

Whipple Powder Mill

Oliver M. Whipple

Of the many water-powered industrial developments along the Concord River in the early 19th century, the gunpowder works of Oliver M. Whipple was one of the most extensive. Born in Wethersfield, Vermont, in 1794, Whipple left his hometown at the age of 21 and reportedly walked to Boston with a bundle clothes and \$15 in cash. He stayed only a short while before moving to Southwick, Massachusetts, where he learned the art of making gunpowder. Whipple then relocated to East Chelmsford and joined a gunpowder manufacturing enterprise established by Moses Hale in 1818, on River Meadow Brook, about 200 feet below Gorham Street. Whipple worked first as a manger and, soon after, became a partner. His marriage in 1821 to Sophronia Hale, a daughter of Moses, secured Whipple's ties to the family's business interests.



Caption: The original powder mill was located on River Meadow Brook (later called Hale's Brook) as seen in the center, left, of this 1825 map of East Chelmsford. The Whipple Powder Works on the Concord River is visible at the bottom, center, of this map.

Origins of the Company

The gunpowder works partnership included William Tileston, a wealthy Boston merchant engaged in overseas trade of such products as indigo.¹ Tileston appears to have been the major investor in the East Chelmsford venture and played an important role in marketing the powder manufactured there. Casks of powder produced at the works were shipped to Boston by wagon or by barge on the Middlesex Canal. Another partner in the powder business, David Hale, possibly a distant relation to Moses, was also a Boston merchant

¹ It is not known how Tileston, born in Dorchester, Massachusetts, in 1779, became acquainted with Moses Hale, though they may have done business together in the textile trade, prior to the founding of the powder works.

though he had little capital and was 28 years old when he began serving as company agent in 1819.² When Moses Hale withdrew from the business in 1821, Oliver Whipple, David Hale, and William Tileston led the enterprise with Whipple being the resident manager.



The Whipple Powder Mill consisted of a series of stone buildings along the Concord River near the confluence with Hale's Brook. This photograph from 1898 shows the only surviving structures from the Whipple era and these were subsequently demolished. (Photograph courtesy of the Museum of American Textile History.)

The Powder Works on the Concord River

It was Whipple, backed by Tileston and David Hale, who constructed a much larger powder works on the Concord River in 1821, using the waterpower of the Concord River at Wamesit Falls. Whipple built a canal about 1,000 feet long, extending from the falls to the confluence of River Meadow Brook and the Concord River, and used the fall of 25 feet to power the works.³ When completed in 1822, the powder works contained a water-powered grinding mill, using cylindrical iron rolls, six feet in diameter, instead of pestles, to grind the powder. The new works employed 10 men who produced 300,000 pounds of blasting and gunpowder each year, which was loaded into 25 pound casks and sold under the name "Boston Gunpowder."⁴

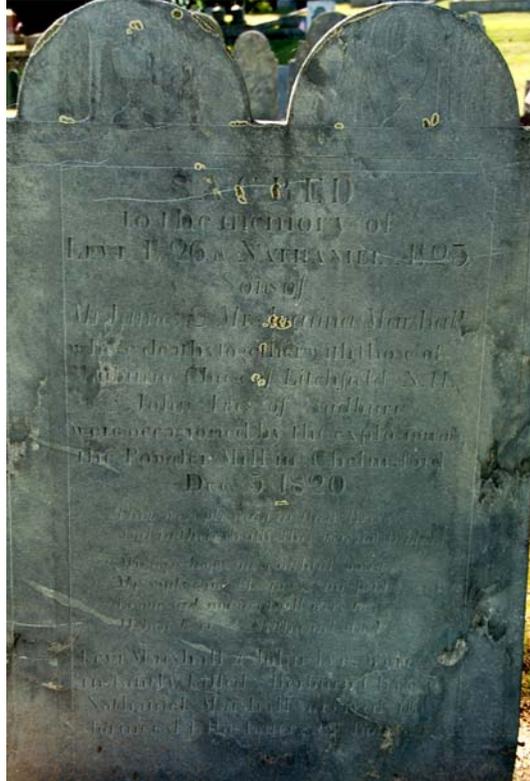
² Originally from Coventry, Connecticut, and educated in a local academy, David Hale first attempted a career as merchant in Boston in 1809 at the age of 18. After struggling financially for three years he moved back to Coventry where he briefly taught school, and then served a short stint in a Connecticut militia during the war with British before returning to Boston in 1815. He attained some wealth as a partner in a dry goods and importing business, but fell into debt around 1818. The following year he accepted the agency of the powder works in East Chelmsford. After nearly a decade in this business, he departed for New York City, becoming the editor of the *Journal of Commerce*. Hale became a leading figure at the Broadway Tabernacle, a Free Church, though with strong Congregationalist leanings, and an important religious institution in antebellum New York. Despite eliciting much controversy he was a driving abolitionist force in the church and joined with the Tappans in New York's anti-slavery campaigns. Hale wrote about his life, including his years as a Boston merchant and agent for the gunpowder company, in Joseph P. Thompson, *Memoir of David Hale, Late Editor of the Journal of Commerce, with Selections from His Miscellaneous Writings*, (New York: John Wiley, 1850).

³ Peter M. Molloy, *The Lower Merrimack Valley: An Inventory of Historic Engineering and Industrial Sites*, (Washington, DC: National Park Service, 1976), p. 69.

⁴ A newspaper article describing the new works of Whipple, Tileston, and Hale appeared in the *Salem Gazette*, August 13, 1824, and included commentary that this powder mill was located "in a delightful and

Perilous Working Conditions

From its earliest years, the powder works of Moses Hale and Whipple, Tileston & Hale, were extremely dangerous work places.⁵ In the early morning of December, 1820, a massive explosion at the River Meadow Brook works destroyed a number of structures and killed four workers, including two young brothers. The blast was heard some 30 miles away. Quickly rebuilt, this powder works caught fire and exploded just six months later, killing three more workers. Incredibly, six months later a fire in the drying house oven sparked another explosion, killing one Thomas Sullivan, blowing open doors of barns and dwellings in the vicinity of the works, and shattering numerous windows.⁶



This tombstone marks the graves of the Marshall brothers who were killed in the horrific explosion of the powder works on Hale's Brook in 1820. It reads:

SACRED
to the memory of
LEVI AE 26 & NATHANIEL AE 23,
Sons of
Mr. James & Mrs. Joanna Marshall,

romantic spot upon the banks of the Concord River.”; J. Leander Bishop, *A History of American Manufacturers, from 1608 to 1860*, v. 2, (Philadelphia: Edward Young & Co., 1868), p. 517.

⁵ In 1824 Moses Hale re-entered the gunpowder business and operated the powder works on River Meadow Brook. Named Moses Hale & Company, the firm contracted with Kendrick, Gray & Co. of Boston to serve as its selling agent. An announcement of Hale's new enterprise appeared in the *Columbian Centinel*, January 7, 1824. By 1827, Moses Hale employed seven men and produced 225,000 pounds of powder each year. See “Manufactures of Middlesex,” *Essex [Salem, Massachusetts] Register*, May 31, 1827.

⁶ Wilson Waters, *History of Chelmsford, Massachusetts*, (Lowell, MA: Courier-Citizen, 1917), pp. 817-818.

whose deaths, together with those of
Sherburne Chase of Litchfield, N.H.
and John Ives of Sudbury
were occasioned by the explosion of
the Powder Mill in Chelmsford,
Dec. 5, 1820.

*They were pleasant in their lives,
And in their deaths they were not divided.*

*My age's hope my youthful boast
My soul's chief blessing and my pride,
In one sad moment all were lost
When Levi and Nathaniel died.*

Levi Marshall and John Ives were
instantly killed, Sherburne Chase &
Nathaniel Marshall survived, the
former 44, the latter 24 hours.

Photo and transcription from the inscribing on the tombstone courtesy of Caitlin Hopkins.

Despite this loss of life and property Whipple and his associates reaped steady profits from the sale of their gunpowder. After David Hale ceased being a partner in 1826 and Tileston withdrew three years later, Whipple became the sole proprietor.⁷ Over the course of the 1830s he brought two brothers into the business. In 1833 he purchased a gunpowder works on the Presumpscot River in Gorham, Maine, and placed one brother, Lucius Whipple, in charge of this plant.⁸ About five years later, Oliver Whipple acquired a waterpower site in Exeter, New Hampshire, on the Exeter River at King's Falls, and established another gunpowder factory.⁹ Whipple also leased a warehouse in Salem, Massachusetts, for exporting the powder produced on the Concord River. Casks were transported by covered wagons, pulled by four to six horses, and delivered to the Salem "Powder House." Large amounts of Whipple's exported gunpowder were shipped to Africa¹⁰ as this commerce played a role in the late stages of the African slave trade with the Americas.

Disastrous explosions continued to wreak havoc at all three of Whipple's powder mills, with one in Maine claiming seven lives, including James Whipple, a brother of Oliver, and Oliver G. Whipple, Oliver's son.¹¹ Yet another blast occurred in Lowell in early 1843 when Marhsall Kinsman and George Shedd, about to begin repairs in the "Press House" at eleven o'clock in the evening, accidentally ignited gunpowder dust with Kinsman's lantern. The building splintered apart as it caught fire, showering the works

⁷ David Hale remained as selling agent for Whipple and Tileston after the partnership was dissolved in 1826. A notice of this new arrangement was published in a number of newspapers. For example, see "Dissolution of Co-partnership," *Boston Commercial Gazette*, July 17, 1826.

⁸ Hugh D. McLellan, *History of Gorham, ME*, (Portland, ME: Smith & Sale, 1903), p. 274.

⁹ Charles H. Bell, *History of the Town of Exeter, New Hampshire*, (Boston: J.E. Farwell & Co., 1888), p. 330.

¹⁰ William L. Welch, "Salem Neck and Winter Island," *Essex Institute Historical Collections*, v. 33, (Salem, MA: Salem Press, 1898), p. 98.

¹¹ McLellan, *History of Gorham, ME*, p. 274. This horrific explosion occurred in 1855, the year Whipple discontinued his involvement in the manufacture of gunpowder, and may have contributed to his withdrawing from this enterprise.

with incendiary debris. Both men were hurled through the air and Shedd's clothes were aflame. Remarkably neither man was killed and Shedd extinguished his burning clothing by rolling in the snow. About one-half hour later a second explosion rocked another mill building, in which gunpowder had recently been mixed, ignited by a burning piece of wood from the obliterated Press House. Although no one was killed from the second blast, a number of Whipple's powder works buildings were severely damaged and he sustained a loss of \$3,000. The nearest resident John G. Locke, whose Wamesit Cottage stood about 1,000 feet from the powder works, had all of the windows of his house shattered.¹²

¹² "Tremendous Explosion," *Lowell Advertiser*, February 25, 1847.



The engraving of the Oliver Whipple house (left) dates from 1850. Whipple was one of Lowell's wealthiest residents. The house remains standing as seen in this current photograph.

Whipple's Developments

The losses Whipple sustained over the years at the powder works were greatly offset by the profits he amassed not only from his gunpowder business, but also from the considerable real estate he owned in Lowell along the Concord River and west beyond Lawrence Street. Near the Lowell Bleachery, on River Meadow Brook, he constructed a group of factory buildings and leased space to a number of small manufacturing concerns. In 1851 this included James Patterson's carpet mill, Aaron Cowley's woolen mill, two smaller carpet mills operated by James Siner and Roger Lang, Henry Crowther's dying and finishing works, and Smith & Meadowcroft's blacksmith shop.¹³ Additionally, Whipple constructed a number of tenements and cottages that he rented to his workers, as well as other Lowell residents.

For many years Whipple was the largest individual taxpayer in the city, with his annual tax bill typically amounting to about \$1,500, more than ten times the typical annual wage paid to a Lowell textile worker.¹⁴ Active in local politics Whipple helped draw up the original city charter and won election as an alderman when Lowell was first incorporated as a city in 1836. He later served four terms as a state representative from Lowell and was among the few Democrats elected from the city that the Whig party dominated for nearly a generation. Whipple lived in a sizeable, though unostentatious wood-frame dwelling, that he built on Whipple and Moore streets in the 1830s. He married three times (Sophronia Hale, 1821-1836; Julia Ann Wentworth, 1837-1843; Sarah Kinsman, 1844-1872) and had ten children.¹⁵ Whipple was also a founder of the Lowell Cemetery, located across from his works on the Concord River. He and his family members, as well as several of those killed at his mill, are buried there.

After the Powder Works Closed

Suffering from ill health in 1855, Whipple discontinued the manufacture of gunpowder in Lowell and shipped some of the machinery to the powder works in Gorham, Maine. He

¹³ Lowell city directory for 1851. The buildings associated with Whipple's mills are seen on the Lowell city atlas, 1850, prepared by Sidney & Neff, and published by S. Moody.

¹⁴ James W. Meader, *The Merrimack River: Its Source and Its Tributaries*, (Boston: B.B. Russell, 1869), p. 266.

¹⁵ *Memorial Biographies of the New England Historic and Genealogical Society*, v. 7, (Boston: Stanhope Press, 1907), pp. 22-23.

hired as his agent Ephraim B. Patch, a prominent Lowell auctioneer and real estate speculator, who managed Whipple's extensive industrial and residential properties. Patch played an important role in expanding manufacturing at Whipple's mills.

By 1862 Patch had acquired property on both sides of the Concord River, thus securing for Whipple the exclusive rights to all of the water power at the Wamesit Falls. Patch then oversaw the expansion of the Whipple Canal by some 500 feet, along with the deepening (about six to eight feet) and widening (to 20 feet) of the entire waterway.¹⁶ These major improvements led to the construction of several new factory buildings during the Civil War, including the woolen mills of Chase & Hosford, Luther W. Faulkner, and Charles A. Stott.¹⁷ In 1865 Patch sold the entire Whipple property to the newly formed Wamesit Power Company, led by Benjamin F. Butler. Over the next several decades the Wamesit company would enlarge the mill district that Oliver Whipple, who died in 1872, had founded during the early years of Lowell's development.

¹⁶ Molloy, *The Lower Merrimack Valley*, p. 69.

¹⁷ "Enlargement of the Chase Mill," *Lowell Weekly Journal*, March 4, 1864; "Improvements at Whipple's Mills," *Lowell Weekly Journal*, March 11, 1864; "At Whipple's Mills," *Lowell Daily Courier*, September 7, 1864; Lowell city directories, 1880 and 1886.