

Appendix V

Principal Bibliographic Sources for the *Handbook for Ironmongers:* *A Glossary of Ferrous Metallurgy Terms*

Many of the citations in the Glossary bibliography will be encountered scattered through the general bibliographies of the *Hand Tools in History* series. They are cited again here because they are quoted or referenced within the Glossary; they constitute the principal sources of information on ferrous metallurgy used by The Davistown Museum. Hopefully, readers of this glossary will find these citations as useful as we have, despite their obscurity or difficulty to procure through interlibrary loan services. The notation “IS.” at the end of a citation indicates it is “in stock” in our library.

Readers of this glossary please note: a second general bibliography on metallurgy follows the Glossary bibliography. Many important citations on metallurgy and the history of tools can be found in the bibliographies to Vol 6: *Steel- and Toolmaking Strategies and Techniques before 1870*; Vol 7: *Art of the Edge Tool: The Ferrous Metallurgy of New England Shipsmiths and Edge Toolmakers*; and Vol 8: *The Classic Period of American Toolmaking, 1827-1930*. Please note that volume 8 also includes numerous special topic bibliographies, including US and New England Toolmakers, Tools of the Trades, and Collectors’ Guides, Handbooks, and Dictionaries. The Tools of the Trades bibliography is further subdivided into 64 special topics. The entire collection of the Davistown Museum’s bibliographic citations is published in hard copy as Special Publication 48: *Davistown Museum: The Complete Bibliographies*, which is available online at <http://www.davistownmuseum.org/bibliography.html>.

Abell, Sir Wescott. 1948. *The Shipwright's Trade*. Cambridge: The University Press. IS.

Appleton. 1866. *Appleton’s dictionary of machines, mechanics, engine-work, and engineering*. vol 1. New York: D. Appleton and Company.

Aston, James, and Edward B. Story. 1939. *Wrought iron: Its manufacture, characteristics and applications*. Pittsburgh, PA: A. M. Byers Company. IS.

Audel, Theo. 1942. *Audels Mechanical Dictionary*. NY: Theo Audel and Company. IS.

- Bain, Edgar C. 1939. *Functions of the alloying elements in steel*. Cleveland, OH: American Society for Metals. IS. <http://www.msm.cam.ac.uk/phase-trans/2004/Bain.Alloying/ecbain.html>
- Baker, William A. 1973. *A maritime history of Bath, Maine and the Kennebec region*. 2 vols. Bath, ME: Maritime Research Society of Bath. IS.
- Barrett, Charles S. 1943. *Structure of metals: Crystallographic methods, principles and data*. New York: McGraw-Hill. IS.
- Barraclough, K.C. 1984a. *Steelmaking before Bessemer: Blister steel, the birth of an industry*. Volume 1. London: The Metals Society.
- Barraclough, K.C. 1984b. *Steelmaking before Bessemer: Crucible steel, the growth of technology*. Volume 2. London: The Metals Society.
- Barraclough, K.C. 1991. Steel in the Industrial Revolution. In *The Industrial Revolution in metals*, ed. J. Day and R.F. Tylecote. London: The Institute of Metals.
- Baumeister, Theodore, ed. 1958. *Mechanical engineers' handbook*. New York: McGraw-Hill Book Company.
- Bealer, Alex W. 1976. *The art of blacksmithing*. Edison, NJ: Castle Books.
- Bergman, Torbern. 1781. *Dissertatio chemica de analysi ferri*. Uppsala, Sweden.
- Bining, Arthur Cecil. 1933. *British regulation of the colonial iron industry*. Philadelphia: University of Pennsylvania Press. IS.
- Biringuccio, Vannoccio. [1540] 1990. *The pirotechnia of Vannoccio Biringuccio: The classic sixteenth-century treatise on metals and metallurgy*. Trans. and Ed. Cyril Stanley Smith and Martha Teach Gnudi. Mineola, NY: Dover. IS.
- Biswas, A. K. 1994. Iron and steel in pre-modern India- a critical review. *Indian Journal of History of Science*. 29: 579-610.
- Bronson, Bennet. 1986. The making and selling of Wootz, a crucible steel of India. *Archaeomaterials*. 1:13-51.
- Brack, H.G. 1982. *The phenomenology of tools*. West Jonesport, ME: Pennywheel Press. IS.

- Brack, H.G. 2005. *What needs to be retrieved: The marriage of tools, art and history*. Hulls Cove, ME: Pennywheel Press. IS.
- Brack, H.G. 2006. *Norumbega reconsidered: Mawooshen and the Wawenoc diaspora*. Hulls Cove, ME: Pennywheel Press. IS.
- Brack, H.G. 2008. *Art of the Edge Tool: The Ferrous Metallurgy of New England Shipsmiths and Edge Toolmakers*. vol. 8. Hand Tools in History Series. Hulls Cove, ME: Pennywheel Press. IS.
- Brain, Jeffery Phipps. 2007. *Fort St. George archaeological investigation of the 1607-08 Popham Colony*. Occasional Publications of the Maine Archaeological Society. Augusta, ME: Maine State Museum and Maine Historical Preservation Commission. IS.
- Brearley, H. 1933. *Steel makers*. London: Longmans Green.
- Breant, J.R. 1823. Description d'un procede al'aide duquel on obtient une espece d'acier fondu, sembable a celui des lames damassees Orientales. *Bull. Societe d'Encouragement pour l'Industrie Nationale*. 22: 222-227.
- Brewington, M. V. 1962. *Shipcarvers of North America*. Barre: Barre Publishing Company.
- Bronson, B. 1986. The making and selling of Wootz, a crucible steel of India. *Archaeomaterials*. 1: 13-51.
- Buchanan, F. 1807. *A journey from Madras through the countries of Mysore, Canara and Malabar*. 3 vols. London.
- Camp, J.M., and Francis, C.B. 1919. *The making, shaping, and treating of steel*. Pittsburgh, PA: U.S. Steel Corp.
- Cias, Witold W. n.d. *Phase transformation kinetics and hardenability of medium-carbon alloy steels*. Greenwich, CT: Climax Molybdenum Company. IS.
- Cleere, Henry, and David Crossley. 1985. *The iron industry of the Weald*. Avon: Leicester University Press. IS.
- Climax Molybdenum Co. 1967. *Symposium: A transformation and hardenability of steels: February 27-28th*. Sponsored by Climax Molybdenum Company of Michigan and the University of Michigan, Department of Chemical and Metallurgical Engineering, Ann Arbor, MI.

Craddock, P.T. 1995. *Early metal mining and production*. Edinburgh, Scotland: Edinburgh University Press.

Craddock, P.T., and M.J. Hughes, ed. 1985. *Furnaces and smelting technology in antiquity*. British Museum Occasional Paper 48. London. IS.

Dane, E. Surrey. 1973. *Peter Stubs and the Lancashire hand tool industry*. Altrincham: John Sherratt and Son Lt. IS.

Davenport, E. S., and E. C. Bain. 1930. *TRANS. AIME (The American Institute of Mining, Metallurgical and Petroleum Engineers)*. 117.

Day, Peter. 1995. Michael Faraday as materials scientist, history of materials. *Materials World*.

Egerton, W. 1896. *Indian and Oriental armour*. London.

Faraday, M. 1819. An analysis of wootz or Indian steel. *Quarterly Journal of Science, Literature, and the Arts*. 7: 319-30.

Fisher, Douglas A. 1949. *Steelmaking in America*. New York: US Steel Corp.

Fisher, Douglas Alan. 1963. *The epic of steel*. New York: Harper & Row. IS.

Fostini, R. V., and F. J. Schoen. 1967. Affects of carbon and austenitic grain size on the hardenability of molybdenum steels. Paper presented at the Symposium: A transformation and hardenability of steels, February 27-28th in Ann Arbor, MI. 195-210.

Gardner, J. Starkie. 1892. *Victoria & Albert Museum: Ironwork: Part I. From the earliest times to the end of the mediaeval period*. London: Printed under the authority of the Board of Education.

Ghose, B. N., J. Bhattacharya, N. K. Das, R. K. De, C. S. S. R. Krishnan, and O. N. Mohanty. 1997. *Superplasticity in iron-carbon alloys*. Paper presented for ICSAM-97. Bangalore, India: Indian Institute of Science.

Goodman, W.L. 1964. *The history of woodworking tools*. New York: David McKay Company. IS.

Gordon, Robert. 1996. *American iron, 1607 - 1900*. Baltimore: Johns Hopkins University Press. IS.

Gore, Albert. 2006. *An Inconvenient Truth*. Movie. Paramount Classics.

Greener, W.W. 1910. *The gun and its development*. New York: Bonanza Books. IS.

Grossman, M.A. 1935. *The principles of heat treatment*. Cleveland, OH: American Society for Metals.

Habraken, L. J., and M. Economopoulos. 1967. Bainitic microstructures in low-carbon alloy steels and their mechanical properties. Paper presented at the Symposium: A transformation and hardenability of steels, February 27-28th in Ann Arbor, MI. 69-108.

Hayman, Richard, and Wendy Horton. 2003. *Ironbridge: History & guide*. Stroud: Tempus Publishing Ltd.

Heavrin, Charles A. 1998. *The axe and man: The history of man's early technology as exemplified by his axe*. Mendham, NJ: The Astragal Press. IS.

Hunter, Louis C. 1979. *Waterpower in the century of the steam engine*. Vol. 1 of *A history of industrial power in the United States, 1780-1930*. Published for the Eleutherian Mills-Hagley Foundation. Charlottesville, VA: University Press of Virginia.

Hunter, Louis C. 1985. *Steam power*. Vol. 2 of *A history of industrial power in the United States, 1780-1930*. Published for the Eleutherian Mills-Hagley Foundation. Charlottesville, VA: University Press of Virginia.

Hunter, Louis C. 1991. *The transmission of power*. Vol. 3 of *A history of industrial power in the United States, 1780-1930*. Cambridge, MA: The MIT Press.

Illich, Ivan. 1973. *Tools for conviviality*. New York: Harper & Row. IS.

Kauffman, Henry J. 1972. *American Axes: A survey of their development and their makers*. Brattleboro, VT: The Stephen Greene Press. IS.

Kelly, Jack. 2004. *Gunpowder: Alchemy, bombards, and pyrotechnics: The history of the explosive that changed the world*. New York: Basic Books.

Kinsman K. R., and H. I. Aaronson. 1967. Influence of molybdenum and manganese on the kinetics of the proeutectoid ferrite reaction. Paper presented at the Symposium: A transformation and hardenability of steels, February 27-28th in Ann Arbor, MI. 39-56.

- Klenman, Allen. 1990. *Axe makers of North America*. Victoria, BC: Whistle Punk Books. IS.
- Knight, Edward H. 1877. *American mechanical dictionary*. Cambridge: Cambridge University Press. IS.
- Kolchin, B.A. 1953. *Chernoie Metallurgie v Drevnoi Rusi*. Moscow.
- Latham, Sid. 1973. *Knives and knifemakers*. New York: MacMillan.
- Lee, Leonard. 1995. *The complete guide to sharpening*. Newtown, CT: The Taunton Press.
- Levin, A.A., D.C. Meyer, M. Reibold, W. Kochmann, N. Patzke, and P. Paufler. 2005. Microstructure of a genuine Damascus sabre. *Cryst. Res. Technol.* 40: 905-16.
- Liu, K. H., H. Chan, M. R. Notis, and V. C. Pigott. 1984. Analytical electron microscopy of early steel from the Bacqah Valley, Jordan. In *Microbeam analysis*, eds. A. D. Romig Jr. and J. I. Goldstein, 261-3. San Francisco: San Francisco Press, Inc.
- Lowe, T. L. 1989. Solidification and the crucible processing of Deccani ancient steel. In *Principles of solidification and materials processing*, vol. 2, eds. R. Trivedi, J. A. Sekhar, and J. Mazumdar. New Delhi: Oxford and IBH Publishing.
- Lowe, T. L. 1990. Refractories in high-carbon iron processing: A preliminary study of Deccani Wootz-making crucibles. In *Ceramics and civilization*, ed. W. D. Kingery. Pittsburgh, PA: The American Ceramic Society.
- Lyle, Thomas G. 1984. *Harpoons and other whalecraft*. New Bedford, MA: The Old Dartmouth Historical Society Whaling Museum.
- Lynch, Kenneth. 2007. *The armourer and his tools: The Kenneth Lynch tool collection*. Davistown Museum Special Publication 45. Hulls Cove, ME: Pennywheel Press. IS.
- Maiklen, Lara, ed. 1998. *Ultimate visual dictionary of science*. New York: DK Publishing, Inc.
- Mehl, R. F. 1938. *Symposium on the hardenability of alloy steels*. Cleveland, OH: American Society for Metals.

Mehl, Robert F., and W. C. Hagel. 1956. *The austenite-pearlite reaction, progress in metal physics*. vol. 6. Oxford: Pergamon Press.

Mehl, Robert F., and Cyril Wells. 1937. *Constitution of high purity iron-carbon alloys*. Technical Publication No. 798. American Institute of Mining and Metallurgical Engineers.

Mercer, Henry C. [1929] 1975. *Ancient carpenters' tools*. Horizon Press for the Bucks County Historical Society. IS.

Moxon, Joseph. [1703] 1989. *Mechanick exercises or the doctrine of handiworks*. Morristown, NJ: The Astragal Press.

- The first issue of *The doctrine of handiworks* was published in London in 1677, and remains the definitive late Renaissance commentary on blacksmithing and the sources of steel available in the late 17th century.

Mushet, D. 1804. Experiments on wootz or Indian steel. *Philosophical Transactions of the Royal Society*. 95:175.

Needham, J. 1958. *The development of iron and steel technology in China*. 2 Vols. London: Newcomen Society.

- The definitive survey of steelmaking techniques in China before the modern era.

Nieh, T.G., J. Wadsworth, and O.D. Sherby. 2005. *Superplasticity in metals and ceramics*. Cambridge Solid State Science Series. Cambridge: Cambridge University Press.

Nizolek, T., A. Benschoter, and M. R. Notis. 2007. Metallography and microanalysis of pattern-welded composite steels. *Microsc. Microanal.* 13(Suppl 2).

NUCOR. 2007. *Certified test report*. Auburn, NY: NUCOR Steel Auburn, Inc.

Oberg, Erik, Franklin D. Jones, Holbrook L. Horton, and Henry H. Ryffel. 2000. in Christopher J. McCauley, Riccardo Heald, and Muhammed Iqbal Hussain, eds. *Machinery's handbook*. New York: Industrial Press Inc.

Oblak, J. M., and R.F. Hehemann. 1967. The structure and growth of Widmanstätten ferrite. Paper presented at the Symposium: A transformation and hardenability of steels, February 27-28th in Ann Arbor, MI. 15-38.

Oxford English Dictionary (OED). 1975. Oxford: Oxford University Press.

- Palmer, Frank R. 1937. *Tool steel simplified: A handbook of modern practice for the man who makes tools*. Reading, PA: The Carpenter Steel Company. IS.
- Partington, J. R. 1961. *A history of chemistry*. New York: St. Martin's Press.
- Paxton, H. W. 1967. The formation of austenite. Paper presented at the Symposium: A transformation and hardenability of steels, February 27-28th in Ann Arbor, MI. 3-14.
- Pense, Alan W. 2000. Iron through the ages. *Materials Characterization*. 45:353-63.
- Perttula, J. 2004. Wootz Damascus steel of ancient Orient. *Scandinavian Journal of Metallurgy*. 33:92-7.
- Petty, E.R. 1970. *Martensite*. New York: Longmans.
- Piaskowski, Jerzy. 1982. On the manufacture of high-nickel iron Chalibeian steel in antiquity. In *Early Pyrotechnology*, Theodore Wertime. Washington: Smithsonian Institution Press. IS.
- Pickering, F.B. 1967. The structures and properties of bainite in steels. Paper presented at the Symposium: A transformation and hardenability of steels, February 27-28th in Ann Arbor, MI. 109-132.
- Pleiner, Radomir. 1969. Experimental smelting of steel in early medieval furnaces. *Pamatky archaeologicke*. 458-487.
- Pleiner, Radomir. 1980. Early iron metallurgy in Europe. In *The Coming of the Age of Iron*, ed. Theodore A. Wertime and James D. Muhly. New Haven: Yale University Press.
- Pollack, Herman W. 1977. *Materials science and metallurgy*. Reston, VA: Reston Publishing Co., Inc. IS.
- Rao, K. N. P. 1989. Wootz-Indian crucible steel, feature article. No. 1. *Metal News*. 11: 1-6.
- Rao, K. N. P., J. K. Mukherjee, and A. K. Lahiri. 1970. Some observations on the structure of ancient steel from south India and its mode of production. *Bulletin of Historical Metallurgy*. 4: 12-4.
- de Réaumur, René Antoine Ferchault. 1722. *L'art de convertir le fer forgé en acier*. Paris, France.

- Renfrew, Colin. 1973. *Before civilization: The radiocarbon revolution and prehistoric Europe*. London: Cambridge University Press. IS.
- Russell, Carl P. 1967. *Firearms, traps and tools of the mountain men*. New York: Knopf.
- Salaman, R. A. 1975. *Dictionary of tools used in the woodworking trades, c. 1700-1975*. New York: Charles Scribner's Sons.
- Schmitt, Catherine, Mike Belliveau, Rick Donahue, and Amanda Sears. 2007. *Body of evidence – a study of pollution in Maine people*. Portland, ME: Alliance for a Clean and Healthy Maine. IS.
- Schubert, John Rudolph Theodore. 1957. *The history of the British iron and steel industry from c. 450 B.C. to A.D. 1775*. London: Routledge & Kegan Paul.
- Sellens, Alvin. 1990. *Dictionary of American hand tools: A pictorial synopsis*. Augusta, KS: Alvin Sellens.
- Sherby, Oleg D. 1995a. Damascus steel and superplasticity – Part I: Background, superplasticity, and genuine Damascus steels. *SAMPE Journal*. 31:10-7.
- Sherby, Oleg D. 1995b. Damascus steel and superplasticity – Part II: Welded Damascus steels. *SAMPE Journal*. 31.
- Shrager, M. 1961. *Elementary metallurgy and metallography*. New York: Dover. IS.
- Sinha, Anil Kumar. 2003. *Physical metallurgy handbook*. New York: McGraw-Hill.
- Sisco, Anneliese G. trans. 1956. *Réaumur's memoirs on steel and iron*. Chicago: University of Chicago Press.
- Smith, Cyril S. 1960. *A history of metallography: The development of ideas on the structure of metals before 1890*. Chicago: University of Chicago Press. IS.
- Smith, Cyril Stanley, ed. 1968. *Sources for the history of the science of steel 1532 - 1786*. Cambridge: The Society for the History of Technology and MIT Press. IS.
- Smith, Cyril Stanley. 1983. *A search for structure: Selected essays on science, art and history*. Cambridge: MIT Press.

Society of Automotive Engineers, Inc., and American Society for Testing and Materials. 1986. *Metals & alloys in the unified numbering system with a description of the system and a cross index of chemically similar specifications*. Warrendale, PA: Society of Automotive Engineers, Inc.

Spring, Laverne W. 1992. *Non-technical chats on iron and steel and their application to modern industry*. Bradley, IL: Lindsay Publications Inc. IS.

Srinivasan, S., and D. Griffiths. 1997. South Indian wootz: evidence for high-carbon steel from crucibles from a newly identified site and preliminary comparisons with related finds. *Material Issues in Art and Archaeology-V, Materials Research Society Symposium Proceedings Series*. Vol. 462. Pittsburgh.

Srinivasan, Sharada, and Srinivasa Ranganathan. n.d. *India's legendary 'Wootz' steel: An advanced material of the ancient world*. Bangalore, India: National Institute of Advanced Studies and Indian Institute of Science.

<http://materials.iisc.ernet.in/~wootz/heritage/WOOTZ.htm>

Stanley, Philip E. 1984. *Boxwood & ivory: Stanley traditional rules, 1855 - 1975*. Westborough, MA: The Stanley Publishing Co. IS.

Stanley Rule & Level Co. 1975. *1859 Price list of boxwood and ivory rules, levels, try squares, sliding T bevels, gauges, &c., manufactured by the Stanley Rule and Level Company, also including the price list of boxwood and ivory rules manufactured by A. Stanley & Co., New Britain, Conn. Jan. 1855*. Fitzwilliam, NH: Ken Roberts Publishing Co.

Stodart, J. 1818. A brief account of Wootz. *Asiatic Journal*. 5.

Stodart, J., and M. Faraday. 1822. On the alloys of steel. *Philosophical Transactions of the Royal Society of London*. 112: 253-70.

Stone, George Cameron. 1999. *A glossary of the construction, decoration, and use of arms and armor in all countries in all Times*. Mineola, NY: Dover Publications.

Tomas, Estanislau. 1999. The Catalan process for the direct production of malleable iron and its spread to Europe and the Americas. *Contributions to Science*. 1:225-32.

Tresemmer, David. 1996. *The scythe book: Mowing hay, cutting weeds, and harvesting small grains with hand tools*. Chambersburg, PA: Alan C. Hood & Co., Inc.

- Tweeddale, Geoffrey. 1987. *Sheffield steel and America: A century of commercial and technological interdependence, 1830-1930*. New York: Cambridge University Press. IS.
- Tylecote, Ronald F. 1987. *The early history of metallurgy in Europe*. London: Longmans Green. IS.
- Verhoeven, John D. 1987. Damascus steel, Part I: Indian Wootz steel. *Metallography*. 20: 145-51.
- Verhoeven, John D. 2001. The mystery of Damascus blades. *Scientific American Magazine*. 284: 74-80.
- Verhoeven, John D., H. H. Baker, D. T. Peterson, H. F. Clark, and W. M. Yater. 1990. Damascus steel, part III: The Wadsworth-Sherby mechanism. *Materials Characterization*. 24: 205-27.
- Verhoeven, John D., A. H. Pendray, and E. D. Gibson. Wootz Damascus steel blades. *Materials Characterization*. 37: 9-22.
- Wadsworth, J., and O. D. Sherby. 1978. Influence of chromium on superplasticity in ultra-high carbon steels. *Journal of Materials Science*. 13: 2645-49.
- Wadsworth, J., and O. D. Sherby. 1980. On the Bulat-Damascus steels revisited. *Progress in Materials Science*. 25: 35-67.
- Wayman, Michael L. 2000. *The ferrous metallurgy of early clocks and watches: Studies in post medieval steel*. Occasional Paper Number 136. London: British Museum. IS.
- Wertime, Theodore A. 1962. *The coming of the age of steel*. Chicago: University of Chicago Press. IS.
- Wertime, Theodore A. 1982. *Early Pyrotechnology*. Washington: Smithsonian Institution Press. IS.
- Wertime, Theodore A., and James D. Muhly, ed. 1980. *The coming of the age of iron*. New Haven: Yale University Press. IS.
- Weston, Thomas. 1906. *History of the town of Middleboro Massachusetts*. New York: Houghton, Mifflin and Company.
- Zaky, A. R. 1979. *Medieval Arab arms, Islamic arms and armour*. London.

