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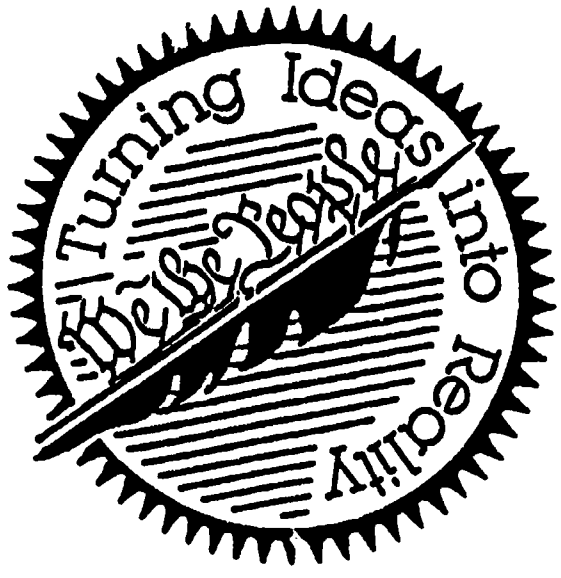
ABSTRACT

A compilation of resources is provided for those interested in examining action taken by the executive branch of the federal government to foster scientific and engineering excellence in the United States in the nineteenth century. The resources are intended for use by pre-college secondary science and social studies teachers. Each of the resources listed in the bibliography section of the document can be obtained from any typical college library and from most public libraries by making use of interlibrary loans. The resources are divided into seven groups: historical references, reference works, non-print resources, Historic American Engineering Record and Historic American Buildings Survey, patent research, organizations, and National Archives and Records Administration. (DB)

RESOURCES FOR TEACHERS

COMPILED FOR



"TURNING IDEAS INTO REALITY: THE EXECUTIVE BRANCH FOSTERS ENGINEERING EXCELLENCE"

An Institute for Pre-College Science and Social Studies Teachers

February 18, 19, 24, 25, and 26, 1989
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PRESTON E. PIERCE, EdD
Compiler

COUNTY HISTORIAN
DIVISION OF HUMAN SERVICES
ONTARIO COUNTY, NEW YORK

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- A WORD ABOUT THESE RESOURCES -

The resources included in this compilation have been selected to satisfy several criteria. Those include the relevance to the subject of the institute for which this list was created, availability to the secondary teacher, and the academic nature of the material.

Publications listed in the bibliography section do not strictly deal with the time period of the First Federal Congress or the Presidential administrations of George Washington or John Adams; points of focus for the Institute. Included in the bibliography are publications which might be useful for background information on the stage set for the industrial revolution during the colonial period of American history. In addition, publications are also included which relate to the first three decades of the Nineteenth Century. During the period 1800-1830 the basis for scientific and engineering excellence established by the federal government after 1789 was the underpinning for tremendous expansion. Major changes were made in the patent system, for example, primarily because of the problems encountered with the Patent Laws of 1790 and 1793. A real understanding of the efforts of the first federal administrations to foster scientific and engineering excellence requires a future projection; a look at what evolved because of those efforts.

Each of the resources listed in the bibliography can be obtained from any typical college library and from most public libraries making use of interlibrary loan. During the course of compilation each reference was actually obtained through the library of Community College of the Finger Lakes in Canandaigua, New York. All but the smallest public libraries should also be able to make any reference on the list available to a patron.

None of the resources included in this compilation, with the possible exception of a few non-print materials, can be considered "children's literature." Publications aimed at students in the lower grades have been purposely omitted. This was done in an effort to provide a diverse list of useful resources while keeping its size manageable. Since the stated audience for the Institute consisted of teachers of pre-college secondary students only resources which meet the needs of that audience are listed.

This compilation is divided into seven groups: Historical References, Reference Works, Non-Print Resources, Historic American Engineering Record and Historic American Buildings Survey, Patent Research, Organizations, and National Archives and Records Administration.

_____. "George Washington and the Establishment of the Harper's Ferry Armory." Virginia Magazine of History and Biography. Vol 81. 1973. pp. 415-436.

_____. "New Exhibit at Smithsonian." American History Illustrated. Vol. 21. Jan. 87. pp. 8-9.

_____. Report Published in Commemoration of the 150th Anniversary of the Founding of King's College. 1904. A History of Columbia University, 1754-1904. (New York: Columbia University Press, 1904)

_____. The Centennial of the United States Military Academy at West Point, New York, 1802-1902. (Washington, DC: Government Printing Office, 1904)

Adams, Donald R., Jr. Finance and Enterprise in Early America: A Study of Stephen Girard's Bank. (Philadelphia: Univ. of Pennsylvania Press, 1979)

Ambler, Charles H. A History of Transportation in the Ohio Valley; with Special Reference to its Waterways, Trade and Commerce from the Earliest Period to the Present Time. (New York: Augustus M. Kelley, Reprint 1932)

Ambrose, Stephen E. Duty, Honor, Country: A History of West Point. (Baltimore: Johns Hopkins Press, 1966)

Arbuckle, Robert D. "John Nicholson and the Attempt to Promote Pennsylvania Manufacturing." Pennsylvania History. Vol. 42. Apr. 1975. pp. 99-114.

Armstrong, Ellis L (ed). History of Public Works in the United States, 1776-1976. (Chicago: American Public Works Assoc, 1976)

Armytage, W.H.G. A Social History of Engineering. (London: Faber and Faber, 1961)

Artz, Frederick B. The Development of Technical Education in France, 1500-1850. (Cambridge, MA: Soc. for Hist. of Tech.--Mass. Inst. of Tech, 1966)

Atherton, W.A. From Compass to Computer: A History of Electrical and Electronics Engineering. (San Francisco, CA: San Francisco Press, 1984)

Bagnall, William. The Textile Industries of the United States. Vol. 1 [1639-1810] (New York: Augustus M. Kelley, 1971)

Bahr, Betsy W. New England Mill Engineering: Rationalization and Reform in Textile Mill Design, 1790-1920. (University of Delaware, PhD, 1987)

Baldwin, Simeon E. The First Century of the Connecticut Academy of Arts and Sciences, 1799-1899: A Historical Address. Connecticut Academy of Arts and Sciences Transactions. Vol. 11. (New Haven: The Academy, 1901-1903)

Barbash, Fred. The Founding: A Dramatic Account of the Writing of the Constitution. (New York: Linden Press, 1987)

Barnes, Joseph. "Remarks on Mr. Fitch's Reply to Mr. Rumsey's Pamphlet, 1788." Magazine of History. Vol. 35. 1928. Extra No. 139.

Batchelder, Samuel. Introduction and Early Progress of the Cotton Manufacture in the United States. (New York: Augustus M. Kelley, Reprint 1863) Also (New York: Gordon Reprints)

Bates, Ralph S. Scientific Societies in the United States. 3rd ed. (Cambridge, MA: MIT Press, 1965)

Bathe, Greville and Dorothy. Oliver Evans: A Chronicle of Early American Engineering. (Philadelphia: Hist. Soc. of Penna, 1935)

Beard, Charles A. An Economic Interpretation of the Constitution of the United States. (New York: Free Press, 1965)

Beard Charles A. Industrial Revolution. (Westport, CT: Greenwood Press, 1975)

Bedini, Silvio A. Thinkers and Tinkers: Early American Men of Science. (Rancho Cordova, CA: Landmark Ent, 1983)

Bedini, Silvio A. and Howard, Seymour. Thomas Jefferson and His Copying Machines. (Charlottesville, VA: Univ. Press of Virginia, 1984)

Beeman, Richard, et al. (eds). Beyond Confederation: Origins of the Constitution and American National Identity. (Chapel Hill, NC: Univ. of North Carolina Press, 1986)

Bell, Whitfield J. Early American Science. (New York: Russell and Russell, 1971)

Bennett, William Batchelder. The American Patent System: An Economic Interpretation. (Baton Rouge, LA: Louisiana

State Univ. Press, 1943)

Bernstein, Richard B. with Rice, Kym S. Are We To Be a Nation?: The Making of the Constitution. (Cambridge, MA: Harvard Univ. Press, 1987)

Berthoff, Rowland Tappan. British Immigrants in Industrial America, 1790-1950. (Cambridge, MA: Harvard Univ. Press, 1951)

Bickford, Charlene Bangs and Veit, Helen E. (eds.) Documentary History of the First Federal Congress of the United States of America, March 4, 1789-March 3, 1791. Vols. 4-6. (Baltimore: Johns Hopkins Univ. Press, 1986)

Bining, Arthur C. Pennsylvania Iron Manufacture in the Eighteenth Century. (New York: Augustus M. Kelley, Reprint 1938)

Bishop, James Leander. History of American Manufactures. 3 vols. (New York: Johnson Reprints, repr. 1868 ed)

Boatman, Roy M. "The Brandywine Cotton Industry, 1795-1865." Hagley Museum Research Report. (Greenville, DE: Eleutherian Mills Hist. Library, 1955)

Bolles, Albert S. The Industrial History of the United States, from the Earliest Settlements to the Present Time. (New York: Augustus M. Kelley, Reprint of 1881)

Boorstin, Daniel J. The Americans: The National Experience. (New York: Random House, 1965)

Borning, Bernard C. The Political Thought of Charles A. Beard. (Seattle, WA: Univ. of Washington Press, 1962)

Bowden, Witt. The Industrial History of the United States. (New York: Burt Franklin, 1970 Reprint 1930) Also (Darby, PA: Arden Library, 1979); (New York, Augustus M. Kelley, Reprint 1930)

Bowen, Catherine Drinker. Miracle at Philadelphia: The Story of the Constitutional Convention May to September 1787. (Boston: Little, Brown and Co, 1966)

Bowling, Kenneth R. and Veit, Helen E. (eds.) The Diary of William Maclay and Other Notes on Senate Debates, March 4, 1789-March 3, 1791. (Baltimore: Johns Hopkins Univ. Press, 1988)

Boyd, Thomas. Poor John Fitch: Inventor of the Steamboat. (New York: G.P. Putnam's Sons, 1935)

Boynton, Edward O. History of West Point. (New York: D. Van Nostrand, 1863)

Bradley, Milton. History of the United States Armory, Springfield. (Springfield, MA: The Author, 1865)

Brady, Dorothy S. "Trade and Manufactures." In The Growth of the Seaport Cities, 1790-1825. David T. Gilchrist, ed. (Charlottesville, VA: Univ. Press of Virginia, for the Eleutherian Mills-Hagley Foundation, 1967)

Brasch, Frederick E. "The Newtonian Epoch in the American Colonies (1680-1783)." Proceedings of the American Antiquarian Society. Vol. 49. 1939. pp. 323?

Brasch, Frederick E. "The Royal Society of London and Its Influence upon Scientific Thought in the American Colonies," Scientific Monthly. Vol. 33. Oct-Nov, 1931. pp. 337-355; 448-469.

Brewer, Thomas B. The Formative Period of 140 American Manufacturing Companies, 1789-1929. (Univ. of Pennsylvania, PhD, 1962)

Brown, Chandos Michael. Benjamin Silliman: A Life in the Young Republic. (Princeton, NJ: Princeton Univ. Press, 1989)

Brown, Stuart E. The Guns of Harper's Ferry. (Berryville, VA: Virginia Book Co, 1968)

Bruce, Robert V. The Launching of Modern American Science, 1846-1876. (New York: Alfred A. Knopf, 1987)

Bruchey, Stuart. "The Business Economy of Marketing Change, 1790-1840: A Study in Sources of Efficiency." Agricultural History. Vol. 41. Jan 1972.

Bruchey, Stuart. Robert Oliver, Merchant of Baltimore, 1783-1819. (Baltimore: Johns Hopkins Univ. Press, 1956)

Bugbee, Bruce Willis. Genesis of American Patent and Copyright Law. (Washington, DC: Public Affairs Press, 1967)

Burlingame, Roger. March of the Iron Men: A Social History of Union Through Invention. (New York: Charles Scribner's Sons, 1938)

Burlingame, Roger. "The Spinning Hero, Sam Slater." North American Review. Vol. 246. Fall-Winter 1938. p. 158.

Burnham, John C. Science in America. (New York: Holt, Rinehart and Winston, 1971)

Byrn, Edward W. The Progress of Invention in the Nineteenth Century. (New York: Munn, 1900)

Cajori, Florian. The Teaching and History of Mathematics in the United States. (Washington, DC: Government Printing Office, 1890)

Calhoun, Daniel Hovy. The American Civil Engineer: Origins and Conflict. (Cambridge, MA: MIT Press, 1960)

Carossa, Vincent. Investment Banking in America: A History. (Cambridge, MA: Harvard Univ. Press, 1970)

Carter, Edward C. II and McShane, Clay. Benjamin Henry Latrobe and Public Works: Professionalism, Private Interest, and Public Polity in the Age of Jefferson. Essays in Public Works History Series. Number 3. (Chicago: Public Works Hist. Soc, 1976)

Cash, Philip; Christianson, Eric H. and Estes, J. Worth. Medicine in Colonial Massachusetts, 1620-1820. (Charlottesvile, VA: Univ. Press of Virginia, 1980)

Cesari, Gene S. American Army-Making Machine Tool Development, 1789-1855. (Univ. of Pennsylvania: PhD, 1970)

Cesari, Gene. Technology in the American Arms Industry, 1790-1860. (Univ. of Pennsylvania, PhD, 1970)

Charleton, James H; Ferris, Robert G. and Ryan, Mary C. (eds). Framers of the Constitution. (Washington, DC: National Archives Trust Fund Bd, 1986) [Originally published as Signers of the Constitution, 1976.]

Clark, Victor S. History of Manufactures in the United States, 1607-1860. 3 v. (New York: Peter Smith, 1949) Reprint 1929 ed.

Cochran, Thomas C. Frontiers of Change: Early Industrialism in America. (New York: Oxford Univ. Press, 1981)

Cochran, Thomas C. New York in the Confederation: An Economic Study. Empire State Historical Publications Series. No. 84. (Port Washington, NY: I.J. Friedman, 1970)

Cohen, Bernard. Revolution in Science. (Cambridge, MA: Harvard Univ. Press, 1986)

Cohen, I. Bernard. Benjamin Franklin's Science. (Cambridge, MA: Harvard Univ. Press, 1990)

Cohen, I. Bernard. Some Early Tools of American Science.

(Cambridge, MA: Harvard Univ. Press, 1950)

Cohen, I. Bernard. "Some Reflections on the State of Science in America during the Nineteenth Century." Proceedings of the National Academy of Science. Vol 45. 1959. pp. 666-677.

Coleman, Peter J. The Transformation of Rhode Island, 1790-1860. (Providence, RI: Brown Univ. Press, 1963)

Collier, Christopher. Roger Sherman's Connecticut; Yankee Politics and the American Revolution. (Middletown, CT: Wesleyan Univ. Press, 1971)

Collier, Christopher and James Lincoln. Decision in Philadelphia: The Constitution of 1787. (New York: Random House, 1986)

Commager, Henry Steele. "The Constitution: Was it an Economic Document?" American Heritage. Vol. 10. Dec 1958. pp. 58-61; 100-103.

Connaughton, Michael E. "'Ballomania,' The American Philosophical Society and Eighteenth Century Science." Journal of American Culture. Vol. 7. Nos. 1-2. 1984. pp. 71-74.

Conrad, James L. Jr. The Evolution of Industrial Capitalism in Rhode Island, 1790-1830: Almy, the Browns, and the Slaters. (University of Connecticut: PhD, 1973)

Conrad, James L. Jr. "The Making of a Hero: Samuel Slater and the Arkwright Frames." Rhode Island History. Vol. 45. No. 1. 1986. pp. 3-13.

Committee on History and Heritage of American Civil Engineering. The Civil Engineer--His Origins. (New York: American Society of Civil Engineers, 1970)

Cooke, Jacob E. "Tench Coxe, Alexander Hamilton, and the Encouragement of American Manufactures." William and Mary Quarterly. Vol. 32. Jul 1975. pp. 369-392.

Cooke, Jacob E. Tench Coxe and the Early Republic. (Chapel Hill, NC: Univ. of North Carolina Press, 1978)

Cooke, Jacob E. (ed.). The Federalist. (Middletown, CT: Wesleyan Univ. Press, 1961)

Cooper, Carolyn C. "The Evolution of American Patent Management: The Blanchard Lathe as a Case Study." Prologue. Vol. 19. Winter 1987. pp. 245-259.

Cooper, Carolyn and Lindsay, Merrill. Eli Whitney and the

Whitney Armory. (Whitneyville, CT: Eli Whitney Museum, 1980)

Copeland, Melvin T. The Cotton Manufacturing Industry of the United States. (New York: Augustus M. Kelley, Reprint 1917)

Coxe, Tench. A View of the United States of America ... Between the Years 1787 and 1794. (New York: Augustus M. Kelley, 1965) Reprint of 1794 ed.

Coxe, Tench. American Industry and Manufactures in the Nineteenth Century. Vol. 2. Statement of the Arts and Manufactures of the United States of America for the Year 1810. (Elmsford, NY: Pergamon, 1971)

Coxe, Tench. "...Proposals for American Manufacturing." in Adler, Mortimer J. (ed. in ch.) Annals of America. Vol 3. (Chicago: Encyclopaedia Britannica, 1968)

Cromwell, Giles. The Virginia Manufactory of Arms. (Charlottesville, VA: Univ. Press of Virginia, 1975)

Cunliffe, Marcus. The Nation Takes Shape, 1789-1837. (Chicago: University of Chicago Press, 1979)

Cutcliffe, Stephen H. and Kemp, Emory L. Science and Technology in the Eighteenth Century: Essays of the Lawrence Henry Gipson Institute for Eighteenth-Century Studies. (Bethlehem, PA: Gipson Institute for Eighteenth Century Studies, 1984)

Cutliffe, Stephen H. (ed). Technology and Values in American Civilization: A Guide to Information Sources. American Information Guide Series. Vol. 9. (Detroit, MI: Gale Research, 1980)

Dauer, Manning J. The Adams Federalists. (Baltimore: John's Hopkins Univ. Press, 1968)

David, Paul A. "New Light on a Statustical DArk Age: U.S. Real Product Growth before 1840." American Economic Review. Vol. 57. 1967. Reprinted in The New Economic History, Peter Temin, ed. (New York: Penguin, 1973)

Davis, Pearce. The Development of the American Glass Industry. (Cambridge, MA: Harvard Univ. Press, 1949)

de Pauw, Linda Grant. Documentary History of the First Federal Congress of the United States of America, March 4, 1789-March 3, 1791. Vols. 1-3. (Baltimore: Johns Hopkins Univ. Press, 1972; 1977)

Deane, Phyllis. The First Industrial Revolution.

(Cambridge, England: Cambridge Univ. Press, 1965)

Demerest, W.H.S. A History of Rutgers College 1766-1924. (New Brunswick, NJ: Rutgers College Press, 1924)

Denton, Edgar. The Formative Years of the United States Military Academy, 1775-1833. (Syracuse University, PhD: 1964)

Deyrup, Felicia J. Arms Makers of the Connecticut Valley: A Regional Study of the Economic Development of the Small Arms Industry, 1798-1870. Smith College Studies in History. Vol. 33. (Northampton, MA: Smith College Press, 1938)

Diamant, Lincoln. Bernard Romans: Forgotten Patriot of the American Revolution (Military Engineer Cartographer of West Point and the Hudson Valley). (Harrison, NY: Harbor Hill Books, 1985)

Diamond, Sidney A. "The Historical Development of Trademarks." The Trademark Reporter. Vol. 65. Jul-Aug. 1975. pp. 265-290.

Domett, Henry W. A History of the Bank of New York, 1784-1884. (New York: G. P. Putnam's Sons, 1884)

Douglass, Elisha P. The Coming of Age of American Business: Three Centuries of Enterprise, 1600-1900. (Chapel Hill, NC: Univ. of NC Press, 1971)

Dupuy, R. Ernest. Men of West Point: The First 150 Years of the United States Military Academy. (New York: Shaw, 1951)

Dupuy, R. Ernest. Where They Have Trod: The West Point Tradition in American Life. (New York: Frederick A. Stokes, 1940)

East, Robert A. Business Enterprise in the American Revolutionary Era. Columbia University Studies in the Social Sciences Series. Number 439. (New York: AMS Press, 1964)

Eckhardt, George H. US Clock and Watch Patents 1790-1890: The Record of a Century of American Horology and Enterprise. (New York: n.p, 1960)

Eco, Umberto and Zorzoli, G.B. The Picture History of Inventions: From Plow to Polaris. (New York: MacMillan, 1963)

Eggleston, Edward. The Transit of Civilization from England to America in the Seventeenth Century. (Gloucester, MA:

P. Smith, 1972) Reprint 1901 ed.

Emmerson, George S. Engineering Education: A Social History. (New York: Crane, Russak, 1973)

Engerman, Stanley L. "Doublas C. North's 'The Economic Growth of the United States, 1790-1860' Revisited." Social Science History. Vol. 1. Winter 1977. pp. 248-257.

Evans, George Heberton, Jr. Business Incorporations in the United States, 1800-1943. (New York: National Bureau of Economic Research, 1948)

Ewing, Galen W. "Early Teaching of Science at the College of William and Mary in Virginia." Journal of Chemical Education. Vol. 15. 1938. pp. 3-13.

Executive Committee. Proceedings and Addresses. Celebration of the Beginning of the Second Century of the American Patent System at Washington, D.C. April 8, 9, 10, 1891. (Washington, DC: Gedney and Roberts, 1892)

Farrand, Max. The Fathers of the Constitution. (New Haven: Yale Univ. Press, 1921)

Farrand, Max. The Framing of the Constitution of the United States. (New Haven: Yale Univ. Press, 1962)

Federico, B[ianca] M. "The Patent Office Fire of 1836." Journal of the Patent Office Society. Vol 19. Nov. 1937. pp. 804-833.

Federico, P[asquale] J. "Colonial Monopolies and Patents." Journal of the Patent Office Society. Vol. 11. 1929. pp. 358-365.

Federico, P[asquale] J. "Operation of the Patent Act of 1790." Journal of the Patent Office Society. Vol. 18. No. 4. Apr. 1936. pp. 237-251.

Federico, P[asquale] J. "State Patents." Journal of the Patent Office Society. Vol. 13. No. 4. Apr. 1931. pp. 166-176.

Federico, P[asquale] J. "The First United States Patent." Journal of the Patent Office Society. Vol. 36. Sep. 1954. pp. 615-617.

Fenning, K. "Copyrights Before the Constitution." Journal of the Patent Office Society. Vol. 17. 1935. pp. 379-385.

Fenstermaker, J. Van. The Development of American Commercial

Banking, 1782-1837. Kent State University Bureau of Economic and Business Research #5. (Kent, OH: Bureau of Economic and Business Research, 1965)

Ferguson, Eugene S. Oliver Evans. (Greenville, DE: Hagley Museum, 1980)

Ferguson, Eugene S. "The American-ness of American Technology." Technology and Culture. Vol. 20. 1979. pp. 3-24. Also published separately by the Eleutherian Mills-Hagley Foundation, 1975.

Ferguson, Eugene S. Oliver Evans. (Wilmington, DE: Eleutherian Mills-Hagley Foundation, 1977)

Ferguson, Eugene S. "On the Origin and Development of American Mechanical 'Know-How'." [Layton, Edwin T. (ed)] Technology and Social Change in America. (New York: Harper and Row, 1973) pp. 9-24.

Finch, James Kipp. The Story of Engineering. (Garden City, NY: Doubleday, 1960)

Fishbein, Meyer H. "The Census of Manufactures, 1810-90." National Archives Accessions #57 (supplement to National Archives Guide). Jun 1963.

Fitch, John. Autobiography of John Fitch. Frank D. Prager, ed. (Philadelphia: American Philosophical Soc, 1976)

Fitch, John. "The Original Steamboat Defended, 1788." [O'Callaghan, E.B. (ed)] Documentary History of the State of New York. Vol 2. (Albany: The State, 1849) pp. 1039-1102.

Flexner, James Thomas. George Washington and the New Nation (1783-1793). (Boston: Little, Brown and Co, 1969)

Flexner, James Thomas. Steam Boats Come True: American Inventors in Action. (Boston: Little, Brown and Co, 1977)

Folsom, Michael Brewster and Lubar, Steven D. The Philosophy of Manufactures: Early Debates Over Industrialization in the United States. (Cambridge, MA: MIT Press, 1982)

Ford, Edward. David Rittenhouse, Astronomer-Patriot, 1732-1796. (Philadelphia: Univ. of Pennsylvania Press, 1946)

Forman, Sidney. "The First School of Engineering." The Military Engineer. Vol. 44. Mar-Apr. 1952. pp. 109-112.

Forman, Sidney. "The United States Military Philosophical Society, 1802-1813." William and Mary Quarterly. 3rd

Series. Vol. 2. Jul. 1945. pp. 273-285.

Forman, Sidney. West Point: A History of the United States Military Academy. (New York: Columbia Univ. Press, 1950)

Forman, Sidney. "West Point and the American Association for the Advancement of Science." Science. Vol. 104. Jul. 1946. pp. 47-48.

Forness, N. O. "The Master, the Slave, and the Patent Laws." Prologue. Vol 12. Spring 1980. pp. 22-27.

Forsyth, David P. The Business Press in America, 1750-1865. (Philadelphia: Chilton, 1964)

Fowler, Gail Barbara. Rhode Island Handloom Weavers and the Effects of Technological Change, 1780-1840. (University of Pennsylvania: PhD, 1985)

Fox, Dixon Ryan. Union College: An Unfinished History. (Schenectady, NY: Graduate Council, Union College, n.d.)

French, Benjamin F. The History of the Rise and Progress of the Iron Trade of the United States, 1621-1857. (New York: Augustus M. Kelley, Reprint 1858)

Freyer, Tony A. Forums of Order: Federal Courts and Business in American History. (Greenwich, CT: JAI Press, 1979)

Fribourg, Marjorie G. The United States Congress: Men Who Steered Its Course, 1787-1867. (Philadelphia: Macrae Smith Co, 1972)

Frisch, Morton J. "Hamilton's Report on Manufactures and Political Philosophy." Publius. Summer 1978. pp. 129-139.

Fuller, Claud E. The Whitney Firearms. (Huntington, WV: West Virginia University Press, 1946)

Fuller, Grace P. An Introduction to the History of Connecticut as a Manufacturing State. Smith College Studies in History. (Northampton, MA: Smith College Press, 1915)

Gallatin, Albert. Report of the Secretary of the Treasury on the Subject of Roads and Canals. (New York: Augustus M. Kelley, Reprint 1808)

Gibb, George S. "The Pre-Industrial Revolution in America: A Field for Local Research." Bulletin of the Business

History Society. Vol. 20. Oct. 1946.

Gilman, Daniel G. The Relations of Yale to Letters and Science. (New Haven, CT: Yale University Press, 1902)

Glen, Robert. "Industrial Wayfarers, Benjamin Franklin and a Case of Machine Smuggling in the 1780's." Business History Vol. 23. No. 3. 1981. pp. 309-326.

Gobar, Ash; Hamon, J. Hill and Hopkins, James F. A Lamp in the Forest: Natural Philosophy in Transylvania University, 1799-1859. (Lexington, KY: Transylvania University Press, 1982)

Good, H. G. "New Data on Early Engineering Education." Journal of Educational Research. Vol. 29. Sep. 1935. pp. 3-44.

Goodrich, Carter, et al. Canals and American Economic Development. (New York: Columbia Univ. Press, 1961)

Gordon, Robert B. "Cost and Use of Water Power During Industrialization in New England and Great Britain: A Geological Interpretation." Economic History Review. Vol 36. No. 2. 1983. pp. 240-259.

Gras, N.S.B. The Massachusetts First National Bank of Boston, 1784-1934. (Cambridge, MA: Harvard Univ. Press, 1937)

Grayson, Lawrence P. "A Brief History of Engineering Education in the United States." Engineering Education. Vol. 68. Dec. 1977. pp. 246-264.

Grayson, Lawrence P. "The American Revolution and the 'Want of Engineers'." Engineering Education. Vol. 75. Feb. 1985. pp. 268-276.

Greef, Albert O. The Commercial Paper House in the United States. (Cambridge, MA: Harvard Univ. Press, 1937)

Green, Constance McL. Eli Whitney and the Birth of American Technology. (Boston: Little, Brown and Co, 1956)

Greene, Evarts Boutell. The Revolutionary Generation, 1763-1790. (New York: MacMillan Co, 1943)

Greene, John C. American Science in the Age of Jefferson. (Ames, IA: Iowa State Univ. Press, 1984)

Gregg, Dorothy. "John Stevens, General Entrepreneur, 1749-1838." In Men in Business: Essays in the History of Entrepreneurship. William Miller, ed. (Cambridge, MA: Harvard Univ. Press, 1952) pp. 120-152.

Griffin, Richard W. "An Origin of the Industrial Revolution in Maryland: The Textile Industry, 1789-1826." Maryland Historical Magazine. Vol. 61. Mar 1966. pp. 24-36.

Guralnick, Stanley M. Science and the Ante-Bellum American College. (Philadelphia: American Philosophical Soc, 1975)

Hagnar, Charles V. Early History of the Falls of the Schuylkill, Manayunk, Schuylkill and Lehigh Navigation Companies. (Philadelphia: Claxton Press, 1869)

Haiman, Miecislaus. Kosciuszko in the American Revolution. (Boston: Gregg Press, 1972)

Hall, Courtney R. History of American Industrial Science. Technology and Society Series. (Salem, NH: Ayer Co. Pubs, 1972)

Hamilton, Alexander. American Industry and Manufactures in the Nineteenth Century. Vol. 1. "Report of the Secretary of the Treasury on the Subject of Manufactures." (Elmsford, NY: Pergamon, 1971)

Hamilton, Alexander. [Cole, Arthur H. (ed.)]. Industrial and Commercial Correspondence of Alexander Hamilton Anticipating His Report on Manufactures. (NY: Augustus M. Kelley, Pub, 1968) Reprint 1928 ed.

Hamilton, Alexander. [Lodge, Henry C. (ed.)]. Works of Alexander Hamilton. 12 Vols. American History and Americana Series. No. 47. (Brooklyn, NY: Haskell Book Sellers, 1969 Repr. 1904)

Hamlin, Talbot. Benjamin Henry Latrobe. (New York: Oxford Univ. Press, 1955)

Hammond, Bray. Banks and Politics in America from the Revolution to the Civil War. (Princeton, NJ: Princeton Univ. Press, 1957)

Hammond, M. B. "Correspondence of Eli Whitney Relative to the Invention of the Cotton Gin." American Historical Review. Vol. 3. No. 1. Oct. 1897. pp. 83-127.

Hancock, Harold. "Delaware Papermakers and Papermaking, 1787-1840." Hagley Museum Research Report. (Greenville, DE: Eleutherian Mills Historical Library, 1955)

Hancock, Harold. "The Industrial Worker along the Brandywine, 1800-1830." Hagley Museum Research Report. (Greenville, DE: Eleutherian Mills Historical Library, 1956)

Handler, Edward. "Nature Itself is all Arcanum: The Scientific Outlook of John Adams." Proceedings of the American Philosophical Society. Vol. 120. No. 3. 1976. pp. 216-229.

Handlin, Oscar and Mary Flug. Commonwealth: A Study of the Role of Government in the American Economy, Massachusetts, 1774-1861. (New York: New York Univ. Press, 1947)

Hartz, Louis. Economic Policy and Democratic Thought: Pennsylvania, 1776-1860. (Cambridge, MA: Harvard Univ. Press, 1948)

Hawke, David Freeman. Nuts and Bolts of the Past: A History of American Technology, 1776-1860. (New York: Harper and Row, 1988)

Heaton, Herbert. "The Industrial Immigrant in the United States, 1783-1812." Proceedings of the American Philosophical Society. Vol. 95. 1951. pp. 519-527.

Hedges, James B. The Browns of Providence Plantation: The Nineteenth Century. (Providence, RI: Brown Univ. Press,

Hill, Forest G. Roads, Rails and Waterways: The Army Engineers and Early Transportation. (Norman, OK: Univ. of Okla. Press, 1957)

Hills, Richard L. Power from Steam: A History of the Stationary Steam Engine. (Cambridge: Cambridge Univ. Press, 1989)

Hindle, Brooke. "Charles Willson Peale's Science and Technology." [Richardson, Edgar P; Hindle, Brooke; Miller, Lillian B.] Charles Willson Peale and His World. (New York: H.N. Abrams, 1983)

Hindle, Brooke. Emulation and Invention. (New York: New York University Press, 1981)

Hindle, Brooke. The Pursuit of Science in Revolutionary America 1735-1789. (Chapel Hill, NC: Univ. of NC Press, 1956)

Hindle, Brooke and Lubar, Steven. Engines of Change: The American Industrial Revolution, 1790-1860. (Washington, DC: Smithsonian Institution Press, 1986)

Hindle, Brooke; Smith, Merritt Roe and Doerflinger, Thomas M. Emulation and Invention. (New York: New York Univ. Press, 1981)

Hoffman, Ronald, et al. (eds). The Economy of Early America: The Revolutionary Period, 1763-1790. (Carlottesville, VA: Univ. Press of Virginia, 1988)

Hoopes, Penrose R. Connecticut's Contribution to the Development of the Steamboat. Tercentenary Commission of the State of Connecticut. Publication Number 33. (New Haven: Yale Univ. Press, 1936)

Hornberger, Theodore. Scientific Thought in the American Colleges, 1638-1800. (Austin, TX: Univ. of Texas Press, 1945)

Horowitz, Morton J. The Transformation of American Law, 1780-1860. (Cambridge, MA: Harvard Univ. Press, 1977)

Hounshell, David. From the American System to Mass Production 1800-1932. Studies in Industry and Society. No. 4. (Baltimore: Johns Hopkins Univ. Press, 1984)

Howell, Kenneth T; Carlson, Einar W. and Westboook, J.H. Men of Iron: Forbes and Adam. (Lakeville, CT: Pocketknife Pubs, 1980)

Hubbard, Guy. "Development of Machine Tools in New England." American Machinist. Vol 60. Feb. 14, 1924. pp. 255-258.

Hughes, Jonathan. Industrialization and Economic History: Thesis and Conjectures. (New York: McGraw-Hill, 1970)

Hunter, Louis C. "A History of Industrial Power in the United States, 1780-1930." Vol. 1. Waterpower in the Century of the Steam Engine. (Charlottesville, VA: Univ. Press of Virginia for the Eleutherian Mills-Hagley Found, 1979)

Hunter, Louis C. "The Heroic Theory of Invention." In Technology and Social Change in America. Edwin T. Layton, Jr, ed. (New York: Harper and Row, 1973) pp. 25-46.

Hunter, Louis C; Lubar, Steven; Mulligan, William H, Jr; Reynolds, Terry S. and Greenberg, Dolores. A History of Industrial Power in the United States, 1780-1930. Vol. 2. "Steam Power." (Charlottesville, VA: Univ. Press of Virginia, 1985)

Hutcheson, Harold. Tench Coxe: A Study in American Economic Development. Johns Hopkins University Studies in Historical and Political Science. New Series. No. 26. (Baltimore: Johns Hopkins University Press, 1938)

Jacobs, James Ripley. The Beginning of the United States Army, 1783-1812. (Princeton, NJ: Princeton University Press, 1947)

Jaffe, Bernard. Men of Science in America: The Role of Science in the Growth of Our Country. (New York: Simon and Schuster, 1944)

Janssen, Barbara Suit. Technology in Miniature: Americn Textile Patent Models, 1819-1840. (Washington, DC: Smithsonian Institution Press, 1988)

Jensen, Merrill (ed). The Documentary History of the Ratification of the Constitution. Vol. 1. "Constitution Documents and Records. 1776-1787. (Madison, WI: State Hist. Soc. of Wisc, 1976)

Jensen, Merrill. The New Nation: A History of the United States During the Confederation, 1781-1789. (Boston: Northeastern Univ. Press, 1981)

Jensen, Merrill and Becker, Robert A. (eds). A Documentary History of the First Federal Election: 1788-1790. Vol. 1. (Madison, WI: Univ. of Wisc. Press, 1976)

Jeremy, David John. "British Textile Technology Transition to the United States: The Philadelphia Region's Experience, 1770-1820." Business History Review. Vol. 47. Spring 1973. pp. 24-52.

Jeremy, David John. The Transmission of Cotton and Woollen Manufacturing Technologies between Britain and the United States of America from 1790 to the 1830's. (London School of Economics and Political Science, Univ. of London: PhD, 1978)

Jeremy, David J. and Dublin, Thomas. Transatlantic Industrial Revolution: The Diffusion of Textile Technologies between Britain and America, 1790-1830. (Cambridge, MA: MIT Press, 1981)

Kamman, Michael. A Machine That Would Go of Itself: The Constitution in American Culture. (New York: Alfred A. Knopf, 1986)

Kamman, Michael (ed). The Origins of the American Constitution: A Documentary History. (New York: Penguin Books, 1986)

Kasson, John. Civilizing the Machine: Technology and Republican Values in America, 1776-1900. (New York: Penguin, 1977)

Keith, H. C. The Early Iron Industry of Connecticut.

Reprinted from 51st Annual Report of the Connecticut Society of Civil Engineers. (New Haven, CT: The Society, 1935)

Kirby, Richard Sheton. The Early Years of Modern Civil Engineering. (New Haven, CT: Yale Univ. Press, 1932)

Kirby, Richard S.; Withington, Sidney; Darling, Arthur B. and Kilgour, Frederick G. Engineering in History. (New York: McGraw-Hill, 1956)

Kirby, R. S. Inventors and Engineers of Old New Haven. A Series of six lectures given in 1938 under the auspices of the School of Engineering, Yale University. New Haven Tercentenary Publications. (New Haven, CT: New Haven Colony Historical Society, 1939)

Kite, E. S. Brigadier-General Louis Lebeque Duportail, 1777-1783. (Baltimore: Johns Hopkins Press, 1933)

Klebaner, Benjamin J. Commercial Banking in the United States: A History. (Hinsdale, IL: Dryden, 1974)

Klein, Randolph Shipley and Frick, George F. Science and Society in Early America: Essays in Honor of Whitfield J. Bell, Jr. (Philadelphia: Amer. Philo. Soc, 1986)

Kranakis, Eda Fowlks. Technological Styles in America and France in the Early Nineteenth Century: The Case of the Suspension Bridge. (University of Minnesota: PhD, 1982)

Kranzberg, Melvin. "Technology and the U.S. Constitution." Engineering Education. Feb. 1988. pp. 278-283.

Kraus, M. "Scientific Relations Between Europe and America in the Eighteenth Century." Scientific Monthly. Vol. 55. 1942. pp. 259-272.

Krooss, Herman. "Financial Institutions." In The Growth of the Seaport Cities, 1790-1825. David T. Gilchrist, ed. (Charlottesville, VA: Univ. Press of Virginia for the Eleutherian Mills-Hagley Foundation, 1967)

Kuhlman, Charles B. Development of the Flour Milling Industry in the United States. (New York: Augustus M. Kelley, 1968) Reprint 1929 ed.

Kulik, Gary. "A Factory System of Wood: Cultural and Technological Change in the Building of the First Cotton Mills." [Hindle, Brooke (ed)] Material Culture in the Wooden Age. (Tarrytown, NY: Sleepy Hollow Press, 1981)

Kulik, Gary. The Beginnings of the Industrial Revolution in America, Pawtucket, Rhode Island, 1672-1829. (Brown University: PhD, 1980)

Kursh, Harry. Inside the US Patent Office: The Story of the Men, the Laws, and the Procedures of the American Patent System. (New York: W.W. Norton, 1959)

Lathrop, William G. The Development of the Brass Industry in Connecticut. Tercentenary Commission of the State of Connecticut. Publication Number 49. (New Haven: Yale Univ. Press, 1936)

Latrobe, Benjamin Henry. The Papers of Benjamin Henry Latrobe. 4+v. (New Haven: Yale Univ. Press, 1977-Date)

Laurie, Bruce. Working People of Philadelphia, 1800-1850. (Philadelphia: Temple Univ. Press, 1980)

Layton, Edwin T. Jr. (ed). Technology and Social Change in America. (New York: Harper and Row, 1973)

Layton, Edwin T. Jr. The Revolt of the Engineers: Social Responsibility and the American Engineering Profession. (Baltimore: Johns Hopkins Univ. Press, 1986)

Lee, Everett S. and Lalli, Michael. "Population." In Growth of the Seaport Cities, 1790-1825. David T. Gilchrist, ed. (Charlottesville, VA: Univ. Press of Virginia for the Eleutherian Mills-Hagley Foundation, 1967)

Lenney, John J. Caste System in the American Army: A Study of the Corps of Engineers and their West Point System. (New York: Greenberg Pubs, 1949)

Levine, Ida L. "A Letter from William Moultrie at Charleston to George Washington at Mount Vernon, April 7, 1786." South Carolina Hist. Mag. Vol. 83. No. 2. 1982. pp. 116-120.

Levy, Leonard. Original Intent and the Framers' Constitution. (New York: MacMillan, 1988)

Levy, Leonard and Mahoney, Dennis J. (eds). The Framing and Ratification of the Constitution. (New York: MacMillan, 1987)

Lewis, Gene D. Charles Ellet, Jr., 1810-1862: The Engineer as Industrialist. (Urbana, IL: Univ. of Illinois Press, 1968)

Lewis, Lawrence, Jr. A History of the Bank of North America. (Philadelphia: J.B. Lippincott, 1882)

Lewis, Ronald L. Coal, Iron and Slaves: Industrial Slavery in Maryland and Virginia, 1715-1865. (Westport, CT: Greenwood Press, 1979)

Lewis, W. David. "The Early History of the Lakawanna Iron and Coal Company: A Study in Technological Adaptation." Pennsylvania Magazine of History and Biography. Vol 96. Oct. 1972. pp. 424-468.

Lewton, F. L. Historical Notes on the Cotton Gin. Smithsonian Report for 1937. (Washington, DC: Smithsonian Institution, 1937)

Lindert, Paul H. and Williamson, Jeffrey G. "Three Centuries of American Inequality." In Research in Economic History. Vol. 1. Paul Uselding, ed. (Greenwich, CT: JAI Press, 1976) pp. 69-117.

Lindquist, Willis. "The Industrial Revolution and Nationalism." The Universal History of the World. Vol. 12. (New York: Golden Press, 1966.

Lindstrom, Diane. Economic Development in the Philadelphia Region, 1810-1850. (New York: Columbia Univ. Press, 1978)

Lindstrom, Diane. "The Industrialization of the North East, 1810-1860." In Working Papers from the Regional Economic History Research Center. Vol. 2. Glenn Porter and William H. Mulligan, Jr, eds. (Greenville, DE: Eleutherian Mills-Hagley Foundation, 1979)

Livingood, James Weston. The Philadelphia-Baltimore Trade Rivalry, 1780-1860. (Harrisburg, PA: Pennsylvania Historical and Museum Comm, 1947)

Littlefield, Douglas R. "Eighteenth-Century Plans to Clear the Potomac River: Technology, Expertise, and Labor in a Developing Nation." Virginia Magazine of History and Biography. Vol. 93. No. 3. 1985. pp. 291-322.

Longley, Neil; Lindstrom, Diane; Meikle, Jeffrey L; Cravens, Hamilton and Bexilla, Michael. Mechanical Metamorphosis: Technological Change in Revolutionary America. (Westport, CT: Greenwood Press, 1985)

Lourie, Walter and Clarke, Matthew (eds.) American State Papers. Documents Legislative and Executive of the Congress of the United States... Vol. 5. (Washington, DC: Gov. Printing Office, 1832)

Lozier, John W. "The Forgotten Industry: Small and Medium Sized Cotton Mills South of Boston, 1810-1840." In Working Papers from the Regional Economic History

Research Center. Vol. 2. Glenn Porter and William H. Mulligan, Jr, eds. (Greenville, DE: Eleutherian Mills-Hagley Foundation, 1979)

Lubar, Steven. Engines of Change: An Exhibition on the American Industrial Revolution at the National Museum of American History, Smithsonian Institution. (Washington, DC: Smithsonian Institution Press, 1986)

Lutz, Donald S. "From Covenant to Constitution in American Political Thought." Publius. Fall, 1980. pp. 101-133.

MacMurray, Robert R. Technological Change in the American Cotton Spinning Industry, 1790-1836. (New York: Arno Press, 1977)

MacMurray, Robert R. "Technological Change in a Society in Transition: Work in Progress on a Unified Reference Work in Early American Patent History." Journal of Economic History. Vol. 45. No. 2. 1985. pp. 299-303.

McDonald, Forrest. The Presidency of George Washington. (Lawrence, KS: Univ. Press of Kansas, 1974)

McGivern, James Gregory. First Hundred Years of Engineering Education in the United States (1807-1907). (Spokane, WA: Gonzaga Univ. Press, 1960)

McKeehan, Louis W. Yale Science: The First Hundred Years, 1701-1801. Publication No. 18. Historical Library Yale University School of Medicine. (New York: Henry Schuman, 1947)

McLane, Louis. Documents Relative to the Manufactures in the United States. Bibliography and Reference Series 303. 3 vols. (New York: Burt Franklin, 1970 Reprint 1883) Also Executive Document 308. 1st Session. 22nd Congress.

Madison, James. Notes of Debates in the Federal Convention of 1787 Reported by... (New York: W.W. Norton, 1966)

Main, Jackson T. Political Parties Before the Constitution. [Institute of Early American History and Culture Series.] (Chapel Hill, NC: Univ. of North Carolina Press, 1973)

Main, Jackson T. The Antifederalists: Critics of the Constitution. (New York: Norton, 1974) Reprint 1961 ed.

Main, Jackson Turner. The Sovereign States, 1775-1783. (New York: New Viewpoints, 1973)

Mann, Charles Riborg. A Study of Engineering Education. Prepared for the Joint Committee on Engineering Education of the National Engineering Societies. Bulletin 11. (Boston: Merrymount Press, 1918)

Marmon, Sharon Marie. Sword of Damocles: The Federalists, the Antifederalists and the American Experiment with the Good Republic. (University of Texas, Austin: PhD, 1983)

Marx, Leo. The Machine in the Garden: Technology and the Pastoral Ideal in America. (New York: Oxford Univ. Press, 1964)

Masland, John W. and Radway, Laurence I. Soldiers and Scholars: Military Education and National Policy. (Princeton, NJ: Princeton University Press, 1957)

Mavis, Frederic T. "History of Engineering Education." Journal of Engineering Education. Vol 23. No. 4. Dec. 1952. pp. 214-221.

Mayers, H. R. "The United States Patent System in Historical Perspective." Idea. Vol. 3. _____. pp. 33-52.

Mayr, Otto and Post, Robert C. (eds). Yankee Enterprise: The Rise of the American System of Manufactures. (Washington, DC: Smithsonian Institution Press, 1981)

Meier, Hugo A. "Technology and Democracy, 1800-1860." Mississippi Valley Historical Review. Vol. 43. Mar. 1957. pp. 618-640.

Meier, H. A. "Thomas Jefferson and a Democratic Technology." [Pursell, C.W. (ed)] Technology in America: A History of Individuals and Ideas. (Cambridge, MA: MIT Press, 1981) [Cited in original compilation in briefer detail under the author name "Pursell."]

Miller, John C. The Federalist Era, Seventeen Eighty-Nine to Eighteen-One. (New York: Harper and Row, 1960)

Miner, Lewis S. Industrial Genius: Samuel Slater. (New York: J. Messner, 1968)

Mirsky, Jeannette and Nevins, Allan. The World of Eli Whitney. (New York: Collier Books, 1962)

Mitchell, Broadus. Alexander Hamilton: A Concise Biography. (New York: Oxford Univ. Press, 1976)

Mitchell, Broadus. Alexander Hamilton. V. 2 The National Adventure, 1788-1804. (New York: Macmillan, 1962)

Mitchell, Broadus. Heritage from Hamilton. (New York: Columbia Univ. Press, 1957)

Mitchell, Ralph, et al. (eds). CQ's Guide to the U.S. Constitution: History, Text, Index and Glossary. (Washington, DC: Congressional Quarterly Books, 1986)

Montgomery, James. A Practical Detail of the Cotton Manufacture of the United States of America. (New York: Augustus M. Kelley, Reprint 1840) Also (New York: Burt Franklin, 1970)

Morgan, Edmund S. The Birth of the Republic, 1773-1789. (Chicago: University of Chicago Press, 1977)

Morison, Samuel E. Three Centuries of Harvard. (Cambridge, MA: Harvard University Press, 1936)

Morris, Richard B. The Forging of the Union, 1781-1789. (New York: Harper and Row, 1987)

Morris, Richard B. Witness at the Creation: Hamilton, Madison, Jay, and the Constitution. (New York: Holt, Rinehart, and Winston, 1985)

Morrison, John H. History of American Steam Navigation. 2 v. (New York: Gordon Press, 1977)

Mulholland, James A. A History of Metals in Colonial America. (University, AL: Univ. of Alabama Press, 1981)

Nelson, John R. Jr. "Alexander Hamilton and American Manufacture: A Re-examination." Journal of American History. Vol 65. Mar. 1979. pp. 971-975.

Nettels, Curtis P. The Emergence of a National Economy 1775-1815. (New York: Holt, Rinehart and Winston, 1962)

Nevins, Allan. The American States During and After the Revolution, 1775-1789. (New York: Columbia University Press, 1924)

Nicholls, James Keith. The American Presidential Cabinet: Recruitment, Characteristics, and Careers of Members from Washington to Reagan. (Florida State Univ: PhD, 1986)

North, Douglass C. The Economic Growth of the United States, 1790-1860. (New York: W.W. Norton Co, 1966)

North, S. N. D. and Ralph H. Simeon North. First Official Pistol Maker of the United States. (Concord, NH: Rumford Press, 1913)

Nye, Russell B. The Cultural Life of the New Nation, 1776-1830. (New York: Harper and Row, 1960) pp. 70-96.

Oliver, John W. History of American Technology. (New York: Ronald Press, 1956)

Otenasek, Mildred. Alexander Hamilton's Financial Policies. (New York: Arno Press, 1977)

Palmer, D. R. The River and the Rock, The History of the Fortress West Point, 1775-1783. (New York: Greenwood Pub. Co, 1969)

Parks, Robert James. European Origins of the Economic Ideas of Alexander Hamilton. (New York: Arno Press, 1977)

Paskoff, Paul F. Industrial Evolution: The Organization and Growth of the Pennsylvania Iron Industry, 1750-1860. (Baltimore, MD: Johns Hopkins Univ. Press, 1989)

Penn, Theodore Z. "The Slater Mill Historic Site and the Wilkinson Mill Machine Shop Exhibit." Technology and Culture. Vol. 21. 1980. pp. 56-66.

Pennsylvania Humanities Council. The Constitution: Our Written Legacy. (n.p: The Council, Revised 1986) [Reprinted by New England Foundation for the Humanities for "The Constitution at 200" Project, 1987]

Pitcock, Cynthia DeHaven. The Career of William Beaumont, 1785-1853: Science and the Self-Made Man in America. (Memphasis State University: PhD, 1986)

Pitkin, Timothy. A Statistical View of the Commerce of the United States of America. (New York: Johnson Pub, 1967)

Poor, Henry Varnum. History of the Railroads and Canals of the United States. (New York: Augustus M. Kelley, Reprint 1860)

Powell, H. Benjamin. "The Pennsylvania Anthericite Industry, 1769-1976." Pennsylvania History. Vol 47. Jan 1980. pp. 3-28.

Prager, Frank D. "Early Growth and Influence of Intellectual Property." Journal of the Patent Office Society. Vol. 34. Jan. 1952. pp. 106-140.

Prager, Frank D. "Proposals for the Patent Act of 1790." Journal of the Patent Office Society. Vol. 36. Mar. 1954. pp. 157-167

Prager, Frank D. "The Steam Boat Interference, 1787-1793."

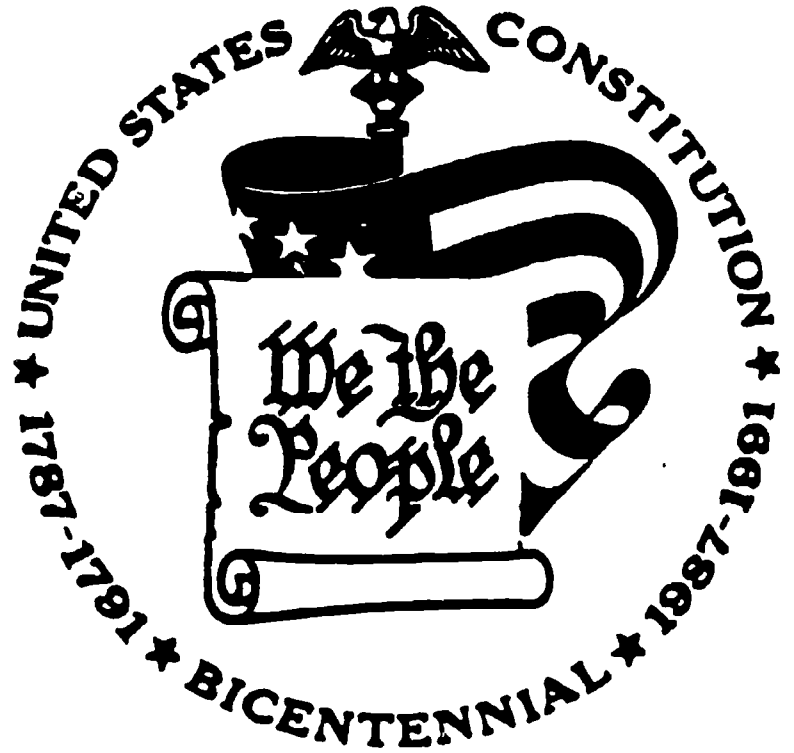
Journal of the Patent Office Society. Vol. 40. Sep. 1958. pp. 611-643.

Prager, Frank D. "The Steamboat Pioneers before the Founding Fathers." Journal of the Patent Office Society. Vol. 38. Jul. 1955. pp. 486-522.

Pursell, Carroll W. Jr. Early Stationary Steam Engines in America: A Study in the Migration of Technology. (Washington, DC: Smithsonian Institution, 1969)

Pursell, Carroll W. Jr. "The Manufacture of Iron in the Christina-Brandywine Valley, 1720-1900." Hagley Museum Research Report. (Greenville, DE: Eleutherian Mills Historical Library, 1957)

Pursell, Carroll W. Jr. Technology in America: A History of Individuals and Ideas. (Cambridge, MA: MIT Press, 1981)



Reed, Nathaniel. The Role of the Connecticut State Government in the Development and Operation of Inland Transportation Facilities, 1784-1821. (Yale University: PhD, 1964)

Reimer, Neal. James Madison: Creating the American Constitution. (Washington, DC: Congressional Quarterly Books, 1986.

Rezneck, Samuel. Education for a Technical Society: A Sesquicentennial History of Rensselaer Polytechnic Institute. (Troy, NY: The Institute, 1968)

Rezneck, Samuel. "The Rise and Early Development of Industrial Consciousness in the United States, 1760-1830." Journal of Economic and Business History. Vol. 4. 1932. pp. 786-790.

Ricketts, P. C. History of Rensselaer Polytechnic Institute. (New York: John Wiley and Co, 1934)

Rivard, Paul E. "Textile Experiments in Rhode Island, 1788-1789." Rhode Island History. Vol. 33. May 1974. pp. 33-45.

Robinson, Eric H. "The Early Diffusion of Steam Power." Journal of Economic History. Vol 34. Mar 1974. pp. 91-107.

Roe, Joseph W. Connecticut Inventors. Tercentenary Commission of the State of Connecticut. Publication Number 33. (New Haven: Yale Univ. Press, 1934)

Roe, Joseph Wickham. English and American Tool Builders: The Men Who Created Machine Tools. (New Haven: Yale Univ. Press, 1916)

Roessner, J. David. "Innovation Policy in the United States: An Overview of the Issues." Policy Studies Review. Vol. 3. Nos. 3-4. 1984. pp. 429-435.

Rosen, S. McKee and Laura. Technology and Society: The Influence of Machines in America. (New York: MacMillan, 1941)

Rosenberg, Nathan. "Factors Affecting the Diffusion of Technology." Explorations in Economic History. Vol. 10. Fall 1972. pp. 3-33.

Rosenberg, Nathan (ed). The American System of Manufacturing. (Edinburgh, Scotland: Edinburgh Univ. Press, 1969)

Rossiter, Clinton. Seventeen Eighty Seven: The Grand

Convention. (New York: W.W. Norton, 1986)

Rothenberg, Marc. The History of Science and Technology in the United States. (New York: Garland Pub, 1982)

Rudolph, Frederick. Curriculum: A History of the American Undergraduate Course of Study Since 1636. (San Francisco: Jossey-Bass Pub., 1977)

Rumsey, James. "A Short Treatise on the Application of Steam...to Propel Boats, 1788." [O'Callaghan, E.B, (ed.)] Documentary History of the State of New York. Vol. 2. 1849. pp. 1011-1038.

Rutland, Robert A. James Madison and the Search for Nationhood. (Washington, DC. Gov. Printing Office, 1981)

Saladino, Gaspare J. The Economic Revolution in Late Eighteenth-Century Connecticut. (Yale University: PhD, 1962)

Sande, Theodore Anton. Industrial Archeology. A New Look at the American Heritage. (Brattleboro, VT: Stephen Greene Press, 1976)

Sawyer, John E. "The Social Basis of the American System of Manufacturing." Journal of Economic History. Vol. 14. Fall 1954. pp. 361-379.

Shallat, Todd Arkin. Structures in the Stream: A History of Water, Science, and the Cigvil Activities of the U.S. Army Corps of Engineers, 1800-1861. (Carnegie-Mellon Univ: PhD, 1986)

Shelton, Cynthia J. The Mills of Manayunk: Industrialization and Social Conflict in the Philadelphia Region, 1787-1837. (Baltimore, MD: Johns Hopkins Univ. Press, 1989)

Shepard, James F. and Walton, Gary M. "Economic Change after the American Revolution: Pre and Post War Comparisons of Maritime Shipping and Trade." Explorations in Economic History. Vol. 13. Oct 1976. pp. 397-422.

Sherwood, Morgan. "The Origins and Development of the American Patent System." American Scientist. Vol. 71. Sep-Oct. 1983. pp. 500-506.

Sinclair, Bruce. Philadelphia's Philosopher Mechanics: A History of the Franklin Institute. (Baltimore: Johns Hopkins Univ. Press, 1974)

Singer, Charles, Holmgard, E.J., Hall, A.R. and Williams, Trevor (eds). A History of Techology. 5 vols. (NY:

Oxford Univ. Press, 1954-1958)

Smith, David C. History of Papermaking in the United States (1691-1969). (New York: Lockwood, 1971)

Smith, Merritt Roe. Harpers Ferry Armory and the New Technology: The Challenge of Change. (Ithaca, NY: Cornell Univ. Press, 1977)

Smith, Page. The Shaping of America: A People's History of the Young Republic. (New York: McGraw-Hill, 1980)

Smith, Page. The Constitution: A Documentary and Narrative History. (New York: Wm. Morrow Co, 1978)

Smith, Walter Buckingham. Economic Aspects of the Second Bank of the United States. (Cambridge, MA: Harvard Univ. Press, 1953)

Snow, Louis F. The College Curriculum in the United States. (New York: Teachers College. Columbia Univ, 1907)

Solomon, Joan. Technology, Invention and Industry. Science in a Social Context Series. (Philadelphia: Basil Blanchard/Porcupine Press, 1986)

Spaulding, E. Wilder. New York in the Critical Period, 1783-1789. (New York: Columbia Univ. Press, 1932)

Stapleton, Darwin (ed). The Engineering Drawings of Benjamin Henry Latrobe. Vol. 1. (New Haven: Yale Univ. Press, 1980)

Stapleton, Darwin H. The Transfer of Early Industrial Technologies to America. (Philadelphia: American Philo. Soc, 1987)

Stapleton, Darwin H. The Transfer of Technology to the United States in the Nineteenth Century. (Univ. of Delaware: PhD, 1975)

Stearns, Charles. The National Armories. (Springfield, MA: G.W. Wilson, 1852)

Steffen, Charles G. "The Pre-Industrial Iron Worker: Northampton Iron Works, 1780-1820." Labor History. Vol. 20. Winter 1979. pp. 89-110.

Storer, J.D. A Simple History of the Steam Engine. (London: John Baker, 1969)

Storing Herbert J. (ed). The Complete Anti-Federalist. 7 vols. (Chicago: University of Chicago Press, 1981)

Stourzh, Gerald. Alexander Hamilton and the Idea of Republican Government. (Stanford, CA: Stanford Univ. Press, 1970)

Strassmann, W. Paul. Risk and Technological Innovation: American Manufacturing Methods during the Nineteenth Century. (Ithaca, NY: Cornell Univ. Press, 1959)

Struick, Dirk J. Yankee Science in the Making. (Boston: Little, Brown and Co, 1948)

Swank, James M. History of the Manufacture of Iron in All Ages and Particularly in the United States from Colonial Times to 1891. 2nd ed. (New York: Burt Franklin, 1965 Reprint 1892)

Syrett, Harold C. (ed). The Papers of Alexander Hamilton. 27 vols. (New York: Columbia Univ. Press, 1961-1988)

Tanner, Henry S. A Description of the Canals and Railroads of the United States. (New York: Augustus M. Kelley, Reprint 1840)

Taussig, F.W. The Tariff History of the United States. (New York: G.P. Putnam's Sons, 1899)

Temin, Peter. Causal Factors in American Economic Growth in the Nineteenth Century. (London: Macmillan Pub. Co, 1975)

Temin, Peter. "Steam and Waterpower in the Early Nineteenth Century." Journal of Economic History. Vol. 26. Jun 1966. pp. 187-205.

Tewksbury, Donald G. The Founding of American Colleges and Universities Before the Civil War. (New York: Teachers' College Press, 1932)

The Jefferson Foundation. Rediscovering the Constitution: A Reader for Jefferson Meeting Debates. (Washington, DC: Congressional Quarterly Books, 1987)

Thurston, R. H. "Technical Education in the United States." Transactions of the American Society of Mechanical Engineers. Vol. 14. 1893. pp. 855-1013.

Tompkins, Daniel A. The Cotton Gin: The History of Its Invention. (Charlotte, NC: The Author, 1901)

Tooker, Elva. Nathan Trotter, Philadelphia Merchant, 1787-1853. (Cambridge, MA: Harvard Univ. Press, 1955)

Trescott, Paul R. Financing American Enterprise: The Story of Commercial Banking. (New York: Harper and Row,

1963)

Tryson, Rolla M. Household Manufactures in the United States, 1640-1860. A Study of Industrial History. (New York: Augustus M. Kelley, 1966) Reprint 1917 ed.

Tucker, Barbara M. and Murphy, Teresa. Samuel Slater and the Origins of the American Textile Industry, 1790-1860. (Ithaca, NY: Cornell Univ. Press, 1984)

Turnbull, Archibald Doublas. John Stevens: An American Record. (New York: Century Pub. Co, 1928)

United States. Department of Commerce. National Committee on Centennial Celebration of the American Patent System. A Summary of the Speeches at the Celebration November 23, 1936. (Washington, DC: Gov. Printing Off, 1937)

United States. Department of Commerce. Patent Office. Celebration of the American Patent System: A Complete Summary of the Proceedings in Observance of the One Hundred Twenty Fifth Anniversary of the US Patent Act of 1836. (Washington, DC: Gov. Printing Office, 1963)

United States. Department of Commerce. Patent Office. The Story of the US Patent and Trademark Office. (Washington, DC: Gov. Printing Office, 1981)

United States. Department of State. Bureau of Rolls and Library. Documentary History of the Constitution of the United States of America, 1786-1870. (Washington, DC: Gov. Printing Office, 1894-1905)

United States Congress. House of Representatives. The Growth of Industrial Art. House Misc. Doc. Vol. 30. 52nd Cong. 2nd Sess. 1892.

Uselding, Paul. "Elisha K. Root, Forging, and the 'American System'." Technology and Culture. Vol. 15. Oct. 1974. pp. 543-568.

Vaughan, Floyd L. Economics of Our Patent System. (New York: MacMillan, 1925)

Vaughan, Floyd Lamar. The US Patent System; Legal and Economic Conflicts in American Patent History. (Norman, OK: Univ. of Oklahoma Press, 1956)

Virginskii, V.S. Robert Fulton, 1765-1815. (New Delhi: Amerind Pub. Co. Pvt. Ltd for Smithsonian Institution and NSF, 1976)

Walker, Joseph E. Hopewell Village: A Social and Economic History of an Iron-making Community. (Philadelphia:

Univ. of Pennsylvania Press, 1966)

Wallace, Anthony F.C. Rockdale: The Growth of An American Village in the Early Industrial Revolution. (New York: Alfred A. Knopf, 1978.

Walton, Gary M. and Shepard, James F. The Economic Rise of Early America. (Cambridge, England: Cambridge Univ. Press, 1979)

Wansey, Henry. Henry Wansey and His American Journal, 1794. David John Jeremy, ed. (Philadelphia: American Philosophical Soc, 1970)

Webb, Lester A. Captain Partridge and the United States Military Academy 1806-1833. (Northport, AL: American Southern, 1965)

Weible, Robert (ed). Essays from the Lowell Conference on Industrial History, 1982 and 1983. (N. Andover MA: Museum of American Textile History, 1985)

Weible, Robert (ed). The World of the Industrial Revolution. Essays from the 1984 Lowell Conference. (Lowell, MA: Lowell National Hist. Park, 1984)

Welles, Arnold. "Father of Our Factory System." American Heritage. Vol. 9. Apr. 1958. pp. 34-39; 90-92.

Welsh, Peter C. "United States Patents, 1750-1870: New Uses for Old Ideas." Paper 48. Contributions from The Museum of History and Technology. Papers 45-51 On History. (Washington, DC: Smithsonian Institution, 1966)

Wertenbaker, T. J. Princeton 1746-1896. (Princeton, NJ: Princeton University Press, 1946)

White, George S. Memoir of Samuel Slater. (New York: Augustus M. Kelley, 1967) Reprint 1836 ed.

Wilkinson, Norman B. "Brandywine Borrowings from European Technology." Technology and Culture. Vol. 4. Winter 1963. pp. 1-13.

Wilkinson, Norman B. "The Forgotten 'Founder' of West Point." Military Affairs. Vol. 24. Mar. 1960. pp. 177-188.

Wills, Garry. Explaining America: The Federalist. (Garden City, NY: Doubleday and Co, 1981)

Witson, Mitchell A. American Science and Invention, A Pictorial History. (New York: Simon and Schuster,

1954)

Woodbury, Robert S. "The Legend of Eli Whitney and Interchangeable Parts." Technology and Culture. Vol. 1. Summer 1960. pp. 235-253.

Woodman, Harold D. King Cotton and His Retainers: Financing and Marketing the Cotton Crop of the South, 1800-1925. (Lexington, KY: Univ. of Kentucky Press, 1968)

Young, Alfred F. "The Mechanics and the Jeffersonians: New York, 1789-1801." Labor History. Vol. 5. Fall 1964. pp. 252-276.

York, Neil Longley; Brown, Chandos; McGaw, Judith A.; Jeremy, David J. and Corn, Joseph J. Mechanical Metamorphosis: Technological Change in Revolutionary America. (Westport, CT: Greenwood Press, 1985)

Zagorskii, F.N. An Outline of the History of Metal Cutting Machines to the Middle of the 19th Century. [Translated from the Russian.] (New Delhi: Amerind, 1982)

Zevin, Robert Brooke. The Growth of Manufacturing in Early Nineteenth-Century New England. (New York: Arno Press, 1975)

Coopers Town, April 9th, 1793.

GENTLEMEN,

Being convinced that you feel an intereſt in the manufactory of *maple* ſugar, and that your wiſhes and exertions to prevent the deſtruction of the trees from whence it is produced, have been of public utility—We are encouraged to tranſmit to you the ſtatement we have been able to make from actual obſervation of the quantity of ſugar, which has been made this ſeaſon, in the former townſhip of Otſego, and which was an entire wilderneſs in 1786—We find upon a moderate calculation, that there has been made at leaſt one hundred and ſixty thouſand pounds weight, which at nine pence per pound is equal in value to 15000 dollars. This plain demonſtration of the importance of this article, will we hope, induce you to continue your endeavours to promote and encourage it, and we would ſubmit to your conſideration whether it is not an object of ſufficient conſequence to claim the encouragement of the legiſlature of your ſtate.

WILLIAM COOPER,
RICH. R. SMITH,
RENSSEL. WILLIAMS, un.
CHARLES FRANCIS,
LEWIS DE VILLERS,
EBBAL.

To HENRY DRINKER,
BENJAMIN RUSH,
TENCH COXE, Philadelphia.

- REFERENCE WORKS -

An important adjunct to teaching and learning is knowing where to find additional information about a subject. For that reason the reference books listed in this section may be useful to Institute participants. The reference books listed here are of two kinds; those providing background on a specific subject, and those which can be classified as finding aids for additional resources. In addition, they might also be classified into two areas of interest: the Constitution itself, and the history of science and technology.

Many of the reference works on the following pages may be familiar already. The more common reference tools are included with more specialized works so that experienced teachers can be reminded of their utility; and those will less experience can be made aware of their existence.

Resources on the subject of Executive Branch action in fostering scientific and engineering excellence in the Nineteenth Century can be found in many reference works. The subject matter is cross-disciplinary thus offering students, on both sides of the desk, a number of options in reference work. Reference tools aimed at government and the Constitution, natural sciences, social sciences, technology, and business are all useful for work in the broad field defined by the Institute.

Included in this section are several references which include compendia of state laws. There are many other similar collections. It was not possible to include all of the possibilities for access to early state legislation. However, several representative sources are included. Many of them have been republished and updated at intervals. Consequently, dates of publication have not been given. It would serve equally well to obtain a later edition and teachers can avail themselves of whatever editions may be available in their areas. The best sources are large public libraries, local government and court law libraries, and state legislative libraries. Representative works are included only for those states with teachers in attendance at the institute for which this compilation was prepared.

Also included here are several edited versions of the personal papers of George Washington, John Adams, and Thomas Jefferson. These are only representative samples of the edited and published papers available. They are good primary sources for teacher use. They can also be used as an excellent means of illustrating specific points, giving the flavor of the men's arguments in their own words, or

introducing students to the use of primary sources.

The following may be of particular interest to Institute participants and teachers of interdiciplinary history and science:

_____. America: History and Life. (Santa Barbara, CA: ABC-Clio, 1955-Date)

_____. Applied Science and Technology Index. (New York: H.W. Wilson, 1958-1969)

_____. Bibliographic Index. 19 vols. (New York: H.W. Wilson, 1937-Date)

_____. Biography Index. 14 vols. (New York: H.W. Wilson, 1946-1984)

_____. Combined Retrospective Index to Journals in History, 1838-1974. 9 vols. (Arlington, VA: Carrollton Press, 1977)

_____. Dissertation Abstracts. (Ann Arbor, MI: University Microfilms, Int'l: 1938-Date)

_____. Industrial Arts Index. (New York: H.W. Wilson, 1913-1957)

_____. Poole's Index to Periodical Literature. 6 vols. (Magnolia, MA: Peter Smith Pub, 1802-1906)

_____. Readers' Guide to Periodical Literature. (New York: H.W. Wilson, 1900-Date)

_____ The Illustrated Science and Invention Encyclopedia. International Edition. Vol. 21. "Historic Inventions." (New York: Suttman Co, 1977)

Abbott, David. Biographical Dictionary of Scientists: Engineers and Inventors. Biographical Dictionary of Scientists Series. (New York: P. Bedrick Bks, 1986)

Adams, Charles F. (ed). John Adams' Works. 8 vols.(Boston: Little, Brown and Co, 1850-1856)

Adler, Mortimer J. (ed). Annals of America. 21 vols. (Chicago, IL: Encyclopedia Britannica, 1968)

American Society of Civil Engineers. Catalogue of the Library. (New York: The Society, various dates)

Bassett, T.D. Seymour (ed). Vermont: A Bibliography of its History. Bibliographies of New England History Series.

(John Borden Armstrong, Series Editor) (Hanover, NH: Univ. Press of New England, 1983)

Bergh, Albert Ellery. (ed). The Writings of Thomas Jefferson. (20 vols. (Washington, DC: Thomas Jefferson Memorial Assn, 1903-4)

Bickford, Charlene Bangs. "The Documentary History of the First Federal Congress." Prologue. Vol. 18. Fall 1986. pp. 173-179.

Boyd, Julian. P. (ed). The Papers of Thomas Jefferson. 19 vols. (Princeton, NJ: Princeton University Press, 1955)

Butterfield, L. H. (ed). Diary and Autobiography of John Adams. 4 vols. (Cambridge, MA: Harvard University Press, 1961-1973)

Bynum, W.F; Browne, E.J and Porter, R. (eds). Dictionary of the History of Science. (Princeton, NJ: Princeton Univ. Press, 1981)

Cark, Rheta A; Roth, David M. and Soderlind, Arthur E. Connecticut Yesterday and Today: A Selected Bibliography for Connecticut Schools. Connecticut State Department of Education Bulletin 118. (Hartford: The Department, 1974)

Charleton, James H; Ferris, Robert G. and Ryan, Mary C. (eds). Framers of the Constitution. (Washington, DC: National Archives, 1986)

Congressional Information Service. CIS US Serial Set Index, 1789-1969. 12 parts. (Washington, DC: The Service, 1975)

[Cooper Union.] A Guide to the Literature on the History of Engineering Available in the Cooper Union Library. Engineering and Science Serial Bulletin 28. (New York: The Cooper Union, 1946)

DenBoer, Gordon. "The Documentary History of the First Federal Elections." Prologue. Vol. 18. Fall 1986. pp. 163-171.

Farrand, Max. (ed). The Records of the Federal Convention of 1787. 4 vols. (New Haven: Yale Univ. Press, 1937)

Fitzpatrick, John. C. (ed). The Writings of George Washington from the Original Manuscript Sources, 1745-1799. 39 vols. (Washington, DC: Government Printing Office, 1931-1944)

Ford, W. C, et al (eds). The Journals of the Continental Congress, 1774-1789. 34 vols. (Washington, DC: Government Printing Office, 1904-1937)

Ford, Paul L. (ed). The Works of Thomas Jefferson. 12 vols. (New York: G.P. Putnam, 1904-1905.

Forman, Samuel Egale. The Life and Writings of Thomas Jefferson. (Indianapolis, IN: The Bowen-Merrill Co, 1900)

Gephart, Ronald M. (comp). Revolutionary America, 1763-1789: A Bibliography. 2 vols. (Washington, DC: Library of Congress, 1984)

Gerguson, Eugene S. Bibliography of the History of Technology. (Cambridge, MA: MIT Press, 1968)

Haskell, John D. Jr. (ed). Maine: A Bibliography of its History. Bibliographies of New England History Series. (John Borden Armstrong, Series Editor) (Hanover, NH: Univ. Press of New England, 1983)

Haskell, John D. Jr. (ed). Massachusetts: A Bibliography of its History. Bibliographies of New England History Series. (John Borden Armstrong, Series Editor) (Hanover, NH: Univ. Press of New England, 1983)

Haskell, John D. Jr. and Bassett, T. D. Seymour (eds). New Hampshire: A Bibliography of its History. Bibliographies of New England History Series. (John Borden Armstrong, Series Editor) (Hanover, NH: Univ. Press of New England, 1983)

Hindle, Brooke. Technology in Early America: Needs and Opportunities for Study. (Chapel Hill, NC: Univ. of NC Press, 1966)

Hounshell, David A. "Commentary: On the Discipline of the History of American Technology." Journal of American History. [Followed b y an exchange with Darwin H. Stapleton.] Vol. 67. 1981. pp. 854-865; 897-902.

Hutson, James (ed). Supplement to Max Farrand's "Records of the Federal Convention of 1787." (New Haven: Yale Univ. Press, 1987)

Kaminski, John P; Leffler, Richard and Saladino, Gaspare J. "The Documentary History of the Ratification of the Constitution." Prologue. Vol. 18. Fall 1986. pp. 153-161.

Koch, Adrienne and Peden, William (eds). The Life and Selected Writings of Thomas Jefferson. (New York:

Modern Library, 1944)

McKee, Samuel Jr. Papers on Public Credit, Commerce and Finance. [Alexander Hamilton] (New York: Columbia Univ. Press, 1934)

Neu, John (ed). "One Hundred Eleventh Critical Bibliography of the History of Science and its Cultural Influences." Isis. Vol. 77. No. 290. 1986. pp. 5-265.

New York Public Library. A Guide to the Reference Collection of the New York Public Library. (New York: The Library, various dates)

New York State. Education Department. State Library. Checklist of Official Publications of the State of New York. (Albany, NY: State Education Dept, 1947-Date)

New York State. Education Department. State Library. How to Use the Patent Collection of the New York State Library. (Albany,NY: The State, various dates)

Parks, Roger (ed). Connecticut: A Bibliography of its History. Bibliographies of New England History Series. (John Borden Armstrong, Series Editor) (Hanover, NH: Univ. Press of New England, 1986)

Parks, Roger (ed). Rhode Island: A Bibliography of its History. Bibliographies of New England History Series. (John Borden Armstrong, Series Editor) (Hanover, NH: Univ. Press of New England, 1983)

Reingold, Nathan (ed). The New American State Papers. Science and Technology. Vol. 4. "Patents." (Wilmington, DE: Scholarly Resources, Inc, 1973)

Richardson, James D. (comp). A Compilation of the Messages and Papers of the Presidents, 1789-1897... 20 vols. (New York: Bureau of National Literature, 1917)

Saladino, Gaspare J. "A Guide to Sources for Studying the Ratification of the Constitution by New York State." [Schechter, Stephen L. (ed)] The Constitutional Period: A Resource Book. Prepared for "Classic Works of American Federal Democracy," a teacher's institute, sponsored by the Center for the Study of Federalism, with the support of the National Endowment for the Humanities. Big Sky, Montana. August, 1984. [A possible contact for this unpublished 2-inch thick compilation would be Russell Sage College, Troy, NY.]

Shaw, Ralph R. Engineering Books in America prior to 1830. (New York: NY Pub. Lib, 1933)

Shuffelton, Frank. Thomas Jefferson: A Comprehensive, Annotated Bibliography of Writings About Him (1826-1980). (New York: Garland Pub, 1983)

Soloman, Dorothy. "The Patent Depository Library System." Bookmark. Summer, 1986. pp. 213-215.

Stapleton, Darwin. "The American Philosophical Society Library: Holdings in Early American Technology." Technology and Culture. Vol. 23. No. 3. 1982. pp. 430-434.

Stapleton, Darwin H. The History of Civil Engineering Since 1600: An Annotated Bibliography. Bibliographies on the History of Science and Technology Series. (New York: Garland Pub, 1986)

State of Connecticut. Acts and Laws of the State of Connecticut. (Hartford: The State, various dates)

State of Massachusetts. Acts and Laws of the Commonwealth of Massachusetts. (Boston: The Commonwealth, various dates)

State of New York. Laws of the State of New York. (Albany: The State, 1886-1887)

Syrett, Harold C. (ed). The Papers of Alexander Hamilton. 26 v. (New York: Columbia Univ. Press, 1961-1979)

United States. Congress. Biographical Directory of the United States Congress, 1774-1989. (Washington, DC: Government Printing Office, 1989)

United States. Congress. The Debates and Proceedings in the Congress of the United States.

United States. Library of Congress. Copyright Laws of the United States of America, 1783-1962. (Washington, DC: Government Printing Office, 1962)

United States. Library of Congress. Exchange and Gift Division. Monthly Checklist of State Publications. (Washington, DC: Government Printing Office, 1910-Date)

United States. Superintendent of Documents. Checklist of United States Public Documents, 1789-1975. 5 vols. (Washington, DC: Government Printing Office, 1975)

United States. Superintendent of Documents. Monthly Catalogue of United States Government Publications. (Washington, DC: Gov. Printing Office, 1895-Date)

United States. Patent and Trademark Office. Annual Report of the Commissioner of Patents and Trademarks. (Washington, DC: Gov. Printing Office, various years prior to 1920)

United States. Patent and Trademark Office Subject-matter Index of Patents for Inventions Issued by the United States Patent Office from 1790 to 1873, Inclusive. 3v. (Washington, DC: Gov. Printing Office, 1874)

Walch, Timothy (ed.). Celebrating the Constitution: A Bicentennial Retrospective. (Washington, DC: Nat. Archives Trust Fund Bd, 1988)

Patents Issued, 1790–1860

1790	3	1814	210	1838	531
1791	33	1815	173	1839	414
1792	11	1816	206		
1793	20	1817	174	1840	477
1794	22	1818	222	1841	511
1795	12	1819	156	1842	500
1796	44			1843	512
1797	51	1820	155	1844	510
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1799	44	1822	200	1846	644
		1823	173	1847	576
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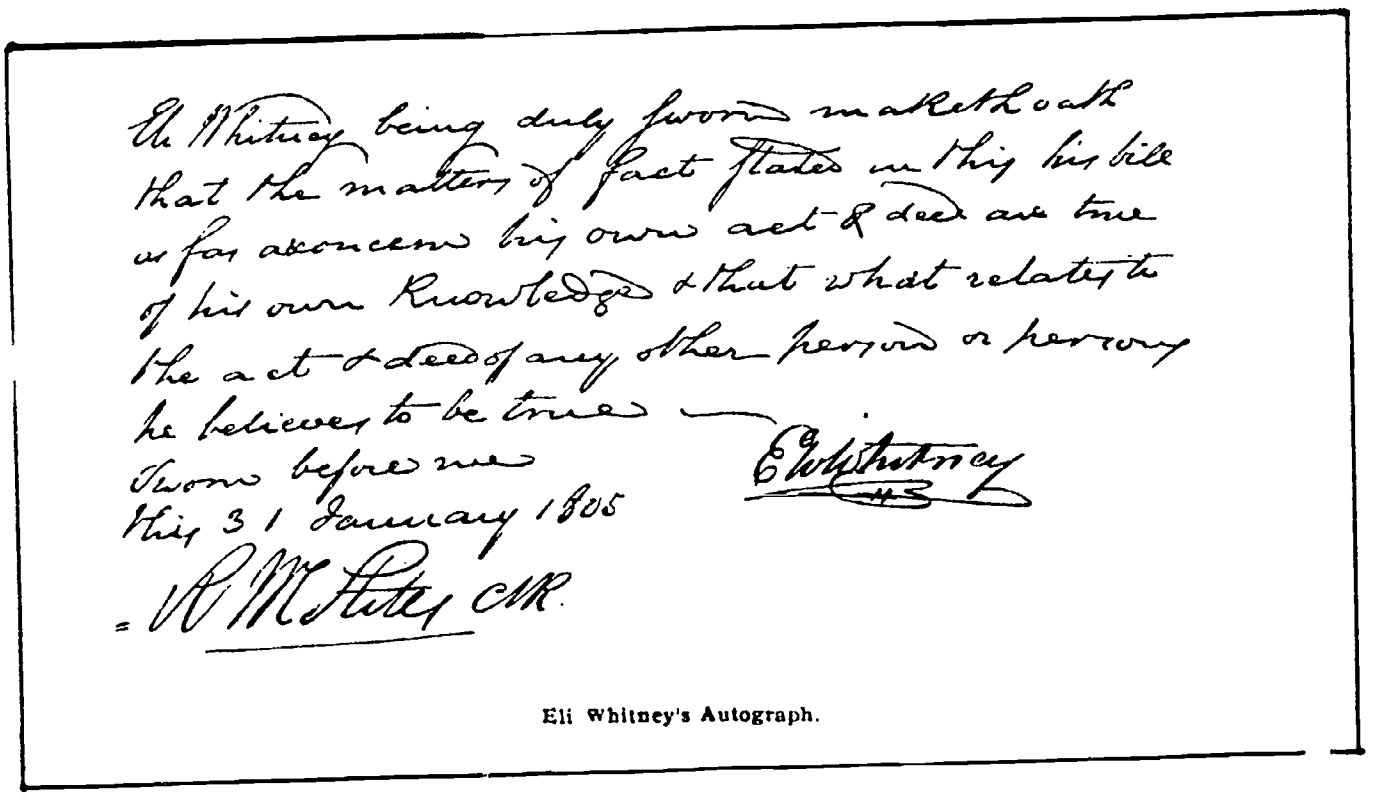
1801	44	1825	304	1849	1,050
1802	65	1826	323		
1803	97	1827	301	1850	986
1804	84	1828	368	1851	859
1805	57	1829	447	1852	914
1806	63			1853	956
1807	99	1830	544	1854	1,847
1808	158	1831	573	1855	1,992
1809	203	1832	474	1856	2,438
		1833	586	1857	2,822
1810	223	1834	630	1858	3,530
1811	215	1835	752	1859	4,314
1812	238	1836	700		
1813	181	1837	433	1860	4,588

- JOURNALS AND PERIODICALS -

Another type of valuable reference works are the journals published periodically by several historical organizations. Most college and large public libraries will have retrospective holdings of such academic journals as the Journal of American History (Organization of American Historians); The History Teacher (Society for History Education); Technology and Culture (Society for the History of Technology); the American Historical Review (American Historical Association); and the various journals of the state historical societies. This last group includes such titles as Rhode Island History, New York History, and the Connecticut Historical Society Bulletin.

Prologue, the journal of the National Archives, is also an important source of information. Not only does it provide a wide variety of articles but it also makes the reader aware of the many primary source documents related to the topic at hand.

Often of equal value to teachers of secondary students are the articles which appear from time to time in popular journals such as American Heritage, the Newcomen Society Transactions, and the National Geographic. A visit to a local public or college library will quickly reveal which popular journals are available outside the school. Complete retrospective collections are often available in microform at a very reasonable price and constitute a valuable reference resource for this and other topics.



Eli Whitney being duly sworn maketh oath that the matters of fact stated in this his bill as far as concerns his own act & deed are true of his own knowledge & that what relates to the act & deed of any other person or persons he believes to be true —
Eli Whitney
Sworn before me
this 31 January 1805
R M Tilley CR.

Eli Whitney's Autograph.

- NON-PRINT RESOURCES -

As we move into the Twenty-first Century non-print materials will become even more important as information sources. To be effective teachers, or learners, we need to be aware of the non-print resources available on any given subject, access them, and use them efficiently.

Unfortunately, there is very little in the way of non-print material related to the subject of the first Congresses and the efforts of the new federal government to encourage excellence in science and engineering. The Institute for which this publication was prepared was meant to break new ground. Nowhere is this more apparent than in a search for non-print resources on the subject.

In the preparation of this compilation searches were made of a wide variety of commercial audio-visual catalogues covering every major publisher. In addition, the citations in the NICEM (National Information Center on Educational Media) Catalogue were searched. There is no quicker way to study the universe of media possibilities on a topic than by using the NICEM catalogue. However, NICEM does not catalogue all media productions and is quickly outdated. It is not uncommon for smaller agencies, and private groups, to produce materials which are uncatalogued. It is wise, therefore, to contact as many organizations as possible, museums in particular, which may produce non-print sources intended for limited audiences. It is also important to obtain as many current media production catalogues as possible. The elements of the following list are productions which could be considered appropriate to this Institute.

There are plenty of non-print materials on the Constitution and government. None, however, devote any significant time to the patent and copyright clauses, or other powers of the federal government, relative to the fostering of scientific and engineering excellence.

Far fewer non-print resources trace the history of science, engineering, or the teaching of those subjects during the Federalist Era; or any era. Steven Lubar, Curator of the Division of Engineering and Industry, National Museum of American History, Smithsonian Institution, and author of several books on the subject put it succinctly in a letter on January 4, 1989. "There's not very much available on that subject, I'm afraid," he said. Recent letters to publishers whose products are cited in the NICEM Catalogue reveal that some of the materials listed are no longer available for sale. They are likely still held in library media centers, however.

Clearly, individual teachers will need to make use of the audio-visual production facilities their schools offer. There is, then, a link between this section on non-print resources and the other sections of this publication. Many of the printed materials cited earlier contain useful illustrations which can be easily converted into a variety of media including overhead transparencies, projection transparencies (slides), videotape, and copied handouts.

While copyright restrictions should not be ignored teachers should avail themselves of their "fair use" privileges and make note of the fact that in many cases copyrights have expired.

Teachers seeking non-print materials should not forget the various government indexes to state and federal government productions. These are best accessed through the audio-visual support facilities of a federal installation or through the government documents section of a public or university library. Within each Congressional district at least one library is designated ass the Government Depository Library and receives one copy of every federal publication.

In addition, many videotape productions are better accessed through publications such as the Video Source Book or through the separate audio-visual catalogues of organizations related to the subject of this institute. Among the latter is the Audio-Visual Materials Catalog of the American Institute of Architects (1989).

The single most important and relevant, although sparsely narrated, non-print resource is a videotape produced by the National Museum of American History in 1986. Entitled "Engines of Change," the tape contains moving and still images used in an exhibit of the same name at the Smithsonian Institution. In addition it includes approximately 300 images found in the course of research for the exhibition according to an information sheet prepared by the museum.

One of the more unique aspects of the tape, "Engines of Change," is that the museum provides a frame number index to it. The index also includes Smithsonian Institution Negative numbers which can be used to order single copies of given images. The tape is, then, a visual anthology and catalogue. Its cost is minimal by commercial standards; $24.95 at the time this publication went to press.

So authoritative are the producers of the tape, "Engines of Change," and so important is the list of images it includes, that the table of contents and index , provided by the Smithsonian Institution, are reproduced on the thirteen pages following this list of non-print resources. So sparse is the narration, however, that it would be wise for

any purchaser to have the following index handy at the time of viewing.

The following non-print resources fit the selection criteria of this compilation and its intended users.

_____. Engines of Change: The American Industrial Revolution, 1790-1860. (Washington, DC: Smithsonian Institution, 1985-6) Videotape. 1/2 inch. VHS. Color and Black and White. 25 min.

_____. From Dreams to Reality: A Tribute to Minority Inventors. (Washington, DC: US Dept. of Commerce, n.d.) 1/2 inch videocasette. VHS. Color. 26 min.

_____. [Historical Development of Trademarks.] US Trademark Assn. 2x2 Projection Transparencies. Color/B&W.

_____. Industrial Revolution in America. Series. (Chicago, IL: Coronet Instructional Films, 1978) "Historical Roots." 35 mm filmstrip. 68 frames. color.

_____. Industrialism in America: An Economic History. Series. "The Industrial Revolution Comes to the U.S." (Garden City, NY: Focus Media, 1988) Microcomputer program. Apple.

_____. Inventions and Technology That Shaped America. Set 1. "Eli Whitney Changes America--Cotton Gin." (NY: Learning Corp. of America, n.d.)

_____. Inventions that Made America. "Mass Production Industries." (n.p.: Multimedia Education, 1970) 35 mm filmstrip. 81 frames. color.

_____. The Factory Takes the Lead 1800-1860. (Wilton, CT: Current Affairs Films, n.d.) 35 mm filmstrip. cassette. 74 frames. color.

_____. The Industrial Revolution. (Garden City, NY: Focus Media, 1988) 1/2 inch videocasette. VHS. 37 min.

_____. Pawtucket: Cradle of American Industry. (Pawtucket, RI: Slater Mill Historic Site, n.d.) Videotape. 1/2 inch. VHS. [Based on slide program of same name.]

_____. The America of Currier and Ives. "From Sail to Steam." (Chicago, IL: Coronet Instructional Films, n.d.)

(Index to Visuals Included in "Engines of Change")

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Motion Pictures

Frame numbers	Index Numbers	Description	SI Negative numbers
00006-00014	000-001	Copyright notice and other information	
00017-09360	001-068	The John Bull (5-minute movie showing the John Bull locomotive in operation in 1981)	
09365-13475	068-098	Blanchard lathe (2-minute movie of the NMAH's copy of Springfield Armory's 1819 Blanchard lathe producing gunstocks.)	
13480-17270	099-125	John Howe's 1842 pin machine (2-minute movie of the machine in operation)	
17765-19455	129-140	Machine tool: Shaper built by Gould, Newark, New Jersey, c. 1860 (2-minute movie of the machine in operation)	
19458-22700	140-163	Machine tool: Bliss-Baldwin lathe, pre-1850 metalworking lathe built in New Hampshire (2-minute movie of the machine in operation)	
22705-26030	164-186	Machine tool: Planer, 1830s metal-working machine built By John H. Gage, Nashua, N.H. (2-minute movie of the machine in operation)	
26035-38450	187-270	"Engines of Change: From the Crystal Palace to an Industrialized America" (7-minute movie outlining American industrialization from 1850 to 1920)	
38501-43120	271-300	Philadelphia factories (50 images from the Library Company of Philadelphia's collection of tradecards showing Philadelphia factories. For more information, see Nicholas Wainwright, Philadelphia in the Romantic Age of Lithography [Philadelphia, 1958])	

Still Pictures

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43128	Crystal Palace, US section, in map of United States, color	
43131	Land, painting by Latrobe	
43133	Road, painting by Latrobe	
43135	Port scene, 1790	
43137	Philadelphia street scene, 1790	
43145	Philadelphia, people, 1790	
43149	Slaves in field	
43153	Indians in Philadelphia	
43155	Niagara Falls, painting by Latrobe	
43157	Constitution	
43159	Iron works, painting by Latrobe, c. 1800	
43161	Textiles, Slater's first mill, Pawtucket, RI, c. 1800	
43168	Tool chest, machinist's, c. 1870 (Loan from Daniel M. Semel)	
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43181	Etzler's plans for "satellite"	
43185	Etzler's plans for "satellite," overall	
43189	Waterwheel, Evan's plans for	86-270
43193	Steam engine, Cridge, Wadsworth improved oscillating	
43197	Turbine, Boyden's outward flow, 1844, runner from	44304-B
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43207	Silk-reeler, Adam Brook's, patent model	80-16792
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43218	Waterwheel, at Machine Shop, Lowell (Photo from Univ. of Lowell)	
43222	Textiles, power loom, Markham drawing (Photo from Sheldon Museum)	
43226	Textiles, power loom, Markham drawing (Photo from Sheldon Museum)	
43230	Textiles, British textile mill drawing (Photo from Mr. Newdegate)	
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43237	Sewing machine	
43245	Pawtucket, RI, from White, Memoir of Samuel Slater, 1836	
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44056	Machine, Howe's pin machine	85-7510
44130	Machine, press made by A. Alfred, 1850	86-1708
44134	Machine, press made by A. Alfred, 1850, detail	86-1709
43444	Machinery, Dolson's feed for paint mills	
43410	Machinery, Woodworth's planner	
43766	Machinery, nail-making machine, Brigeton, NJ	1052-11
43770	Machinery, nail-making machine, drawing of	82-3710
43313	Machinery, woodworking, J.A. Fay & Co., prize-winner at Crystal P	81-190
44102	Machinist's tool chest, c. 1870 (loan from Daniel M. Semel)	
43126	Map of US, showing states of 1790	
43317	McCormick's reaper, as shown at Crystal Palace	
43830	Medal from American Institute to Samuel Morse, 1842, obverse	79-13877
43834	Medal from American Institute to Samuel Morse, 1842, reverse	79-13876
43838	Medal from Franklin Institute, 1844, obverse	85-7601
43842	Medal from Franklin Institute, 1844, reverse	85-7602
43782	Men of Progress by Schussele, 1862 (Photo Nat. Portrait Gallery	
43418	Metalwork, advertisement of Edward W. Carr, Phila,	74-9477
44106	Micrometer, Brown and Sharpe # 1	34,818-A
43924	National Road, Fairview Inn on, 1827 (Photo MD Hist Soc)	85-8678
43928	National Road, mile marker	
43346	New York Crystal Palace	
43155	Niagara Falls, painting by Latrobe	
43732	Orrery, Rittenhouse, detail of Saturn arm	
43728	Orrery, Rittenhouse, now at Univ. of Pa.	
43260	Patent, Samuel Hopkins, for potash manufacture--first patent	80-4744
43406	Patents, office of American Patent Agency	

43137	Philadelphia street scene, 1790	
43145	Philadelphia, people, 1790	
43878	Phillipsburg Manor mill, Tarrytown, New York	85-9785
43309	Piano, Jacob Chickering piano advertisement	
43432	Pin machine, J.I. Howe, patent drawing, 1841, plan	
43436	Pin machine, J.I. Howe, patent drawing, 1841, view	
43372	Pins, American & Howe Pin Company	
43900	Pittsburgh, PA, from Eli Bowen, Pictorial Sketchbook of PA, 1852	
44118	Plan from Baldwin Locomotive Works, 1857	85-12968
43556	Plans from Baldwin Locomotive Works, 1857	85-12468
43560	Plans from Baldwin Locomotive Works, 1857	35-12467
43852	Plow, John Deere	33931A
43306	Plow, Prouty and Mears, prize-winner at Crystal Palace	
43276	Politics, "Jackson Ticket...Internal Improvement"	
43268	Politics, "Whigs Arouse," 1848	7?-3588
43278	Politics, Henry Clay, w/ picture of mill (Photo Shelbourne Museum	
43256	Politics, J. Q. Adams campaign, "Peace, Liberty, Home Industry	52052
43264	Politics, J.Q. Adams, "Our Country . . . Home Industry,"	
43252	Politics, decanter engraved "The American System, HC", detail	80-14821
43822	Politics, decanter engraved "The American System, HC"	80-14820
43135	Port scene, 1790	
43534	Railroad track, Camden and Amboy RR	80-4952
44043	Railroad, Accident on the Camden & Amboy, 1855	5055
43564	Railroad, Camden and Amboy, running regulations on	81-6893
44010	Railroad, Camden and Amboy tracks with stone sleepers	21243-B
43508	Railroad, Japanese, sent from Norris Works, 1853	11060-A
43512	Railroad, Liverpool and Manchester, 1831	31112
43568	Railroad, Liverpool and Manchester, passenger car	8953
43570	Railroad, Liverpool and Manchester, cars and viaduct	8953
43986	Railroad, Liverpool and Manchester	31112
43552	Railroad, Providence and Worcester, businesses on route of	
44035	Railroad, Russian, built by American engineers (Photo NY Pub Lib)	
44014	Railroad, Stephens' drawing of track	80-4952
44047	Railroad, The Lackawanna Valley, Inness 1855(Photo Nat. Gal. Art)	
44039	Railroad, conductors, 1864	81-7635
43597	Ramelli, Dell' Artificiose Machine, piston pump	85-2112
43601	Ramelli, Dell' Artificiose Machine, book holder w/ spur gears	76-14435
43605	Ramelli, Dell' Artificiose Machine, lantern and worm gears	85-2111
43609	Ramelli, Dell' Artificiose Machine, cam	83-2113
43303	Reaper, McCormick, as shown at 1851 Crystal Palace	
44200	Regulations, Lawrence Manufacturing Company	
43478	Regulations, Taunton Locomotive Co (Photo Old Colony Hist. Soc)	
43696	Restored iron furnace at Hopewell Village, PA	79-7928
43726	Rifle, Pennsylvania	86-2569/1
43376	Rifle, detail of "WAT" cartouche	
43133	Road, painting by Latrobe	
44312	Roebling's suspension bridge building apparatus, drawing	
44309	Roebling, John A., Harper's New Monthly Magazine, May 1867, p.925	
44114	Rules, Taunton Locomotive Mfg. Co. (Photo Old Colony Hist. Soc.)	
43706	Sawmill, Chester County, PA (Photo HABS, Library of Congress	
43350	Sculpture pointer at work	
43237	Sewing machine	
43245	Pawtucket, RI, from White, Memoir of Samuel Slater, 1836	45513-B
44236	Sewing machine	

43212	Sewing machine, Blodgett and Lerow, 1849 patent model	
43241	Sewing machine, Howe patent model	
43233	Sewing machine, Singer patent model	
44296	Shaker broom, broom-making machine (Photo Hancock Shaker Village)	
44297	Shaker chair w/ tilt mechanism in leg, detail	85-4698/30
43677	Shipyard, Smith & Dimon, by Pringle (Photo NY State Hist. Assoc)	
43474	Shoe-makers' 10-footer, exterior, Lynn, MA	
44228	Shoemaker's factory, Lynn, MA	
44224	Shoemaker's shop, interior of 10-footer	
43207	Silk-reeler, Adam Brook's, patent model	80-16792
43380	Slater, Samuel, from White, Memoir of Slater, 1836	
43736	Slater, Samuel, portrait from White, Memoir of Samuel Slater	34795
43149	Slaves in field	
43916	Stagecoach	78-1870
43920	Stagecoaches, "New Line of Stages" advertisement	10,899-B
43193	Steam engine, Cridge, Wadsworth improved oscillating	
43204	Steam engine, Faber, 1850	
43426	Steam engine, Harlan & Hollingsworth, 1851,	43705
43173	Steam engine, Harlan and Hollingsworth, 1851	
43628	Steam engine, Newcomen (1703 engraving)	79-7308
43762	Steam engine, Newcomen, cylinder from Schyler engine, NJ, 1750s	31704
43632	Steam engine, Newcomen, from Desaguliers, Course of Exper. Phil.	79-7310
43636	Steam engine, Newcomen, schematic, from Pursell, Early Stat. S.E.	
43758	Steam engine, Newcomen-type, by John Fitch, 1785	46264
43177	Steam engine, Oliver Evans, plans, 1804	43418-C
43961	Steam engine, Oliver Evan's Columbian steam engine, 1813	
43637	Steam engine, Watt, model at NMAH	P64118
43641	Steam engine, Watt, schematic, from Pursell, Early Stationary SE	
44065	Steam engine, built by F & WM Faber, Pittsburgh, c. 1850	81-2977
44081	Steam hammer, Nasmyth, shown at Smithsonian 1876 exhibition	79-10315
43624	Steam wheel from G. Branca, La Machine (1629)	79-7311
43965	Steamboat, Buckeye State, 1841, Mississippi steamboat (model)	P63146-A
43937	Steamboat, Fitch model, 1785	
43809	Steamboat, Fitch's 1791 patent drawing	45539
43957	Steamboat, Fulton's Chancellor Livingston, 1815 (model)	45612K
43812	Steamboat, Fulton's, sketch of engine (Photo Birmingham Pub. Lib)	
43941	Steamboat, James Rumsey water tube boiler (Phot MD Hist Soc)	
43945	Steamboat, Rumsey jet boat, 1788 (Photo MD Hist. Soc.)	
43953	Steamboat, Steven's engine for Little Juliana	44303-A
43949	Steamboat, Steven's twin-screw boat Little Juliana	38803-A
43452	Steamboats at Cincinnati (Photo Library of Congress	
43982	Stevens, Robert Livingston (Photo National Portrait Gallery)	
43282	Tarriff--petition to Congress (Photo National Archives)	
43816	Telegraph recorder, Morse's, replica	29647
43818	Telegraph, Morse's canvas-stretcher	74-2444
43294	Textiles, Amoskeag Manufacturing Co. advertisement	
44147	Textiles, Bedworth Mill, England, c.1800(Photo Fitzroy Newdegate)	
43230	Textiles, British textile mill drawing (Photo from Mr. Newdegate)	
43740	Textiles, Carding machine, Samuel Slater's, 1790s	45060
43752	Textiles, Carding machine, Scholfield's	42833
43778	Textiles, Danforth flyer, patent drawing (Photo National Archive)	
44183	Textiles, Lowell, MA textile mills	58219
44179	Textiles, Merrimack Mfg. Co. twisting frame	71383
43214	Textiles, Merrimack Mills, Lowell (Photo from Univ. of Lowell)	

43428	Textiles, Merrimack spinning frame, 1840s	71382
43748	Textiles, Slater mill,Pawtucket RI (Photo Slater Mill Hist. Site)	
44163	Textiles, Slater yarn prices,1802(Photo American Antiquarian Soc)	
43161	Textiles, Slater's first mill, Pawtucket, RI, c. 1800	
43744	Textiles, Spinning frame, Samuel Slater's, 1790s	74-3546
43774	Textiles, Thorp rotary spindle, patent drawing (Photo Nat. Arch)	
43248	Textiles, advertisement for Pearce Cotton Gins	
44187	Textiles, carding machine (Photo Mus. of Amer. Textile History)	
44151	Textiles, domestic spinning jenny	80-4316
43653	Textiles, drop spindle (Photo Museum of American Textile History)	
43645	Textiles, fulling mill, 1607	75-5705
43649	Textiles, hand loom (Photo Museum of American Textile History)	
44159	Textiles, home silk reeler	80-16792
43756	Textiles, loom, power, c. 1868 (Photo Museum of Amer. Text. Hist)	
43665	Textiles, mule spinner, English (Photo Ironbridge Museum	
44155	Textiles, plantation spinner, c. 1840	45929
44191	Textiles, power loom (Photo Museum of American Textile History)	
44175	Textiles, power loom, Lowell, MA(Photo Mus. of Amer. Text. Hist.)	
43222	Textiles, power loom, Markham drawing (Photo from Sheldon Museum)	
43226	Textiles, power loom, Markham drawing (Photo from Sheldon Museum)	
43657	Textiles, spinning jenny (Photo Library of Congress)	
43661	Textiles, spinning wheel (Photo Museum of American Textile Hist)	
44196	Textiles, timetable Lowell mills(Photo Mus. of Amer. Text. Hist.)	
44167	Textiles, weave room, c. 1850 (Photo George Eastman House	
44192	Textiles, women w/ shuttles(Photo Mus. of Amer. Textile History)	
43168	Tool chest, machinist's, c. 1870 (Loan from Daniel M. Semel)	
43351	Tools, Spirit Level ad,	86-4136
43488	Train wreck	21199
43491	Train wreck	12664
43933	Transportation, Lockport on the Erie Canal	57091
43932	Transportation, New Haven and Northampton canal line ad, 1845	48617
43197	Turbine, Boyden's outward flow, 1844, runner from	44304-B
43201	Turbine, James B. Francis, experimental runner, 1847	44304-F
44292	Utopian community, Owen's The Crisis, w/ plan of community, 1832	
44285	Watch made by American Watch Company, Waltham, MA, 1868	74-6186
43368	Watch, used by conductors on Camden and Amboy RR	76-5922
44057	Waterpower, Evan's drawings of types of waterwheels	
44061	Waterpower, plan of turbine from at Boott cotton mills, Lowell	
43189	Waterwheel, Evan's plans for	86-270
43218	Waterwheel, at Machine Shop, Lowell (Photo from Univ. of Lowell)	
44171	Webster, MA	
43586	Webster, Massachusetts	
43388	Whitney, Eli	
43688	Whitney, Eli	649-G
43680	Wooden hinges	85-8670
43684	Wooden trammel	85-8669
44051	Worker, Pin maker (woman)	55515
44257	Workers at Seth Hoadley clock factory (Photo Mattatuck Museum)	
43354	Workers, Bonnet and Hat Bleachery ad	
44220	Workers, women, from Harpers, c. 1860	81-13694

- NATIONAL ARCHIVES AND RECORDS ADMINISTRATION -

On April 1, 1985 the National Archives and Records Administration became an independent federal agency. As an important repository of primary source material the Archives are an important resource for teachers. Beyond their scholarly quarterly journal, Prologue, however the Archives do not disseminate much of their material. The patron must go to the main Archive in Washington, DC or to one of the several regional repositories.

Originally set up to provide secure storage and access to the permanently valuable records of the United States government, the National Archives has been tasked with additional, often difficult, confusing, and sometimes contradictory duties in the years since they were first established in 1934. In addition to responsibility for the preservation, display, use, appraisal and disposition of permanently valuable federal records, the Archives is also charged with the operation of seven Presidential Libraries, the custody of the Nixon and Carter Presidential historical materials, administration of 15 regional Records Centers and the publication of legislation, regulations, Presidential and other related materials. Such materials include the publications supported in whole or in part by the National Historical Publications and Records Commission. In recent years such publications have included the Documentary Histories of the First Federal Congress, the Supreme Court, and the Ratification of the Constitution.

A list of National Archives and Records Administration operational sites is provided on the next page. The amount of material any given site would have on the specific topic of this Institute may be small. However, it is likely that most of the archives and records centers could offer a broad range of possible resource documents useful for teaching about the relationship of the federal government to the promotion of excellence in science and engineering. Certainly, they would each have a great many documents useful to teachers concerned with teaching about the Constitution generally.

The patent record collection of the National Archives is held by the Scientific, Economic and Natural Resources Branch (NNFN)

The National Historical Publications and Records Commission can be contacted at the National Archives Building, Washington, DC 20408. The Commission publishes a limited circulation newsletter, Annotation.

NATIONAL ARCHIVES AND RECORDS ADMINISTRATION

NATIONAL ARCHIVES

Central Information Division
National Archives
Washington, DC 20408
Telephone 202-523-3220

National Archives—Boston Branch
380 Trapelo Road
Waltham, MA 02154
617-647-8100

National Archives—New York Branch
Building 22—Military Ocean Terminal
Bayonne, NJ 07002
201-823-7252

National Archives—Philadelphia Branch
9th and Market Streets
Philadelphia, PA 19107
215-597-3000

National Archives—Atlanta Branch
1557 St. Joseph Avenue
East Point, GA 30344
404-763-7477

National Archives—Chicago Branch
7358 South Pulaski Road
Chicago, IL 60629
312-581-7816

National Archives—Kansas City Branch
2312 East Bannister Road
Kansas City, MO 64131
816-926-7271

National Archives—Forth Worth Branch
501 West Felix Street, P.O. Box 6216
Fort Worth, TX 76115
817-334-5525

National Archives—Denver Branch
Building 48, Denver Federal Center
Denver, CO 80225
303-236-0818

National Archives—Los Angeles Branch
24000 Avila Road, P.O. Box 6719
Laguna Niguel, CA 92677-6719
714-643-4220

National Archives—San Francisco Branch
1000 Commodore Drive
San Bruno, CA 94066
415-876-9009

National Archives—Seattle Branch
6125 Sand Point Way NE
Seattle, WA 98115
206-526-6507

PRESIDENTIAL LIBRARIES

Herbert Hoover Library
P.O. Box 488
West Branch, IA 52358
Telephone 319-643-5301

Franklin D. Roosevelt Library
259 Albany Post Road
Hyde Park, NY 12538
Telephone 914-229-8114

Harry S. Truman Library
Independence, MO 64050
Telephone 816-833-1400

Dwight D. Eisenhower Library
Abilene, KS 67410
Telephone 913-263-4751

John F. Kennedy Library
Columbia Point
Boston, MA 02125
Telephone 617-929-4500

Lyndon Baines Johnson Library
2313 Red River
Austin, TX 78705
Telephone 512-482-5137

Nixon Presidential Materials Staff
Office of Presidential Libraries
National Archives
Washington, DC 20408
Telephone 703-756-6498

Gerald R. Ford Library
1000 Beal Avenue
Ann Arbor, MI 48109
Telephone 313-668-2218

Jimmy Carter Library
One Copenhill Avenue
Atlanta, GA 30307
Telephone 404-331-3942

FEDERAL RECORDS CENTERS

Federal Records Center—ATLANTA
1557 St. Joseph Ave.
East Point, GA 30344
Telephone 404-763-7476

Federal Records Center—BOSTON
380 Trapelo Rd.
Waltham, MA 02154
Telephone 617-647-8745

FEDERAL RECORDS CENTERS

Federal Records Center—CHICAGO
7358 South Pulaski Rd.
Chicago, IL 60629
Telephone 312-353-0164

Federal Records Center—DAYTON
3150 Springboro Road
Dayton, OH 45439
Telephone 513-225-2878

Federal Records Center—DENVER
P.O. Box 25307
Bldg 48, Denver Federal Center
Denver, CO 80225
Telephone 303-236-0804

Federal Records Center—FORT WORTH
Box 6216
Fort Worth, TX 76115
Telephone 817-334-5515

Federal Records Center—KANSAS CITY
2312 East Bannister Rd.
Kansas City, MO 64131
Telephone 816-926-7271

Federal Records Center—LOS ANGELES
24000 Avila Rd.
Laguna Niguel, CA 92677
Telephone 714-643-4220

Federal Records Center—NEW YORK
Bldg. 22, Military Ocean Terminal
Bayonne, NJ 07002
Telephone 201-823-7161

Federal Records Center—PHILADELPHIA
5000 Wissahickon Ave.
Philadelphia, PA 19144
Telephone 215-951-5588

Federal Records Center—ST. LOUIS
National Personnel Records Center
9700 Page Blvd.
St. Louis, MO 63132
Telephone 314-263-7201

Federal Records Center—SAN FRANCISCO
1000 Commodore Dr.
San Bruno, CA 94066
Telephone 415-876-9003

Federal Records Center—SEATTLE
6125 Sand Point Way, NE
Seattle, WA 98115
Telephone 206-526-6501

Federal Records Center- WASHINGTON
Washington National Records Center
Washington, DC 20409
Telephone 301-763-7000

- HISTORIC AMERICAN ENGINEERING RECORD and HISTORIC AMERICAN BUILDINGS SURVEY -

The Historic American Engineering Record, and the Historic American Buildings Survey comprise an invaluable source of both print and non-print information relative to the purpose of this institute. They are programs of the Library of Congress pursued in concert with the National Park Service and with the cooperation of state, local, and private agencies.

The Historic American Engineering Record is comprised of measured drawings, large photographs, and written reports all of which can be accessed through the Prints and Photographs Division of the Library of Congress (Washington, DC 20540). The records held by the Engineering Record have no copyright. The Record holds more than 1400 measured drawings, 18,000 photographs (many of early industrial sites), and 13,000 pages of data.

The Historic American Buildings Survey is similar to the Engineering Record but, as the name implies, is concerned with buildings rather than canals, aqueducts, and similar structures. An older program which can be considered a forerunner of the National Register of Historic Sites, the Building Survey holds 43,000 measured drawings, 93,000 photographs, and 44,000 pages of data.

The material included in the Buildings Survey, including photographs, is available in microfiche format. The microfiche are not produced by the government but are available from Chadwyck-Healey, Inc; 1101 King St, Alexandria, VA 22314. While the entire collection would cost $5,500 (1988 price) it is possible to purchase fiche for individual state collections. The entire collection consists of 1,567 60-frame positive fiche.

The following printed materials relate directly to the Historic American Engineering Record or the Historic American Buildings Survey. They contain many photographs and drawings. Thus, they are also significant non-print resources. In addition, they comprise a guide to the sites which have yielded the thousands of photographs mentioned previously.

Comp, T. Allen. New England: An Inventory of Historic Engineering and Industrial Sites. (Washington, DC: Government Printing Office, 1974)

Comp, T. Allen and Hoeft, Kathleen S. (eds). Long Island Wind and Tide Mills--An Interim Report. (Setauket, NY: Society for the Preservation of Long Island Antiquities, n.d.)

DeLony, Eric; Boone, Ellen and Keyes, Alice (comps). Historic American Engineering Register Checklist: 1969-1985. (Washington, DC: Government Printing Office, 1985)

Glass, Brent D. (ed). North Carolina: An Inventory of Historic Engineering and Industrial Sites. (Raleigh, NC: North Carolina Div. of Archives and History, 1975)

Kulik, Gary. Rhode Island: An Inventory of Historic Engineering and Industrial Sites. (Providence, RI: Rhode Island Historical Preservation Commission, 1976)

Molloy, Peter M. (ed). Lower Merrimack River Valley: An Inventory of Historic Engineering and Industrial Sites. (North Andover, MA: Merrimack Valley Textile Museum, 1976)

Sackheim, Donald E. (comp). Historic American Engineering Record Catalog, 1976. (Washington, DC: Government Printing Office, 1976)

Stamm, Alicia D. (comp) and Peatross, C. Ford (ed). Historic America: Buildings, Structures, and Sites. (Washington, DC: Government Printing Office, 1983)

Stott, Peter H. (ed). Long Island: An Inventory of Historic Engineering and Industrial Sites. (Setauket, NY: Society for the Preservation of Long Island Antiquities, 1974)

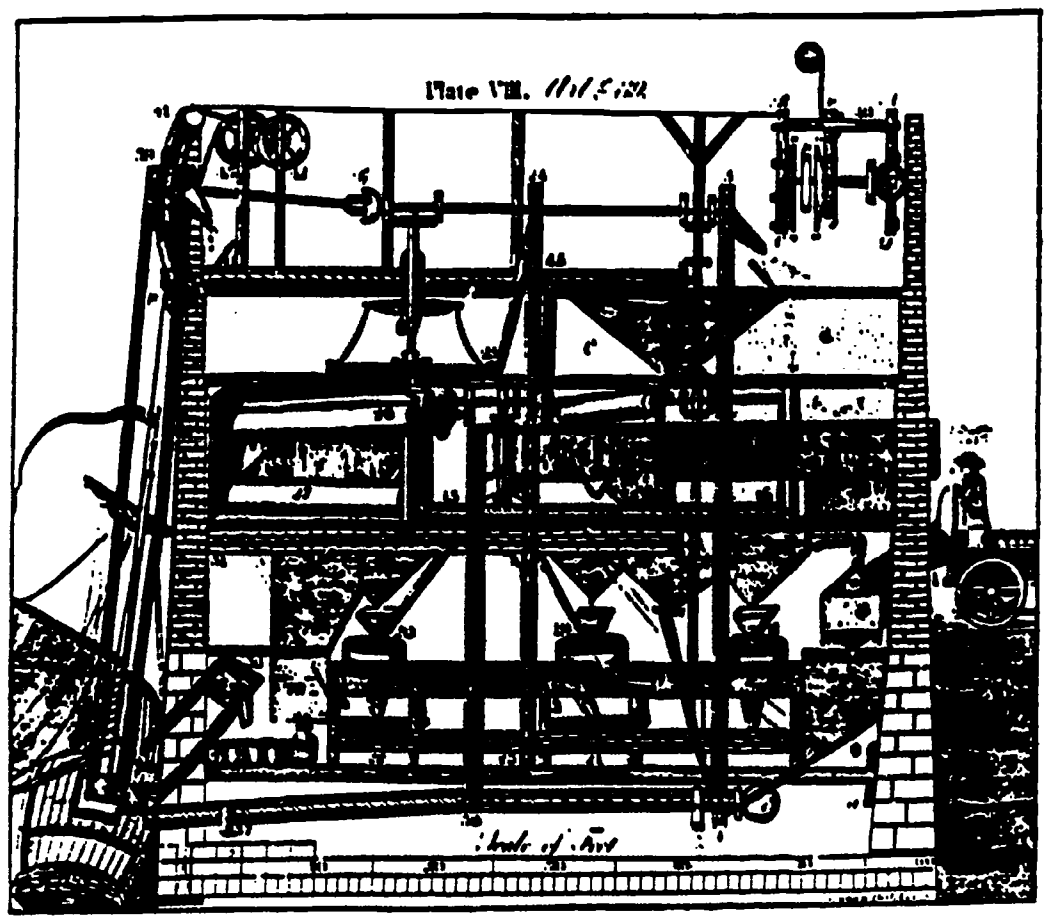
Thomas, Selma (ed). Delaware: An Inventory of Historic Engineering and Industrial Sites. (Wilmington, DE: Eleutherian Mills-Hagley Foundation, 1975)

United States. Historic American Buildings Survey. Catalog Supplement, Catalog of the Measured Drawings and Photographs of the Survey in the Library of Congress, Comprising Additions Since March 1, 1941. (Washington, DC: Government Printing Office, 1959)

United States. Historic American Buildings Survey. Catalog of the Measured Drawings and Photographs of the Survey in the Library of Congress. (Washington, DC: Government Printing Office, 1941)

Vogel, Robert M. (ed). A Report of the Mohawk-Harlem Area Survey. (Washington, DC: Smithsonian Institution, 1973)

Vogel, Robert M. (ed). Report on the Mohawk-Hudson Area Survey. (Washington, DC: Smithsonian Institution, 1969)



A flour mill from an engraving in Oliver Evans's *The Young Mill-wright and Miller's Guide*

- ORGANIZATIONS -

There are several organizations which can provide information for teachers interested in the history of technology, antiquarian tools, and the development of scientific thought. Some of these organizations are able to provide substantial assistance to teachers and researchers depending on the nature of the inquiry. In a few cases assistance is only available on site. A listing of the most important organizations is provided here.

American Antiquarian Society
185 Salisbury Street
Worcester, MA 01609

American Institute of Architects
1735 New York Avenue
Washington, DC 20006

American Society for Engineering Education
11 Dupont Circle, Suite 200
Washington, DC 20036

Early American Industries Association
PO Box 2128
Empire State Plaza Station
Albany, NY 12220-0128

Engineering Societies Library
345 East 47th Street
New York, NY 10017

History of Science Society
Museum of American History, Rm. 5000
Smithsonian Institution
Washington, DC 20560

Institute for the Advancement of Engineering
PO Box 26247
Los Angeles, CA 90026

Newcomen Society of the United States
412 Newcomen Road
Exton, PA 19341

Patent and Trademark Office Society
PO Box 2089
Arlington, VA 22202

Public Works Historical Society
1313 East 60th Street

Chicago, IL 60637

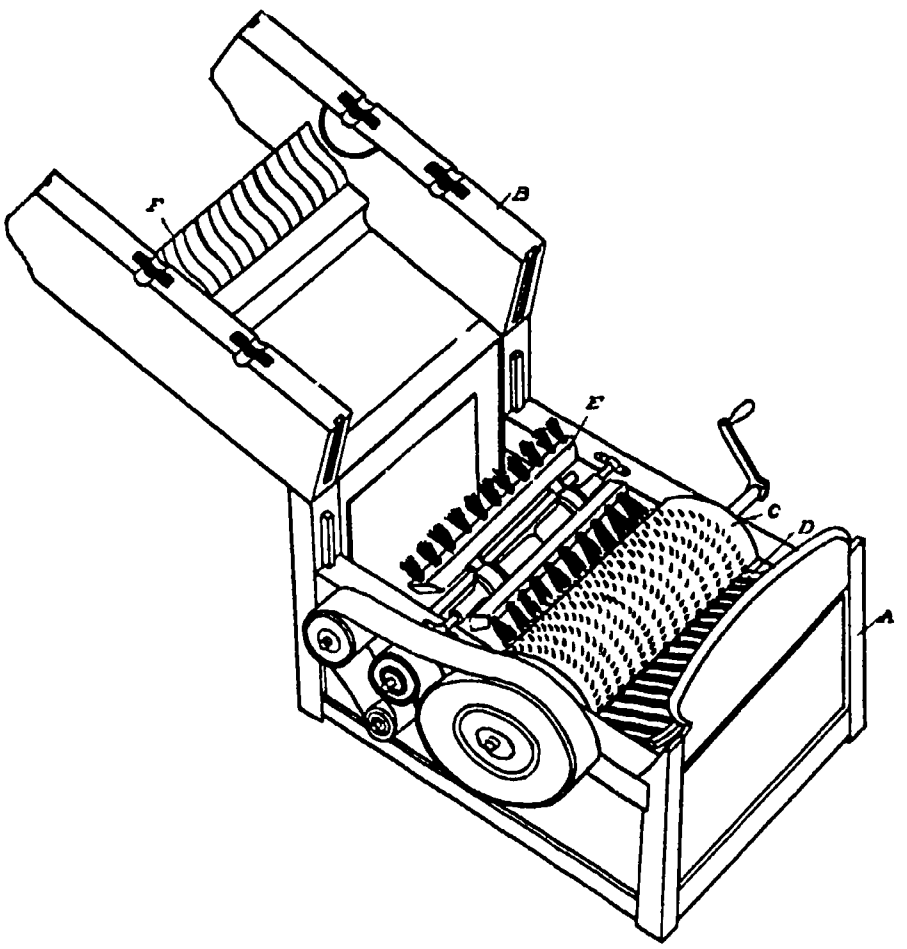
Society for the History of Technology, Rm 5707
National Museum of American History
Smithsonian Institution
Washington, DC 20560

Society for Industrial Archeology
Museum of American History, Rm. 5020
Smithsonian Institution
Washington, DC 20560

United States Trademark Association
6 East 45th Street
New York, NY 10017

Young Scientists of America Foundation
PO Box 9066
Phoenix, AZ 85068

Teachers with interests broader than the scope of this Institute can find a wide range of organizations listed, together with points of contact, in the Encyclopedia of Associations, 2 vols, published by Gale Research and available in most public and college libraries.



- PATENT RESEARCH -

Most of the patent research undertaken today serves the purposes of inventors, technologists, and attorneys. Using patent information to stimulate historical or scientific thinking, including the philosophical bases of those areas of study, may be a productive avenue of approach for teachers. While patent information is readily available to the general public, however, the means by which it is accessed is not generally known.

Under the Patent Law of 1790 little was required the government to keep little in the way of information about an invention. Under later laws drawings, specifications, and models were required. So valuable were these materials considered, so the story goes, that Dr. William Thornton, first head of the first Patent Office, made a personal plea to the invading British commander to spare them from destruction in 1814. Unfortunately, an 1836 fire managed to destroy what the British did not. Nevertheless, a great deal about early patents is still available; much of it collected in patent depositories and adjunct materials the the National Archives.

Sixty-two Patent Depository Libraries are located throughout the United States. These libraries are open to the public and contain a vast amount of information. Much of it, admittedly, is on contemporary inventions. All of it, however, can be important in illustrating the history of technology or the efforts of the government to stimulate creativity.

The names, addresses and locations of the Patent Depository Libraries follow this introduction. Some of these are public libraries, some are university libraries, a few are state libraries, and a few are specialized research libraries. The amount of information about patents and "intellectual property" that any library contains will be directly related to the type of patrons the library is designed to served.

Most Patent Depository Libraries produce a research aid which can be extremely valuable to inexperienced users. In addition, they usually provide access to the various patent guides produced by the federal government over the years. The most useful of those guides are cited in the "Reference Works" section of this publication.

Some small amount of patent research can be done in the archives of the original states. During the Confederation period Congress had urged the states to enact their own

patent laws. Under those laws states such as Massachusetts, New York, Connecticut, and South Carolina granted patents by statute. While copies of session laws dating from the 1780's are sometimes available in local government archives and law libraries they are most readily accessible in a state research centers.

An example of a pre-1790 state patent is the statutory protection given to steam engine inventor James Rumsey by the New York State Legislature in 1789. Rumsey's lengthy state patent grant is reproduced on the pages following the Patent Depository Libraries locator.

LAWS
OF
NORTH CAROLINA.

At a General Assembly, begun and held at Raleigh, on the fifteenth Day of November, in the Year of our Lord one Thousand Eight Hundred and two, and in the Twenty-seventh Year of the Independence of the said State.

JAMES TURNER, ESQUIRE, GOVERNOR.

CHAP. I.

An Act to carry into effect a Contract between the State of North Carolina, and Phineas Miller and Eli Whitney.

WHEREAS Eli Whitney, the inventor and patentee of a machine for cleaning cotton from the feeds, commonly called a Saw-Gin, has propofed and offered, in behalf of himself and Phineas Miller, assignee, of one moiety of the patent-right to faid machine, to fell to the State of North-Carolina, the fole and exclusive right of making, using and vending the faid machine within the limits of this State: And whereas the cultivation of cotton is increasing in this State, and from the invention and ufe of faid machine, likely to become a valuable ftaple article of exportation, it is expedient that the State of North Carolina do purchafe from the faid Miller and Whitney, the patent-right to the making, ufing and vending the faid new invention of a machine for cleaning cotton from its feeds, commonly called a Saw-Gin, on the terms and conditions hereinafter mentioned; that is to fay, that there fhall be laid and collected by the State of North-Carolina, on each and every faw-gin which fhall be ufed in this State, between the paffing of this act and the firft day of April next, a tax of two fhillings and fixpence upon every faw, or annular row of teeth, which fuch gin may contain; and a tax of two fhillings and fixpence for each and every faw, or annular row of teeth, which fhall be ufed in faid gins, in each and every year, for the term of five years thereafter. Provided, that the aforefaid Miller and Whitney, before they fhall receive, or be entitled to receive any of the money collected by virtue of this act, fhall produce their patent-right aforefaid, and fatisfy the Treafurer that they are the true proprietors of the fame; which tax, when collected, to be paid to the faid Miller and Whitney, or their order, firft deducting the Sheriff's ufual commiffions of fix per cent. for collection, from year to year for the term aforefaid: The firft payment to be made on the firft day of December, in the year of our Lord one thoufand eight hundred and three, and the laft payment on the firft day of November, in the year of our Lord one thoufand eight hundred and eight: For which purpofe,

Be it enacted by the General Affembly of the State of North-Carolina, and it is hereby enacted by the authority of the fame, That the good faith of the State be, and the fame is hereby declared to be pledged for the due collection of the faid tax for the term aforefaid, and for the regular payment thereof, from year to year, on the day and days before mentioned; and for the paffing of fuch laws as may be neceffary for the due and the faithful collection and payment of faid tax, and for the purpofe of carrying this contract into effect, according to its true intent and meaning.

II. And be it further enacted, That all perfons who fhall ufe, from and after the paffing of this act, any faw-gin, fhall make return thereof to the firft county court which fhall be held in each and every county of this State, after the firft day of February next; which return fhall be made on oath, to be adminiftered by fome Juftice of the

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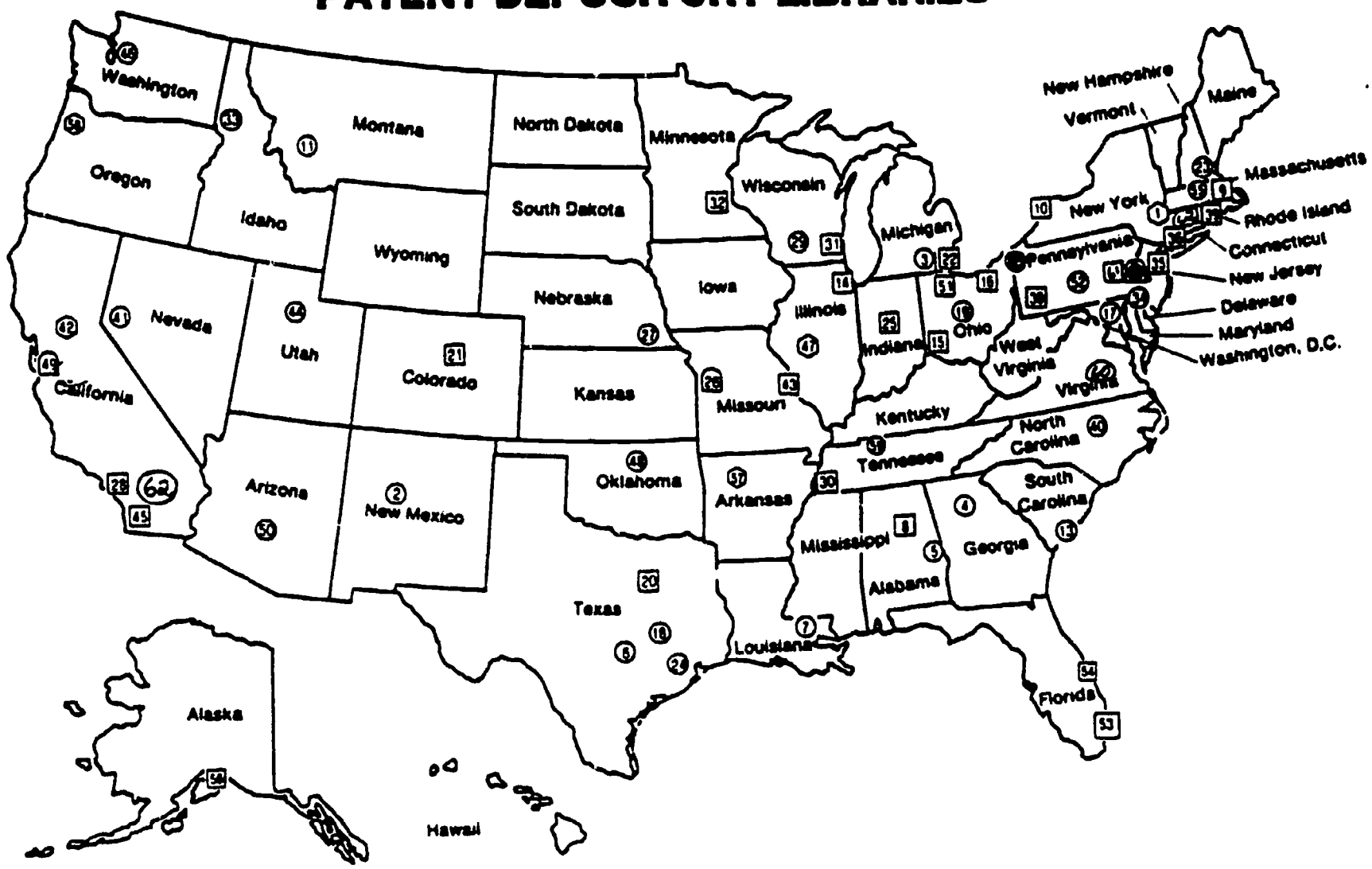
PATENT DEPOSITORY LIBRARIES



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49. Sunnyvale, CA - Patent Information Clearinghouse*
50. Tempe, AZ - Arizona State University Libraries
51. Toledo, OH - Toledo/Lucas County Public Library
52. University Park, PA - Pattee Library, Pennsylvania State University Libraries
53. Miami, FL - Miami - Dade Public Library
54. Fort Lauderdale, FL - Fort Lauderdale, Broward County Main Library
55. Amherst, MA - University of Massachusetts Library
56. Anchorage, AK - Anchorage Municipal Library
57. Little Rock, AR - Little Rock, Arkansas State Library
58. Salem, OR - Oregon State Library
59. Nashville, TN - Vanderbilt University Library
60. Richmond, VA - Virginia Commonwealth University Library
61. Philadelphia, PA - The Free Library of Philadelphia
62. IRVINE, CA - University of California-Irvine General Library
63. NEW HAVEN, CT - Science Park Library

City or City/County Public Library
College or University Library
State Library
Research-Oriented Library

(Extract from Session Laws of New York, 1789)

any road or roads, or any part of any road or roads in or towards any part make as the said commissioners shall contract with, well and sufficiently to of the lands now belonging to the people of this State, or to make and erect any bridge or bridges, upon any road or roads, in or towards such land, as the said commissioners in their discretion, may direct to be laid out or erected; which lands shall be granted in such proportions, as the said commissioners shall for that purpose contract for, and direct: and that the said commissioners, before letters patent shall be issued for such lands, shall direct the surveyor general to examine the said roads and bridges, and if the said surveyor general shall report, that such roads and bridges are well and sufficiently made, then letters patent shall issue to the persons who shall have made the same, for such part thereof, and in such proportions, as the said commissioners shall have agreed to grant the same, for making the said roads or bridges.

And be it further enacted by the authority aforesaid, That it shall and Id. may be lawful to and for the commissioners of the land office in their discretion, to direct the surveyor general to survey and lay out one or more tracts of land, between the river St. Lawrence and Lake Champlain, to contain in the whole not more than twenty five thousand acres, and to divide the same at the expence of the State; such lands to be granted, in the manner, and under the like provisions contained in the last preceding clause, to such persons who shall well and sufficiently make such roads, in that part of the State, lying between the river St. Lawrence, Lake George and Lake Champlain, as the said commissioners may think proper to direct.

CHAP. 33.

AN ACT securing to James Rumsey the sole right and advantage of making and employing for a limited time, the several mechanical improvements by him lately invented.

PASSED the 26th of February, 1789.

WHEREAS James Rumsey of Berkley county in Virginia hath represented to the legislature of this State that he hath invented or improved divers engines and machines upon principles and constructions not heretofore known or used that is to say, a new and easy method of generating steam in large quantities for the purpose of working engines by forcing a small quantity of water through one or more incurvated tubes placed in a furnace which tube or tubes is distinguished by the name of a pipe boiler; a new and easy method of raising water in great quantities to any height that may be nesessary for any mechanical or other useful purpose by means of steam acting upon and moving two pistons at the same time whereby the weight of one or more atmospheres may be applyed for raising water in one trunk or tube, which improvement the said James Rumsey hath distinguished by the name of a pump piston machine; a new improvement upon Doctor Barkers mill, a mode by which millstones and other machinery requiring a circular motion may be turned by or worked with a smaller quantity of water than by any plan yet exhibited to the public, and entirely free from the difficulties which prevented Docter Barkers invention from coming into use. A new and easy mode of working mill saws or any other machinery requiring alternately an opposite motion by applying the whole weight Preamble.

(Extract from Session Laws of New York, 1789)

or force of the water used alternately to a piston moving in a cylinder which improvement is distinguished by the said James Rumsey by the name of a cylindric saw mill; a new mode of raising water by means of steam acting upon a piston floating on the surface of the water in a trunk or cylinder whereby water may be driven or forced up another trunk or tube to any height not exceeding thirty three feet and by repeating the machinery, may be raised from thence to any other height.

And whereas the said James Rumsey hath prayed that an act may pass granting to him, his executors, administrators, and assigns, the sole and exclusive right of making and using or permitting others to make and use the above recited engines and mechanical improvements for a certain limitted time. Wherefore to encourage every useful improvement and discovery, and as a reward for his ingenuity.

Models to be lodged in secretary's office

Be it enacted by the People of the State of New York, represented in Senate and Assembly and it is hereby enacted by the authority of the same, That the said James Rumsey in his own proper person or by his certain attorney shall within nine months after the passing of this act lodge in the secretary's office of this State such specimens, draughts or models of the above recited machines and inventions as shall clearly and fully distinguish and ascertain their form and the principles upon which they operate.

Monopoly given to James Rumsey.

And be it further enacted by the authority aforesaid That as soon as the said James Rumsey by himself or his certain attorney shall lodge such draughts specimens or models in the Secretary's office in such manner and within such time as is herein before directed that then the said James Rumsey his executors, administrators and assigns shall be and they are hereby vested with the sole and exclusive right of making and using or granting to others the right of making and using the above recited engines machines and mechanical improvements for and during the full end and term of fourteen years from and after the end of the present session of the legislature, in any place within this State.

Penalty for unauthorized use of inventions.

And be it further enacted by the authority aforesaid, That if any person or persons whomsoever without being properly authorised by him the said James Rumsey his executors or administrators shall make use or employ any of the herein before recited engines machines or mechanical improvements constructed upon the principles herein before mentioned every person or persons so offending against the true intent and meaning of this act for each and every such offence shall forfeit and pay unto the said James Rumsey his executors or administrators, or to such other person or persons as he the said James Rumsey his executors, administrators or assigns shall authorise and empower for that purpose the sum of one hundred pounds to be recovered by action of debt in any court of record within this State wherein the same may be cognizable with costs of suit.

Act. how construed.

And be it further enacted by the authority aforesaid, That neither this act nor any thing therein contained shall be taken deemed or construed to prohibit or prevent any person or persons from making using and constructing any engines, machines or mechanical improvements heretofore invented or hereafter to be invented which may be constructed on any other principles than those herein before recited.

- ABOUT THE COMPILER -

Dr. Preston E. Pierce has, for 23 years, been a classroom teacher of sec[illegible]ry social studies (grades 7-12) in Pennsylvania and New York. Since 1983 he has also been the County Historian for Ontario County, New York.

After receiving his BA in History from Westminster College (Pa), Dr. Pierce attended the University of Vermont where he received his MAT, also in History. In addition, Dr. Pierce has attended the State University of New York Colleges at Brockport (MSEd, CAS: Educational Administration) and Geneseo (MLS: Library and Information Science). In 1979 the New York State Board of Regents awarded Dr. Pierce a BS (External Degree) in Political Science. In 1984 he received the EdD (Curriculum/Social Science) from the University of Rochester. He is currently working on a PhD in history and an MS in Instructional/Performance Technology.

Holding the rank of Major in the US Army Reserve, Dr. Pierce is a graduate of the US Army Command and General Staff College and has served in the Corps of Engineers, the Field Artillery, the Civil Affairs branch, and as Training Management Officer of a USAR School.

Dr. Pierce's curriculum papers and articles have been published by the ERIC system of the US Department of Education and other professional journals in the social and library sciences.

Dr. Pierce has been a Fellow and curriculum writer for the Center for the History of the American Indian (Newberry Library, Chicago) and a participant in the Robert A. Taft Institute of Government, and Institutes and Seminars on Federalism and Appalachian Studies s[illegible]onsored by the National Endowment for the Humanities. He was named a 1989 National Fellow for Independent Study in the Humanities by the Council for Basic Education and the National Endowment for the Humanities. He was selected for inclusion in the 1989-1990 and 1990-91 editions of Who's Who in American Education and Who's Who in the East.

- DISCLAIMER -

The opinions, findings and conclusions or recommendations expressed in this publicaton are those of the author [compiler] and do not necessarily reflect the views of the Commision on the Bicentennial of the United States Constitution, an agency of the federal government.

By the United States in Congreſs aſſembled,

SEPTEMBER 13, 1788.

WHEREAS the Convention aſſembled in Philadelphia, purſuant to the Reſolution of Congreſs of the 21ſt February, 1787, did, on the 17th of September in the ſame year, report to the United States in Congreſs aſſembled, a Conſtitution for the People of the United States; whereupon Congreſs, on the 28th of the ſame September, did reſolve unanimouſly, "That the ſaid report, with the Reſolutions and Letter accompanying the ſame, be tranſmitted to the ſeveral Legiſlatures, in order to be ſubmitted to a Convention of Delegates choſen in each State by the people thereof, in conformity to the Reſolves of the Convention made and provided in that caſe:" And whereas the Conſtitution ſo reported by the Convention, and by Congreſs tranſmitted to the ſeveral Legiſlatures, has been ratified in the manner therein declared to be ſufficient for the eſtabliſhment of the ſame, and ſuch Ratifications duly authenticated have been received by Congreſs, and are filed in the Office of the Secretary---therefore,

RESOLVED, That the firſt Wedneſday in January next, be the day for appointing Electors in the ſeveral States, which before the ſaid day ſhall have ratified the ſaid Conſtitution; that the firſt Wedneſday in February next, be the day for the Electors to aſſemble in their reſpective States, and vote for a Preſident; and that the firſt Wedneſday in March next, be the time, and the preſent Seat of Congreſs the place for commencing Proceedings under the ſaid Conſtitution.