IRON ON THE SUSQUEHANNA: NEW CUMBERLAND FORGE

HAROLD C. LIVESAY
PATRICK G. PORTER*

IN THE early national period American manufacturing spread from the populous Atlantic seaboard inland toward and beyond the Appalachian Mountains. The rich raw materials of the interior of the continent were tapped to meet the needs of an expanding economy. Many small manufacturing establishments arose to process the raw materials and to market goods both in the back country and in the seacoast cities. One of the most important industries in the growth of the economy in the years before the coming of the railroad was the manufacture of iron, and Pennsylvania produced more of that vital material than any other state. This brief paper analyzes the operations of a typical early nineteenth century iron establishment, the New Cumberland Forge of New Cumberland, Pennsylvania.[1]

The ironmaster who ran the New Cumberland Forge was Jacob M. Haldeman. Haldeman was the grandson of Jacob Haldeman, who served as a member of the Committee of Public Safety in Lancaster County during the Revolutionary War, and the son of John Haldeman, a miller of Locust Grove near Bainbridge, Maryland.[2] Young Haldeman had been a businessman in Lancaster County before moving across the Susquehanna River in 1805 to New Cumberland at the mouth of Yellow Breeches Creek in Cumberland County, a few miles south of Harrisburg. There he purchased a forge and erected a rolling and slitting mill where he carried on the production of iron until around 1835.[3] Haldeman

*The authors are an Assistant Professor of History at the University of Michigan and an Assistant Professor at the Harvard University Graduate School of Business Administration.

[1] We wish to express our gratitude to the Eleutherian Mills Historical Library, Greenville, Delaware, for grants-in-aid which made possible the research for this study.

[2] Alexander Harris, *A Biographical History of Lancaster County* (Lancaster, Pa.: Elias Barr and Company, 1872), 256-258. Jacob Haldeman was born in 1781 and died in 1857.

[3] Horace Andrew Keefer, *Early Iron Industries of Dauphin County* (Harrisburg, 1927), 7. Keefer gives the dates of the operation of the

also engaged in the milling of flour and the selling of timber, wheat, and liquor.[4] A respected businessman in the community, he was appointed in 1809 a director in the first bank ever established in Harrisburg.[5] By the close of the 1830's he had retired from business and assumed the status of a "gentleman."[6]

Haldeman was in no sense a major industrialist. He operated on what seems in retrospect to have been a very small scale. He founded no industrial empire, and his firm ceased operations when he retired. It is, nevertheless, easy to overlook the importance of the contribution of Jacob Haldeman and his fellow manufacturing entrepreneurs to the economic well-being of the young republic. They played a significant role in the nascent economy, by developing a domestic supply of simple manufactured goods which gradually freed American consumers from their long-standing dependence on imported manufactured goods (principally British). The increasing ability of Haldeman and his fellows to supply American manufacturing needs and thus to reduce the need for importation of foreign goods also contributed considerably to improving the American balance of payments position.

Men like Haldeman also contributed to the economic growth of the United States in ways which are difficult to measure in purely economic terms. In order for a nation to succeed in the process of industrialization, it requires, in addition to natural resources, intangible human resources. These include not only a pool of necessary mechanical and fiduciary skills, but a tradition of successful entrepreneurship, and an awareness of the long-run value of reinvestment of accumulated profits.[7] These intangibles can be seen in many early American families, and one of the more noteworthy features of these qualities is the fact that their continuity is not dependent upon the longevity of any individual

Haldeman enterprises as "about 1806" to "about 1828." The Jacob M. Haldeman Papers in the Eleutherian Mills Historical Library show sales of iron from 1805 throughout the 1820's. This study is based primarily on this manuscript collection, hereafter cited as Haldeman Papers.

[4] Incoming correspondence, Haldeman Papers.

[5] George H. Morgan, *Annals, Comprising Memoirs, Incidents and Statistics of Harrisburg* (Harrisburg, 1858), 126-127. The bank was an office of discount and deposit established by the Philadelphia Bank.

[6] He is so listed in *J. A. Spofford's Harrisburg Directory for 1843* (Harrisburg, 1843), 18.

[7] These requirements for growth are discussed in Walt Whitman Rostow, *The Stages of Economic Growth* (Cambridge, 1960), 17-35, 50-52.

enterprise. When Jacob Haldeman retired, his iron business was abandoned, but his sons and nephews later established the Chickies Furnace near Columbia, Pennsylvania, and contributed to the increasing American technology of iron manufacture.[8]

Haldeman formed a vital link in his region's flow of commerce in the period. His firm received and processed the pig iron and wheat which arrived from scattered points in the region, and forwarded them to local and distant markets. Haldeman's ability to supply credit to local farmers and blacksmiths fulfilled a critical need by permitting exploitation of the natural resources and the accumulation of social overhead capital.

At the same time the New Cumberland Forge manufactured a variety of iron goods. Hoops, sledge runners, plough iron, horseshoe iron, nail and spike iron, blooms, and scalloped iron were made at the Haldeman works during the quarter century of its operation. In addition, large quantities of bar iron were forged and sold in the several markets served by the Haldeman business.[9]

The Haldeman mill was, by contemporary standards, a large establishment when it was first constructed. Production figures in the Haldeman accounts show that the mill had an annual capacity of approximately 650 tons, though the actual production was usually less.[10] The largest forges of the late eighteenth century in Pennsylvania manufactured only about 350 tons a year, and the average annual production of Pennsylvania forges in 1810 was only 140 tons. Other manufacturers built larger mills in the twenties and thirties, and by the mid-thirties the Haldeman mill was only slightly larger than the average Pennsylvania iron establishment.[11] In its heyday, however, the Haldeman establishment

[8] J. P. Lesley, *The Iron Manufacturer's Guide* (New York, 1859), 14-15; John B. Pearse, *A Concise History of the Iron Manufacture of the American Colonies up to the Revolution, and of Pennsylvania until the Present Time* (Philadelphia, 1876), 221-225.

[9] Incoming correspondence 1805-1829, individual accounts 1821-1829, Haldeman Papers.

[10] Although the series is incomplete, the production never exceeded 650 tons per year in the recorded years. Iron Production Accounts, Haldeman Papers.

[11] Arthur Cecil Bining, *Pennsylvania Iron Manufacture in the Eighteenth Century* (Harrisburg, 1938), 85; Tench Coxe, *A Statement of the Arts and Manufactures of the United States of America for the Year 1810* (Philadelphia, 1814), 50; U. S. Bureau of the Census, *Census of 1840*, 358. These data give only a rough comparison and should not be considered precise.

was a large producer of iron goods for local as well as for distant markets.

The New Cumberland Forge, like all early nineteenth century iron businesses, sold most of its products to local purchasers such as the blacksmiths and farmers of the expanding Susquehanna Valley region. Although Jacob Haldeman himelf ran no iron store, he sold iron in Harrisburg through a store operated by John Brooks.[12] Jacob's brother Christian Haldeman operated a store down the river from Harrisburg in Columbia, and Jacob's forge made many items for sale there.[13] In addition, sales were made to merchants, blacksmiths, and farmers in the towns surrounding Harrisburg. Customers in Hanover, York, Carlisle, Gettysburg, Elizabethtown, and Marietta drew on the New Cumberland iron works for their needs.[14] The difficulties and expenses of transportation made Haldeman's iron less costly to nearby buyers than the goods of more distant producers. Because there were as yet almost no economies of scale obtainable in iron manufacture, production costs differed little from firm to firm and the cost of transportation played a very important role in determining the final cost of goods. Local manufacturers like Haldeman, therefore, were the prime suppliers of iron in the interior of the nation.

Transportation also played the keyrole in determining the economic region to which a particular community belonged. The seaboard cities were distribution centers for the goods produced in the interior for which there was insufficient local demand. In the case of Jacob Haldeman and Harrisburg, their primary economic tie throughout the period under consideration was to Baltimore. Haldeman shipped his surplus iron to Baltimore because it was the large city market which enjoyed the least expensive transportation route.[15] Most businessmen of the Susquehanna Valley

[12] Orders for iron from Brooks to Haldeman, Haldeman Papers.

[13] See, for example, Christian Haldeman to Jacob Haldeman, February 23, 1829, Haldeman Papers.

[14] Incoming correspondence, Haldeman Papers. See especially Henry Young to Haldeman, July 29, 1805; Conrad Leatherman to Haldeman, April 2, 1805; William Alexander to Haldeman, January 6, 1807; John Procter to Haldeman, February 7, 1820; Samuel Hutcheson to Haldeman, July 14, 1823; A. Campbell to Haldeman, May 7, 1827; and D. and H. Howry to Haldeman, June 14, 1827, Haldeman Papers.

[15] Iron was shipped down the Susquehanna in crude boats known as arks. The arks were broken up and sold as lumber in Port Deposit, and the iron was transferred to sailing vessels for transport over the Chesapeake Bay.

carried on a steady trade with the merchants of Baltimore and (in Haldeman's case) did very little business with Philadelphia firms before 1830. The cost of shipping goods down the Susquehanna to Port Deposit, Maryland, and thence on the Chesapeake Bay to Baltimore was less than the cost of the longer water route to Philadelphia.[16] Overland transportation for any considerable distance was prohibitively expensive, and Philadelphia did not establish cheap water routes to the interior of central Pennsylvania until the close of the 1820's. The Chesapeake and Delaware Canal, which connected the upper Chesapeake Bay to the Delaware Bay, was not opened until the fall of 1829.[17] The project to complete the canal linkage of the Susquehanna to the Schuylkill to the Delaware was not completed until the late twenties.[18] As a result, Baltimore merchants handled most of the surplus goods produced in the interior of Pennsylvania.

Haldeman's iron products (and flour) went to Baltimore on consignment to a number of commission merchants. Hugh Boyle and Company, Ballard and Hall, Wilmer and Palmer, J. E. and E. Palmer, David Kizer and Company, Evan T. Ellicott, and Lambert Gittings all acted as agents for the sale of New Cumberland Forge iron.[19] These firms took the iron when it arrived on the wharf at Baltimore and sold it off the boat if possible. If no buyer could be found immediately at a desirable price, the commission merchants stored the goods in their establishments until one could be located.[20] Once the goods reached the commission firms, the commission merchants authorized the manufacturer to draw upon them in the amount of the anticipated proceeds from

[16] George Rogers Taylor, *The Transportation Revolution 1815-1860* (New York, 1951), 8. See also James Weston Livingood, *The Philadelphia-Baltimore Trade Rivalry, 1780-1860* (Harrisburg, 1947).

[17] Ralph D. Gray, *The National Waterway: A History of the Chesapeake and Delaware Canal, 1769-1965* (Urbana, 1967), chapters 4 and 5.

[18] Leighton P. Stradley, *Early Financial and Economic History of Pennsylvania* (New York, 1942), 63-64.

[19] See, for example, Hugh Boyle to Haldeman, June 28, 1817, and July 15, 1817; Ballard and Hall to Haldeman, June 5, 1818, February 22, 1819, April 21, 1819, and May 3, 1819; David Kizer to Haldeman, April 22, 1820; J. W. and E. Patterson to Haldeman, January 2, 1824; Evan T. Ellicott to Haldeman, December 31, 1823; Lambert Gittings to Haldeman, February 14, 1829, and April 22, 1829, Haldeman Papers. Most of these were general commission merchants, though Joseph W. and Edward Patterson was a firm specializing in the handling of iron. *Matchett's Baltimore Directory for 1827* (Baltimore, 1827).

[20] Ballard and Hall to Haldeman, April 23, 1819, Haldeman Papers.

the sale of the goods. "You are at liberty to value on us payable in 90 days for two thousand dollars," wrote one of Haldeman's Baltimore agents after receipt of a shipment of iron, "and your draft will meet due honor." The commission firm declared itself "always willing to make advances to any desired extent on goods in hand . . . if you continue your consignments of iron."[21] This ability and willingness of the commission merchants to extend their credit to manufacturers in this way provided an invaluable source of working capital, without which many manufacturers could not continue production. It also permitted the manufacturers to extend credit to their local customers.[22]

In addition to the extensive credit for working capital, the commission merchants of the seaboard cities provided a wide range of services to Haldeman and his fellow manufacturers. They handled all matters relating to the sale of the iron, including arrangements for weighing, for drayage, for storage facilities for goods not immediately marketable, and even for advertising to spur demand for Haldeman's iron.[23] They kept their customers in the interior informed as to the nature of the seaboard markets for iron, telling them current prices, which kinds of iron were in demand and which were not. The commission merchants also used their extensive business connections to secure contracts for their customers' iron from large consumers in nearby cities.[24] They collected bills for customers, paid bills, and arranged for the discount of notes.[25] In addition, the Baltimore merchants made pur-

[21] Ballard and Hall to Haldeman, May 8, 1819, and February 24, 1820. See also Andrew Hall to Haldeman, December 31, 1819, and David Kizer to Haldeman, March 24, 1820, Haldeman Papers.

[22] This invaluable service of the commission merchants, needless to say, did not proceed from altruism. The drafts were always secured by the goods in hand, and the merchants charged interest (usually six percent) on the loans.

[23] Ballard and Hall to Haldeman, April 23, 1819, and October 5, 1819; Wilmer and Palmer to Haldeman, April 28, 1825, and May 19, 1825; Lambert Gittings to Haldeman, May 1, 1829, and October 10, 1830, Haldeman Papers.

[24] Ballard and Hall to Haldeman, May 3, 1819; Thomas Janvier to Haldeman, August 1, 1827; Lambert Gittings to Haldeman, February 14, 1829; Christian Haldeman to Jacob Haldeman, February 23, 1829, Haldeman Papers.

[25] Good examples are in Lambert Gittings to Haldeman, May 1, 1829, and September 12, 1829, Haldeman Papers.

chases of any supplies, produce, millstones, or other goods needed by Haldeman and forwarded them to New Cumberland.[26]

Haldeman was the object of eager solicitation for business by the vigorous commission houses of Baltimore. Competition for the business of firms in the Susquehanna Valley was lively; Haldeman often received letters and circulars from firms desiring to sell his goods and keep him informed of the market.[27] Whenever an agent died his competitors lost no time in soliciting the account of his customers. "My object in visiting the towns of the Susquehanna is in part in pursuit of commission business," Edward Palmer wrote Jacob Haldeman in 1819, "supposing that since the death of our lamented friend Mr. Ballard that you have no agent in Baltimore."[28] In the latter part of the twenties Haldeman made some sales through Philadelphia merchants and he was courted by the commission agents of both cities, especially after the opening of the Chesapeake and Delaware Canal.[29]

Although the seaboard commission firms performed a wide range of services for Jacob Haldeman, they never supplied him with his most important raw material, pig iron. This he obtained in the towns near Harrisburg from the local furnaces which could supply the pigs more cheaply than could the wholesalers of more distant cities. Ironmasters such as Michael Ege of Carlisle, Thomas R. Coleman of Lebanon, and Henry Grubb of the Mount Vernon and the Mount Hope furnaces in Lancaster County supplied the pig iron needs of the New Cumberland Forge.[30] Furnaces and

[26] James Keys to Haldeman, July 29, 1805; Isaac McPherson to Haldeman, September 22, 1825, and April 1, 1826; David Kizer to Haldeman, April 14, 1826; Joseph M. Patterson to Haldeman, April 15, 1826, Haldeman Papers.

[27] Thomas Janvier to Haldeman, August 1, 1827, Haldeman Papers.

[28] Palmer to Haldeman, October 20, 1819. See also George Winchester to Haldeman, October 14, 1819, and the circular from the late Ballard's partner, Andrew Hall, to Haldeman, December 31, 1819. A similar situation occurred upon the death of a partner in the Philadelphia commission firm of Haven and Smith, which sold flour and iron for Haldeman in the latter years of the twenties. William F. Smith to Haldeman, November 17, 1829, Haldeman Papers.

[29] See the correspondence in 1829 between Haldeman and Lambert Gittings of Baltimore, Hollingshead Platt of Philadelphia, and Haven and Smith of Philadelphia, especially William F. Smith to Haldeman, November 17, 1829, Haldeman Papers. Philadelphia firms serving Haldeman are identifiable in *Desilver's Philadelphia Directory and Stranger's Guide* (Philadelphia, 1829).

[30] Henry Grubb to Haldeman, June 2, 1806; Thomas R. Coleman to Haldeman, May 3, 1819; Michael Ege to Haldeman, many letters throughout the twenties; and pig iron invoices, Haldeman Papers.

forges of the Juniata region also shipped pig iron to Haldeman in the twenties.[31] The New Cumberland Forge thus provided a market for goods produced by the expanding economy of central Pennsylvania.

The Haldeman mill ceased production around 1835. It had become increasingly difficult for the New Cumberland forge to compete successfully with the larger, more modern iron establishments built in the years after Haldeman first began production in the early years of the century. The Haldeman production records indicate a much reduced demand for his goods in the 1830's, and by 1835 production had fallen to below 150 tons a year.[32]

Although Jacob Haldeman then ceased the production of iron goods and retired shortly thereafter, the contributions he and others like him made to the economic growth and health of the new nation paid dividends for many years. Establishments such as the New Cumberland Forge helped make the United States less dependent upon European goods and markets, helped provide working capital for other producers, helped in the accumulation of vital social overhead capital. The Haldeman family continued the spirit of enterprise and the almost boundless faith in the future of the nation. Haldeman shared with many businessmen of his day a great optimism about the future economic expansion of the United States, typified by the fact that he chose to invest his spare savings in United States government securities.[33] The early national period of our history has left no enduring names denoting industrial enterprise, no Vanderbilts, no Carnegies, no Rockefellers. The early businessmen such as Jacob Haldeman, however, made a no less valuable contribution to American economic growth, and their own age of enterprise.

[31] See, for example, Peter Shoenberger to Haldeman, February 7, 1824, Haldeman Papers. Haldeman sold his goods on credit and also bought his pig iron on credit, usually ninety days.

[32] 1835 is the last year mentioned in the Iron Production Accounts, Haldeman Papers.

[33] Haldeman to Daniel Smith, March 3, 1824, and March 13, 1824, Haldeman Papers.