these books are in the Library U. S. Military Academy). Three Cadets (James Tryplett, Philip Roderigue, and Philip Landais) are charged at various times during 1795 and 1796 with swords, sword belts, sergeant's helmets, plumes, cockades, sergeant's coats, and sergeant's shirts, drawn for their "personal use." They turned in, while commanding companies of the First Regiment of Artillerists and Engineers, "damaged stands of arms," "old cartouche boxes," etc., showing that, while commanding companies and performing the duties of officers, they were wearing the uniform and equipment of sergeants.

In 1795 the enlisted men of Artillery wore round hats with a brim 3 inches wide, and with a strip of bearskin 7 inches



Military Academy West Point N. Y.

SHOWING THE NORTH AND SOUTH BARRACKS, THE (SECOND) ACADEMY AND THE MESS HALL, WITH WOOD'S MONUMENT IN THE CENTER OF THE PLAIN.

wide and 7 inches high across the crown, with a black cockade, eagle, and red plume. (General Orders, Headquarters, Greenville, 26 June, 1795, Magazine American History.) The coat was of blue, revolutionary cut, faced and lined with scarlet, and having yellow buttons. White cross belts were worn. The pantaloons were of dark blue in winter and white in the summer, and they wore black half-gaiters 7 inches high.

1799.

On January 9, by a President's order, the uniform of a Cadet of Artillery was prescribed as follows:

The uniform of the Artillery to be a blue coat with white buttons and red facings, white underclothes,[a] and cocked hats—the officers' coats to reach to the knees—the coats of the Artillery to be lined with red, the Cadet to be distinguished by a silver strap on the right shoulder. Commissioned officers and Cadets to wear swords. The hat to be ornamented with a black cockade with small white eagle in center (changed in 1800). Cadets to wear red plume and gold strap, with fringe, on left shoulder.

1805.

Speaking of Colonel Williams's reappointment and assumption of duties as Superintendent U. S. Military Academy in April, General Cullum says (Register, p. 505, Vol. III) "he requested that Cadets' uniform be defined and made all alike, they having previously worn the respective dress of the Corps (Engineers or Artillery) to which they belonged, and having clothed themselves pretty much as they liked. Colonel Williams, in submitting a plan for messing Cadets, stated that in taking their rations in money (27 cents per day) and buying provisions their pay and rations both were "swallowed up in food and they have nothing left for clothing." After trial, the cost of messing was found to be 30 cents per day, etc., the consequence of which was that before the end of the year they were "literally in rags," and the Superintendent made "a forceful but fruitless appeal" to the Secretary of War for "an allowance of clothing to Cadets as noncommissioned officers." (Page 518.)

[a] Waistcoats, breeches, stockings.

1808.

"The wearing of the new Cadet uniform was made imperative." (Cullum's Register, Vol. III, p. 518.) No record can be found of change in Cadet uniform between 1800 and 1814, and it can not be found to what uniform Cullum here refers.

1810.

Colonel Williams, the Superintendent, "succeeded after persistent effort" in extorting Secretary Eustis's approval, April 30, of the following regulations relative to the Military Academy at West Point: "A uniform shall be established by the Superintendent, with the approbation of the Secretary of War, for all Cadets attached to the Academy, without regard to their respective corps." Cullum Register, Vol. III, p. 534.)

1813.

Under date of December 8, the Secretary of War wrote directing the superintendent of the public armory at Springfield to ship to West Point "three hundred stands of short musquets" for the use of Cadets of the Military Academy.

1814.

By regulations issued by the Adjutant and Inspector-General, dated May 2, it was prescribed that the Cadet uniform be as follows: Coat, blue cloth, single breasted, standing collar, eight buttons in front, six in rear, one on each side of the collar, with one blind buttonhole, and one on each cuff; underclothes, nankeen in summer, gray cloth in winter; black stock, round hat, cockade with gilt eagle and loop; cut and thrust sword in a frog belt worn under the coat; buttons, eagle impression, yellow gilt; Jefferson shoes. "Little attention, however, was paid to the prescribed dress, everything being worn according to fancy, up to a major-general's uniform. The belts were black and the musket the same as that used by the soldiers, except a lighter one." (Cullum Register, Vol. III, p. 596.) Gen. D. G. Ramsey (Cullum Register, Vol. III) speaks of being supplied before leaving home in May, 1814, with "two uniform coats of blue cloth, one short, intended for daily wear, the other long tailed for

full dress; a round black hat,[a] ornamented with silk cockade and yellow eagle, etc.," and of being recognized (in New York) as a Cadet from the uniform he wore. He states further that "during the winters of 1814 and 1815 Cadets were greatly exposed to the cold; greatcoats had not become the fashion for boys and such a comfort was a specialty. My wardrobe had been carefully prepared, but the inventory did did not include the greatcoat." (This is the first mention of the overcoat.)

1816.

By an order from the office of the Adjutant and Inspector-General the uniform of 1814 was changed to the following:

A *coatee* of gray satinette, single-breasted, three rows of eight yellow gilt bullet buttons in front, and button holes of black silk cord in the herringbone form, with a festoon turned at the back end, a standing collar to rise as high as the tip of the ear; the cuffs 4 inches wide, the bottom of the breast and the hip buttons to range. On the collar one blind hole of cord, formed like that of the breast, 4 inches long, with a button on each side. Cord holes in the like form to proceed from three buttons placed lengthwise on the skirts, with three buttons down the pleats. The cuffs to be indented, with three buttons and cord holes lengthwise, on each sleeve, corresponding with the indentation of the cuff, in the center of which is inserted the lower button.

Vest.—Gray cloth for winter, single breasted, yellow gilt bullet buttons, and trimmed with black silk lace. For summer, white vest, single breasted, with buttons but without trimmings.

Pantaloons.—Gray cloth for winter, trimmed down the side with black silk lace, and the Austrian knot in front; no buttons on the side or at the bottom, but made with under-straps. Russia sheeting or white jean for summer, without trimmings, the form the same as for winter.

The Jefferson shoe, rising above the ankle joint under the pantaloons.

Black silk stock. Common round hat. Cockade, black silk, with yellow eagle, to be worn at all times.

Sword—cut and thrust, yellow mounted, with a black gripe, in a frog belt of black morocco, and worn over the coat.

No dress resembling the military, without conforming to the regulation, will be worn on any occasion, excepting that when attached to corps Cadets will wear the uniform of the company officers, without epaulets. (Uniform of the Army of the United States, 1774–1899, Quartermaster-General, p. 6.)

[a] Similar to the cylindric silk hat of the present day.

This is the uniform which, with modifications made from time to time, is worn to-day. This color is said (Memoirs of Lieut. J. T. Greble) to have been adopted out of compliment to General Scott and his troops who, clothed in uniforms of gray (due to the inability of Government to furnish them with blue), had on July 4, 1814, won a victory over the British at Chippewa.

1817.

Under Major Thayer, September 23, the chevron was first adopted pursuant to the following order:

For the designation of rank, chevrons will be worn on the arms of the battalion officers and noncommissioned officers. The colonel shall wear three on each arm; the captain shall wear two on each arm; the adjutant one on each arm; the lieutenants one on the left arm; the sergeant-major two on each arm; the sergeants one on each arm; and the corporals one on the left arm; those worn by the officers to be of gold lace and those by the noncommissioned officers yellow ribbon.

1818.

On the 4th of November the following order was issued:

The lineal rank of company officers will for the future be designated by chevrons of gold lace, edged with black cloth, borne upon the right arm, those of commissioned officers will subtend downward, and those of the noncommissioned officers upward. Captains will wear three, lieutenants and sergeants two, and corporals one. The first or orderly sergeant will add the interior bend or bar of a third chevron. The battalion staff will, in addition to the badges of their lineal rank, wear bars upon the left arm. The adjutant and sergeant-major will add the interior, and the quartermaster and quartermaster-sergeant the exterior bars of two chevrons corresponding to those of the right arm.

This is the description of chevron worn by Cadet officers and noncommissioned officers until the 29th of June, 1830.

Between 1817 and 1820 the round hat with cockade gave place to a leather cap 7 inches high with full crown and drooping visor and plume, of the same general pattern as that now worn as a "dress hat" by the Corps of Cadets, with a gilt diamond-shaped ornament bearing the letters "U. S." and a chin strap of gilt scales. An engraving of the date of 1820 shows the hat topped with a plume some 14 inches high of a single feather curled to the rear at the top.

1820.

The trousers at this period were very full and reached only to the ankle joint. Of the uniform at this period the report of the Board of Visitors, 1820, speaks as follows:

The clothing for the Cadets is for the most part uniform, and with conformity with regulation. The different articles are furnished by a storekeeper whose stock and the mode of manufacture are under the inspection of the officers of the Academy. The material is chosen and purchased by the quartermaster, and the profit allowed to the storekeeper is very reasonable. The coat, which is of gray cloth with black trimmings, is handsome and convenient. The present price is $16. It lasts on the average of eight months. The vest is of kerseymere of the same color. It costs $3.50, but it does not appear a favorite article of clothing, as not more than 100 are sold annually. Vests of white kerseymere are worn in common, and as they are much more becoming no good reason exists why they should not become the uniform. The pantaloons are also of gray kerseymere, and cost the Cadet $9.50. They are serviceable and becoming. These articles were formerly made of a very inferior material and cost much more than they do at present; besides a further reduction in the price may be fairly anticipated when a new contract for cloth is made.

For summer clothing they wear with the coat, vests of white Marseilles, which cost $2.50, and linen pantaloons, which cost $2.75. It may here be remarked that the pantaloons, both for summer and winter wear, have, in compliance with the present fashion, been shortened so as to leave an unsightly gap between them and the regulation shoe. For the encampment which has just commenced the corps have been directed to furnish themselves with a fatigue dress of low cost and excellent quality, which for the purpose will save much for the Cadets in the wear of their uniforms and in bills for washing. The uniform cap is showy and elegant, but heavy, and affords no shelter either from the sun or rain; with its trimmings it costs no less than $8, and is perhaps the most expensive part of their equipment. There is no half-dress cap, and the Cadets in consequence wear, except when on duty, common hats, which are very expensive to them. There are two sorts of shoes permitted by regulation and furnished them, one at the price of $3; the other of $4. They appear to be of good quality and very serviceable, but much too dear. There is no regulation for uniformity in any other species of clothing, nor any tariff of prices. These are, however, kept down in some measure by competition. The supply of all articles, except those of prime necessity, is under the immediate direction of the Superintendent. No Cadet can contract debts even for these, beyond the arrears of his pay, nor purchase anything else on a credit

without the permission of the Superintendent. On this point the wishes of the Cadet combine with the cupidity of the traders in a continual struggle against their true interest. In such a strife the art of man will not insure entire success, and it is probable that credit for forbidden articles has sometimes been obtained on pledge of honor. The extent of this evil, however, can not be great, and is most probably limited to those persons who on a late occasion refused to sign the pay rolls because their acknowledged debts were first deducted. (Report of Board of Visitors U. S. Military Academy, 1820, in Swift MSS., 1804–1860.)

1828.

Engravings in the Library of the U. S. Military Academy, made from drawings of George Catlin, dated this year, show the Cadet in his tall leather hat with plume, ornament, and cord, as described above, with his high-necked coat and baggy pantaloons held down by straps of the same color under his instep.

By "Military Academy Order No. 41" of this year, from the office of the Inspector of the Military Academy, the overcoat was ordered adopted. (See copy of a letter from Colonel Gratiot to Colonel Thayer, Cullum MSS., Nov. 6, 1828.)

1830

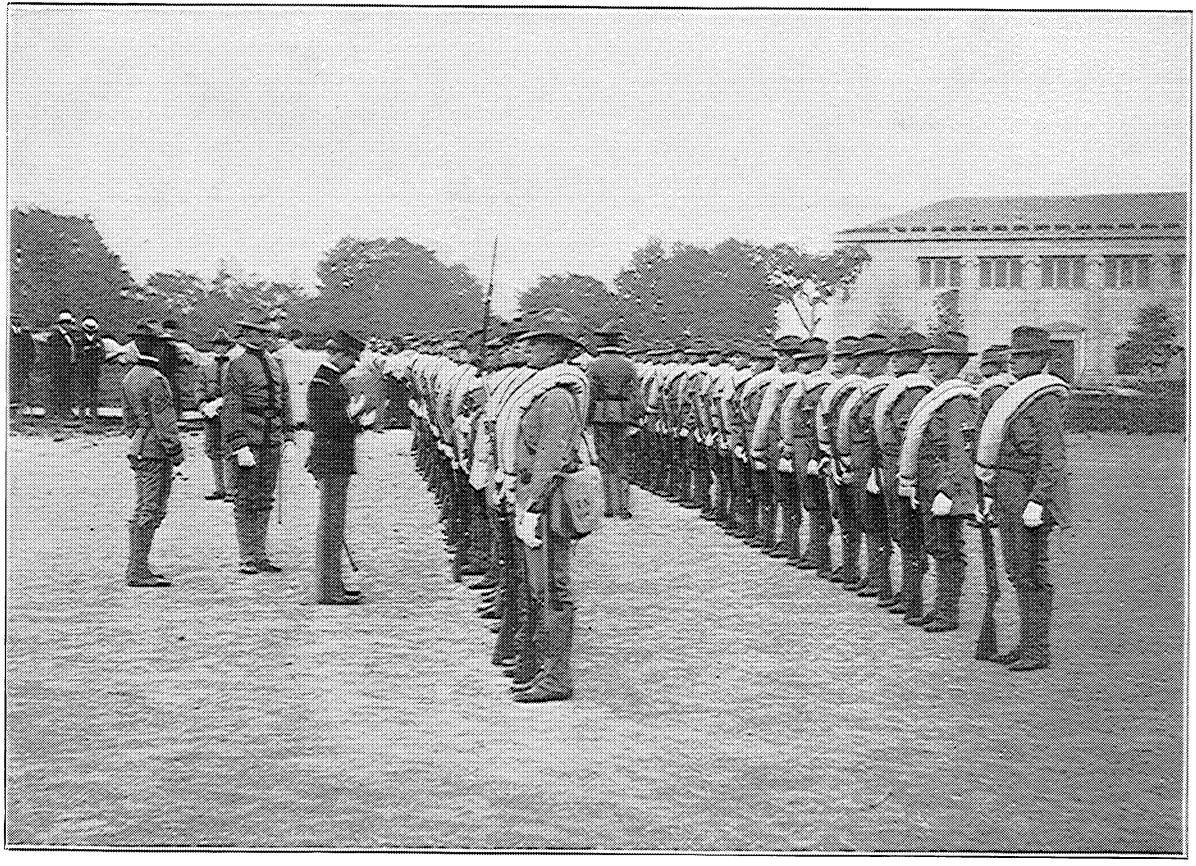
On the diploma of A. J. Swift (1830) the dress hat is shown with a short brush pompon instead of the tall single feather plume shown in Catlin's plate of 1828, and with a full crown similar to the present style. It has a diamond-shaped ornament with the letters "U. S." on it, and a cord looped up at the side near the top and hanging just over the visor.

By an order dated June 29 the present style of chevron was adopted.

1836.

Under War Department orders of this date prescribing a uniform for the Army, a change is to be seen in the material of the coatee from gray satinette to gray cloth, and in the collar, which is trimmed with black silk lace, "*to fit the neck* and hook in front."

The overcoat is also described and was similar to that used at present except that it was single breasted.



INSPECTION. HEAVY MARCHING ORDER, 1902.

In the description of the trousers the black stripe is of "velvet" instead of black silk lace and no Austrian knot is mentioned. A fatigue dress of unbleached Russia drilling is prescribed.

A forage cap, made according to pattern deposited with the storekeeper, is first mentioned. In all probability it was similar to that of the campaign uniform of the enlisted man of that day, with a drooping visor and a high crown stiffened with whalebone.

1838.

The first volume of "Post Orders" in the adjutant's office dating back to 1838 contains the following relative to Cadet uniforms:

Summer pantaloons to be made in future of same pattern as winter ones, at request of the Corps of Cadets. (Post Orders No. 34, March 15.)

After the 10th of next June the uniform stock of the Corps of Cadets will be of black bombasine. (Post Orders No. 65, May 30.)

Pantaloons to be made loose with wide fall in front, made to be worn with leather straps when so ordered; when the supply of velvet is used up black cassimere to be substituted in stripes. (Post Orders No. 185, December 17.)

Wearing of vests optional, etc.; when worn they must be uniform, and when not worn the coat must be buttoned up when out of quarters or tent. (Post Orders No. 172, November 24.)

1839.

Under date of May 18, straps are required to be worn on the summer uniform, leather ones to be used when those now on pantaloons need renewing. (Post Orders No. 38.)

1840.

General Orders No. 7, Adjutant-General's Office, prescribes the uniform of Cadets the same as given in 1836, except that the "dress hat" is described as "one black cap, round crown, 7 inches high, etc.; black worsted pompon 8 inches long, set in a yellow metal socket; cap plate worn in front of cap." This is the first mention of the black worsted pompon, though it is possible that it was worn as early as 1836. The War Department order of that year prescribing the uniform does not describe the hat.

1841.

By Post Orders No. 10, March 29, Cadets were required to wear either "their own full dress or a citizen's dress, undistinguished by any military badge or mark whatever."

A commandant's order under date of June 30, reads as folfows:

I. The battalion officers and noncommissioned staff will supply themselves at the store each with two shoulder belts for the sword, which belts will be worn in lieu of the waist belts now in use, commencing with the next Sunday inspection. The plate for the shoulder belts will be the same now used by the Corps for the waist belts.

II. In conformity with Army Regulations, the Cadet officers will hereafter wear their sashes whenever the sword is worn.

III. The sword belts now in use by the officers and noncommissioned staff will be turned in to the battalion quartermaster on Monday next between reveille and retreat.

IV. Agreeing to the Army Regulations, the sergeant-major, quartermaster-sergeant, and first sergeants of companies will alone wear sashes.

1842.

Under date of May 11 the black plume of drooping feathers and a brass castle in lieu of the pompon and cross cannon were ordered to be worn by Cadet officers. (Orders U. S. Corps Cadets, 1839–42.)

On July 7 the commandant forbids the wearing of ununiform vests, cravats, stocks, and pantaloons, and the removal of the whalebone from the caps.

1843.

Under date of April 27 the wearing of an approved pattern of shirt collar was ordered, to be turned 1 inch over the stock, the latter one-fourth inch above coat collar. (Orders U. S. Corps Cadets, 1842–48.)

By Special Orders No. 21, Adjutant-General's Office, the ornament on the hat was changed to a castle surmounted by an eagle. A lithographed certificate of resignation (now in the adjutant's office, West Point), given to Cadets from 1840 to about 1860, shows a cylindrical black hat with plume, and the castle surmounted by an eagle on the front.

1845.

Orders U. S. Corps Cadets, April 30, directed that the cap pouch be worn on the right side in prolongation of the trousers' stripe.

Special Orders No. 129, U. S. Military Academy, changed the cut of the trousers from the "wide fall in front" to "open in front."

1847.

Special Orders No. 140, U. S. Military Academy, announced that Cadets acting as assistant professors would wear "captain's chevrons and a star."

1850.

In the Journal of Rev. Silas Constant, by Roebling, p. 450, is a photograph of Gen. G. K. Warren, class of 1850, taken while a first classman, which shows his "dress hat" almost cylindrical in shape, with a drooping visor, ornamented by the castle with an eagle over it and surmounted by a plume of the present style. He wore a narrow white collar rolling over the collar of his dress coat, and it did not meet by 4 inches in front. The sash and sword belt were like those now used. The sword scabbard was leather covered.

1851.

In the uniform order No. 31, Adjutant-General's Office, of this year, several changes were made. The overcoat prescribed was double instead of single breasted, and of grey kersey. The button of 1836 ("gilt, cupped, three-fourths of an inch in diameter, and stamped across the front with the word 'Cadet'") was changed to "gilt, seven-eighths of an inch in diameter; device a spread eagle with shield, and having the word 'Cadet' next the margin at top, and letters 'U. S. M. A.' at bottom." The overcoat is that used at the present time.

There was also prescribed a riding jacket, and riding trousers of "grey kersey reenforced on the inside; black stripe 1 inch wide down the outer seam; faced at the bottom with black leather for the space of 8 inches; outer seam slashed at bottom same length."

It is believed that the "dress hat" was soon after this period changed to that worn up to 1899, similar in shape to that prescribed for the Army, *i. e.*, crown of four upright pieces, height in front from 5¾ to 6¼ inches along the front seam; length behind from 7¼ to 7¾ inches along the back

seam; tip from 5½ to 6 inches in diameter, and inclining downward slightly from rear to front when the cap is worn (the dimensions given to vary with the circumference of the head); visor of strong neat's leather, 2¼ inches wide at the middle, black on the upper and green on the under side, to be put on at right angles to the front of the cap, or, in other words, to be horizontal when the cap is worn; strap of strong black leather fastening under the chin by a yellow metal buckle and leather slide. (Extract, General Orders, No. 31, Adjutant-General's Office. "Uniform of the Army of the U. S.," p. 36, Art. 39.)

1853.

A wood cut of this date in U. S. Military Academy scrap book No. 1, Library U. S. Military Academy, shows the Cadet wearing this dress hat ornamented with the eagle and castle, having a pompon on both the privates' and officers' hats and with a visor drooping but slightly. A white shoulder cartridge box belt over the left shoulder and a black leather waist belt with a plate bearing the letters "U. S." are shown in this cut. The officer wears a white sword belt (without breast plate), sword, and sash.

1857.

In the class album of this year, the earliest on file in the library, U. S. Military Academy, the dress hat worn by the Corps up to 1899 is shown. The visor was horizontal, the ornaments were the castle surmounted by the eagle and the plume of black feathers. The dress coat was like that of to-day, with the exception of the collar, which is hooked with one hook at the bottom and cut away showing a black stock. A narrow white rolling collar was worn on the coat. Cuffs were not generally worn and the coat cuff was slashed 3 inches and hooked together. There was a flat breastplate on the sword belt. The sword had a broader blade and scabbard, but was of design similar to those used at present. The forage cap was 4 or 5 inches high, with a flaring crown, drooping visor, leather strap, and no ornament. It had a rain cover. It is believed that this is the cap ordered issued in 1846 (see Orders U. S. Corps Cadets, 1846). The riding

jacket was the same as that worn up to 1891, except for the collar, which was cut away like the dress coat and had three strips of black braid put on horizontally and equidistant. It had also a small flap-covered pocket on the right side just over the belt. Gauntlets, a heavy cavalry saber, and black leather belt made up the riding equipment.

1861.

Photographs of this date show a forage cap like that worn by the Army during the civil war, but with a smaller crown. This same cap with minor alterations was used until June 12, 1903. An ornament was worn attached over the visor, consisting of a wreath encircling the letters "U. S. M. A." Cadet privates wore, when under arms, white waist and shoulder belts, the latter over the left shoulder. To the shoulder belt was attached a leather box for ammunition, to the waist belt a bayonet scabbard on the left side, and on the right a small leather box for caps.

1863.

In this year the dress coat collar was worn hooked with two hooks, and the white collar, a plain flat piece of linen, was folded and crimped by the wearer, and pinned on over the coat collar so as to meet in front. This same collar was worn until 1885, when the made-up turn-down collar was issued.

Acting assistant instructors (Cadets) wore rows of buttons containing double the regulation number of bell buttons on their dress coats.

1864.

By a Post Order of December 5, chevrons (similar to service stripes such as Washington adopted for the Army on June 17, 1782) were prescribed for military merit.

1866.

By a Post Order of August 11, the preceding order was revoked. In a group of photographs of the class of 1867 shown in the 1866 album, the pompon on the dress hat is to be seen to a short brush affair, which was worn until 1869, when a change was made to a worsted pompon, smaller at top than at the base, and 3 inches long.

1867.

Muskets of the old pattern were turned in and rifles issued to the Corps. (Post Orders, vol. 7, page 92.)

1869.

The castle and eagle ornament on the dress hat was changed to one of light metal, representing a sunburst with a shield of darker metal in the center divided into four compartments, each containing the insignia of one of the four arms: Engineers, Artillery, Cavalry, and Infantry.

1870.

The forage cap ornament, a small eagle surmounted by the letters "U. S. M. A.," was adopted. It was embroidered in gold and silver upon the cap. This cap and ornament was worn until June 12, 1903.

1878.

The dress hat ornament was changed to one representing a spread eagle, the wings of which were joined by a band bearing the letters "U. S. M. A." This was of metal and continued in use until 1899, when the arms of the Academy was adopted for an ornament on the dress hat.

1889.

On June 15 the blouse was introduced. This was of the same style as that worn by officers, being of gray cloth, and bound around the edges, the cuffs, and up the seams in the back with black mohair braid, having a collar of the same material, of height suited to wearer. To new Cadets was issued one of gray flannel, ready-made. The "shell" and riding jackets were not again issued. The turn down was replaced by a standing collar fastened inside the collar of the dress coat and blouse.

1893.

Riding breeches fastening at the ankle and worn with the service-brown canvas legging were issued. The legging later was issued in a Cadet gray.

1894.

The gray mackintosh (rain coat) was first issued.

1896.

During 1895 and 1896 the Springfield Cadet rifle was replaced by the United States magazine rifle, caliber .30.

1899.

The service shelter half, haversack, canteen, meat can, knife, fork, and spoon were issued to the Corps, as well as a light intrenching pick and spade. The blanket roll was used instead of the blanket bag, and the intrenching tool was carried attached to the field belt on the right side. The "campaign hat," leggings, and in warm weather, a gray woolen shirt, were worn when the field outfit was carried.

The present dress hat, in general shape similar to that adopted between 1816 and 1820, ornamented with the arms of the Academy, was adopted. (Post Orders, vol. 14, page 468.)

Service stripes, one for each year of the class at the Academy, were adopted. (Post Orders, vol. 15, page 34.)

I beg to express my acknowledgements to Dr. Edward S. Holden, whose bibliography of the U. S. M. A. directed me to a great number of the foregoing references to sources of information with respect to the uniform of Cadets.

Cadets riding; drawn by Brig. Gen. J. P. Farley, U. S. A., U. S. M. A., 1861.

THE BATTALION COLORS OF THE U. S. CORPS OF CADETS.

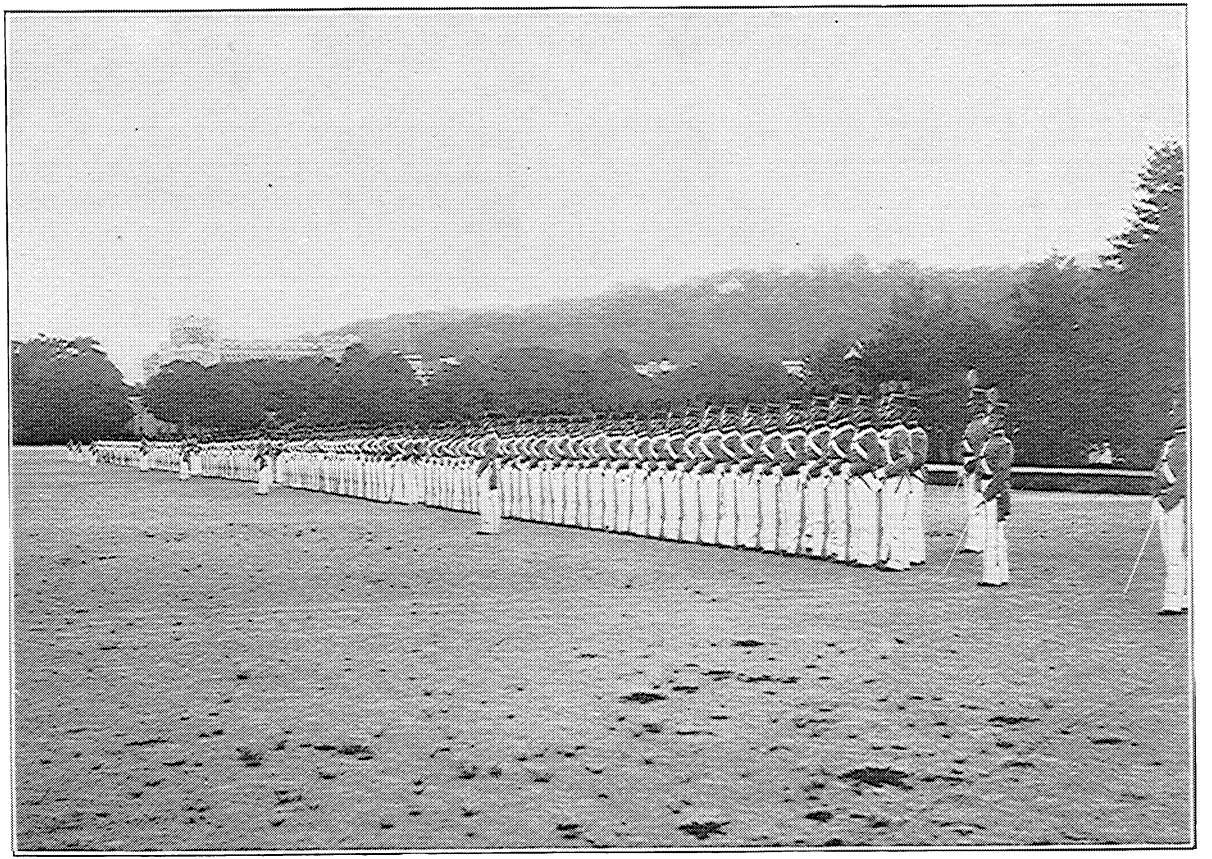
1821 to 1902.

CADET, 1901.

ON the 19th of April, 1821, the Secretary of War directed that the Corps of Cadets should be marched to Boston during the summer. They were so marched during August, carrying with them the battalion colors. They encamped on Boston Common, and on the 14th of August they visited President John Adams at Quincy. In his Life and Works, page 10, Appendix A, Adams's speech to the Corps is given. On pages 400 and 401 of the same volume there are references to this visit in letters of Adams. It is said that "the Corps had two mottoes—*Scientia ad gloriam*, and *Paremus*"—the translation of the latter being *Essayons*, which was and still is the motto of the Corps of Engineers.

In Josiah Quincy's Figures of the Past, pages 88 to 93, there are references to this visit. It is said that "a stand of colors bearing the motto *A scientia ad gloriam* was voted to them in town meeting and was presented by the selectmen;" that "as they marched to President Adams's house on August 14 their colors were flying and the band was playing;" and that "the new standards presented by the authorities of the town of Boston were displayed before us." The national flag is mentioned * * * "the national flag is painted on a dark ground," and it is said that "the regimental standard is painted on a white ground, with a figure of Minerva and various appropriate devices."

In the Ordnance Museum of the U. S. M. A. there are various battalion colors:



DRESS PARADE, 1902.

No. 915 is called "Cadet colors presented to the United States Corps of Cadets by the ladies of Boston." This is evidently the regimental standard spoken of by Mr. Quincy. It is very much torn and soiled, but it is obvious that the original color of the silk was white. At the top of the standard are the rays of the sun; at the bottom, a wreath; in the middle of this wreath is the word *Essayons;* in the middle of the flag is a silk embroidery with three figures upon it—Minerva to one side, with her owl at the foot, gives a wreath to Mars, who is upon the other side of the group, in the center of which is the Goddess of Liberty; both sides of the flag are alike. It is now impossible to find upon the flag the words *A scientia ad gloriam*, if indeed they ever were there. The design for the title-page of the Regulations of the Academy is evidently inspired by the device just described.[a]

The flag which Mr. Quincy calls the "National flag" is No. 924 in the catalogue of the Ordnance Museum. It is, in fact, a flag with a blue ground, in the middle of which is an eagle; below the eagle is a shield of the United States with stars painted on the chief of the shield; at the bottom of the flag are the words *Presented by the inhabitants of Boston.* I have been unable to find any other inscription.

No. 918 of the Ordnance Museum catalogue is called "Battalion colors, United States Corps of Cadets." It is a blue flag with the eagle in the center and the coat of arms of the United States with the motto *E pluribus unum;* above the eagle are the rays of the sun, and above these, stars. The date at which this flag was borne is unknown at present.

No. 926 is called "Battalion colors, United States Corps of Cadets." It is very much like No. 918. At the bottom of the flag is a wreath of oak leaves.

No. 928 is called "Battalion colors of the United States Corps of Cadets," and is the blue color of a battalion of infantry. The words *United States Corps Cadets* are at the bottom.

A flag without any number is also in the collection. It is the ordinary blue color of a battalion of infantry, and it is marked *United States Corps of Cadets.*

[a] *See* page 374 of this volume.

In the War Department records of the Military Academy, under the date 1823, it is said that Miss Leslie was commissioned to paint a standard for the Corps of Cadets. The device is not there mentioned.

On March 24, 1899, post orders designated black, gray, and gold as the colors of the United States Military Academy for use in all athletic games.

In July, 1902, a gray flag with a fringe of black and gold, the gray ground charged with the arms of the United States Military Academy, was adopted for the battalion colors.

E. S. H.

PREVIOUS NEXT

Index