

The U.S. Armory at Harpers Ferry

Historic Resource Study



Harpers Ferry National Historical Park
Archeology Program

Prepared by Andrew S. Lee

2006

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Preface

The U.S. Armory at Harpers Ferry has long been recognized as an historic site of the utmost national significance. Perhaps the armory's most direct claim to fame is as the setting for a seminal event in American history – John Brown's raid. It was primarily the lure of weapons stored at the armory and arsenal that led the militant abolitionist and his band of raiders to strike a blow against slavery in October of 1859. After seizing the weapons Brown intended to establish a republic of liberated slaves in the foothills of Appalachia. Many argue that the reaction to John Brown's raid set the already polarized nation on an unavoidable collision course to Civil War.

The history of the U.S. Armory at Harpers Ferry, however, is much more than the story of John Brown. It also has a nationally significant industrial history. New ideas about the interchangeability of manufactured parts were tried and tested in the armory's busy workshops. The successful introduction of large scale manufacturing transformed Harpers Ferry from a quiet, rural village to one of the leading industrial centers of its day. In turn, the spread and adoption of these ideas and methods eventually led to the rise of the United States as a major industrial power.

As a result of these multiple layers of historical significance, there has been much written about the armory. Fortunately, during the late 1950s and late 1970s, Charles Snell and a team of other NPS historians gathered thousands and thousands of primary source documents – mostly from the National Archives – relating to the site's history. They compiled the information and produced reports on several different aspects of the site including building chronologies, the armory dam and canal, and the disposal of government property. Thanks to these dedicated historians, the details of the armory's history are more readily available. This report attempts to bring together some of that available information and place it into a more reader-friendly, narrative form. It attempts to summarize the broad themes that encompass the armory's history while leaving out the minutiae that can overwhelm a reader seeking a general introduction to the material.

Part One of this report covers the early history of the armory, from its inception in the late 18th century up through the War of 1812. Attention is given to the roles of such historical figures as George Washington and Meriwether Lewis. Part Two is a discussion of the industrial transformation of the armory. Some of the factors that led to a shift from a craft-based manufacturing system to a full-fledged industrial system are considered, as are some of the administrative reforms introduced in the 1840s. Part Two concludes with an examination of the devastating effects of John Brown's raid and the Civil War on the armory. Part Three focuses on the destruction and abandonment of the armory property in the post-Civil War period. Topics covered include the re-use of armory materials and the site's 20th-century railroad history. The report concludes with a section on the acquisition of the armory grounds by the National Park Service. The acquisition of this historically significant site will better enable the NPS to fulfill its mission of preserving and interpreting our nation's cultural heritage.

CHAPTER 1



George Washington and the Founding of the Harpers Ferry Armory

The establishment of the Harpers Ferry Armory paralleled the political climate that arose as America emerged onto an international stage in the late 18th century. Though there was disagreement on the means, most of the Founding Fathers viewed military self-sufficiency as a desirable goal. Their experiences during the American Revolution led the fledgling nation towards a national policy of domestic weapons production. During the Revolution the colonists found themselves poorly armed and seriously ill-equipped. The stores of arms found in the colonies were insufficient to arm the militias. Many of the weapons were obsolete, damaged, or otherwise unfit for use. In the war against England, the colonial militias were cut off from their chief source of weapons. There was some domestic production in the colonies, primarily by the gunsmiths of New England, Pennsylvania, and Virginia, but the output was slow and irregular. Domestic production simply could not meet the need that England had once supplied. Many American leaders realized that to be truly independent, the new nation must eliminate its dependence on European arms.

Yet even after the American Revolution and the successful establishment of a sovereign government, the people of the United States remained suspicious and even apathetic towards the establishment and maintenance of a strong, national military. Not only was a large segment of the population reluctant to pay taxes to support a large military, the nation's geographic isolation from the powers of Europe made it appear that a large military force was unnecessary. Others viewed a strong military as a threat to their new, hard-won form of republican government. Debate raged during the Constitutional Convention over whether a standing military was a necessity, let alone a priority and wise national policy. The consequences of these conflicting attitudes were apparent in the reluctance of the U.S. Congress to provide sufficient appropriations for the military and the rapid decline in the strength of the armed forces following the Revolution. Events soon demonstrated, however, the need for at least a small, well-armed military.

The perception of Native American Indians as a threat on the western frontier and continued piracy upon American commercial vessels in international waters were other factors that led to a shift in thought. More importantly, the upheaval caused in Europe by the French Revolution and a prolonged war between France and Britain endangered the position of the United States as a neutral nation. American policy makers feared that the United States might lose both England and France as sources of weapons. They became convinced of the prudence of reducing United States dependence on foreign suppliers. While

ambivalent attitudes remained towards the extent of the military, it was recognized that America, in order to protect its own interests at home and abroad, needed to maintain a ready fighting force even during peacetime. This also meant fabricating its own weapons.

In this spirit of national self-security, President George Washington and the U.S. Congress took action to remedy the dangerous dependence on European and private arms manufacturers. Convinced that “*the safety of the United States under Divine Providence ought to rest on the basis of systematic and solid arrangements,*”¹ Washington sponsored and Congress approved a bill in April 1794 entitled “An Act to Provide For the erecting and repairing of Arsenals and Magazines.” This law directed the president to establish three or four arsenals with magazines for the safekeeping of the nation's military supplies and provided funds for that purpose. The arsenals were to be established at locations that would best accommodate the different regions of the United States. Congress further directed “*that there shall be established at each of the aforesaid arsenals, a national armory*” for the production of new muskets.²

President Washington was given wide discretionary power to implement the new law. He was free to determine both the number and location of the arsenals and armories. His selection of Springfield, Massachusetts, as the site for the first national armory was immediately approved. This was hardly surprising as Springfield served ably as a cannon foundry and powder storage facility during the Revolutionary War. Furthermore, the government already owned the necessary buildings, water power rights, and transportation facilities there. While Washington's choice of Springfield as an armory for the New England states was non-controversial, his decision to locate the second at Harpers Ferry, Virginia, for the Middle and Southern states was hotly debated.



Figure 1 1796 “Landsdowne Portrait” of George Washington by Gilbert Stuart. National Portrait Gallery, Smithsonian Institution.

¹ Fitzpatrick, *Writings of Washington*, Vol. XXXI, 402-03.

² U.S. Statutes at Large, I, 352.

In 1795 Washington himself selected the Harpers Ferry site as the one best suited to build a national armory for the southern part of the United States. Partly as a result of his earlier experiences as a land surveyor and president of the Potowmack Company, Washington was convinced that the Potomac River valley would emerge as a major industrial and transportation center. The establishment of a national armory at Harpers Ferry, he believed, would also stimulate the growth and security of the new Federal City being planned on the Potomac at Washington, D.C., leading to that city's development as a significant commercial center. Many businessmen and landholders up and down the river – men whose fortunes would prosper with growth in population and trade – eagerly embraced this hope.³



Figure 2 Depiction of the Potomac ferry at Harpers Ferry, looking downstream from The Point at the confluence of the Potomac and Shenandoah rivers by Carol Stuart Watson. NPS, Harpers Ferry Center Collection.

Underpinning Washington's sweeping vision of the region's potential were several practical reasons for choosing Harpers Ferry as the site for the armory. While promoting Harpers Ferry as the logical spot for such an operation, Washington repeatedly stressed the availability of natural resources and the area's military defensibility. In his estimation, there was:

not a spot in the United States wch. combines more, or greater requisites for these, than that does; considered either as a place of immense strength against, and inaccessible by an enemy; although open to inland navigation in all

³ Snell, "A History of the Physical Plant..." Vol. I, 7-8.

*directions, as well crosswise as to the Shipping Port at the Federal City, or water transportation to the Western Country; for its centrality among Furnices and Forges. for its inexhaustible supply of Water, having the whole River of Shanondoah as a resourse, and for the populous and plentiful country in which it lyes.*⁴

Washington knew where he wanted the armory built, but there was dissent among his own cabinet members over the appropriateness of Harpers Ferry.

Secretary of War Henry Knox and his successor Timothy Pickering initially opposed the selection of Harpers Ferry. In the spring of 1795, with hopes of changing Washington's mind, the War Department dispatched military engineer Colonel Etienne Rochfontaine to evaluate potential armory sites along the Potomac. Interestingly, the engineer's initial report did not even mention Harpers Ferry. When pressed for an explanation of his apparent oversight, Colonel Rochfontaine replied that Harpers Ferry was deficient on two grounds. First, in his opinion there was no suitable flat ground upon which to erect the necessary armory buildings. Second, and more importantly, he considered the whole area prone to damaging floods.⁵

In addition to Colonel Rochfontaine's objections, there were other questions regarding the suitability of locating the armory at Harpers Ferry. Opponents of the idea suggested that the site was a poor choice for potential industrial development, pointing out that Harpers Ferry was completely lacking in infrastructure. The costs to develop facilities there, it was argued, would be very high. Not only would it be enormously expensive to ship machinery, parts, and raw materials to Harpers Ferry, it would be equally expensive to distribute the finished products. For opponents of the idea, the sheer isolation of the place far outweighed benefits gained in terms of defense. Try as they might, Knox, Pickering, Rochfontaine and others could not make Washington recognize the site's shortcomings.

All these objections irritated Washington. Colonel Rochfontaine's report especially concerned him. He insisted the engineer revisit and re-evaluate the site, this time in the company of Washington's personal friends, Tobias Lear and George Gilpin. As merchants and investors in the Potowmack Company, Lear and Gilpin were familiar with Harpers Ferry, having visited the settlement and scouted the location as a mill site. A second inspection was made to consider the merits of the site. Whether or not Rochfontaine bowed to the pressure applied by the president's allies, his final report blandly endorsed Washington's preconceptions. The War Department then directed Lear and Gilpin to arrange the purchase of the necessary lands at Harpers Ferry, a task the two men would work very hard to accomplish during negotiations with local landowners over a three year period.

⁴ Fitzpatrick, *Writings of Washington*, Vol. XXXVI, 253.

⁵ Smith, *Harpers Ferry Armory*, 31-33.

The government's first land purchase at Harpers Ferry consisted of 117 ½ acres and was completed on June 15, 1796. On that date a deed was issued to the United States Government in the name of George Washington from John Wager, Sr. and members of his family. The transaction conveyed to the government an island of about 20 acres in the Potomac River opposite Harpers Ferry as well as the Harpers Ferry Tract. On February 20, 1797, another tract of approximately 310 ½ acres was purchased from Thomas Rutherford. This second tract included the 72-acre site of the future Musket Factory on the Potomac, the one-acre Arsenal Square located near the confluence of the Shenandoah and Potomac Rivers, as well as the 13-acre site of the future U.S. Rifle Factory on the Shenandoah.⁶

Suspecting that Rochfontaine's revised evaluation was politically motivated and despite Washington's repeated urgings, the War Department procrastinated for nearly three more years before making any progress on the Harpers Ferry Armory project. The main source of the delay in establishing the new armory was a lack of funds. Secretary of War Pickering was convinced that the money appropriated by Congress would be insufficient to establish a full-scale arsenal at Harpers Ferry. Instead he hoped to satisfy Washington by constructing a smaller facility at Harpers Ferry, one more like a small shop to recondition arms rather than a full-scale manufacturing center. Later, he reasoned, the operation could be expanded as funds allowed. In the meantime, Pickering advocated expansion of the existing operations at Springfield, Massachusetts. There the sufficient infrastructure already existed and valuable arms-making experience might be gained and applied elsewhere.

Washington's term of office was soon to expire and it appeared that nothing would happen at Harpers Ferry before his presidency ended. Once again, however, international political events spurred development of the armory project forward. French privateers were harassing American ships overseas and another war seemed imminent. Though war with France was not formally declared, the new administration under President Adams nevertheless decided to set the country on a war footing. It established a Provisional Army consisting of twelve regiments and it entered into contracts with independent gunsmiths and weapons manufacturers to arm them. The domestic production of weapons was once again viewed as a critical component of the nation's defense and, having already purchased the necessary land on which to build the works, real preparations were made to activate an armory factory at Harpers Ferry.

⁶ Snell, "A History of the Physical Plant..." Vol. I, 17-19.

CHAPTER 2



Armory Construction

With the threat of a war with France hanging over the nation, the armory project at Harpers Ferry quickly returned to the forefront of political and military discussion. Although newly elected president John Adams and others still had concerns about the location and the expense of construction, Adams was under intense political pressure and decided to leave the final choice to his Secretary of War, James McHenry. In the summer of 1798 McHenry announced a plan to move ahead with building a full-sized armory and manufacturing facility at Harpers Ferry. McHenry's first step was to appoint officials to oversee the commencement of operations. Construction began on the workshops, armory canal and dam, and the arsenal building in 1799. By 1801 the production of rifles and muskets began.

In August 1798 McHenry appointed Joseph Perkin the armory's first Superintendent. Perkin, an expert gunsmith who had formerly worked at the Rappahannock Forge near Falmouth, Virginia, and in Philadelphia as a part-time inspector of arms after the Revolutionary War, was well-suited for his new position. John Mackey, a friend and political ally of McHenry's, was appointed the Armory Paymaster. Paymaster Mackey has been described as an educated and ambitious yet inept social climber.¹ The relationship between the armory's two chief administrative officers, Perkin and Mackey, was never good, but each seemed to accept their respective roles. Mackey took charge of the construction program while Perkin's authority was limited to the repair and manufacture of arms. History would show that Mackey's appointment would have negative effects on the early operations at the armory.

Around the same time as Perkin's and Mackey's appointments, McHenry hired the noted engineer James Brindley to accompany Superintendent Perkin on a preliminary inspection of the government owned lands at Harpers Ferry. The purpose of the inspection was to produce technical plans for the dam and canal needed to power the manufacturing processes. Brindley, one of the few experienced canal builders in the nation, was somewhat familiar with the area, having visited Harpers Ferry in 1786 as a consultant for the Potowmack Company. After two weeks examining the site in August 1798, Brindley and Perkin agreed that the best site for the waterworks and Musket Factory lay on the banks of the Potomac. Shortly after the inspection the two men returned to Philadelphia to discuss their findings with McHenry. Included in their report was the recommendation that the War Department employ an experienced engineer to build the armory canal and dam.

¹ Smith, *Harpers Ferry Armory*, 37-39.

Paymaster Mackey arrived in Harpers Ferry in September 1798, eager to design and begin construction on the necessary armory buildings. His first order of business was to provide a temporary space for the armorers to work until the permanent buildings could be constructed. In mid-September he informed the Intendent General that a 100-ft. long frame warehouse which stood at the eastern end of the proposed Musket Factory site was being converted into a temporary “Armory” or workshop. Superintendent Perkin and his armorers could work in the converted warehouse on the repair and refurbishment of weapons while work progressed on the canal and workshops. Mackey also directed the building of a barracks to serve as living quarters for the armorers. In addition, he recommended that a new temporary arsenal be built, as there was no existing structure for the storage of completed arms.

The chance to plan the government works at Harpers Ferry also intrigued one of the leading architects of the day, Benjamin Henry Latrobe. In a letter to Thomas Jefferson, Latrobe – later the architect of the White House and U.S. Capitol – expressed his interest and requested a commission to design the armory at Harpers Ferry. Another letter from Perkin to the War Department reveals Latrobe had actually furnished a plan for the armory.² Although Superintendent Perkin was enthusiastic about obtaining Latrobe's services, Paymaster Mackey objected. Mackey was convinced that the armory required nothing elaborate in terms of its design and structure. Conscious of wasting the public's money, Mackey vetoed Latrobe's involvement and proceeded to develop his own plan.

Meanwhile, Superintendent Perkin returned to Harpers Ferry in October 1798, bringing with him ten armorers to work in the temporary workshop. With no canal in place, no permanent buildings to work in, and winter coming on, there was little for the armorers to do except repair small arms that were shipped in from other arsenals.

After formulating a plan in conjunction with the Secretary of War in the early months of 1799, Paymaster Mackey was ready to begin construction at Harpers Ferry. Although he was opposed to hiring a professional architect such as Latrobe to design the armory buildings, Mackey did not object to engineer Brindley's construction of the Potomac River dam or his survey for the route of the canal. Mackey understood the importance of completing the canal, as evidenced by his letter to the Intendent General dated March 12, 1799:

All the materials for the building have been secured by contracts. Carpenters, Brickburners, Bricklayers are engaged – in a word every thing preparative to our operations is done, but the beginning cannot be made until the course of the Canal be accurately marked, for by this the site of the buildings is to be determined.³

² “Military Book No. 1-A, 11/10/1800 to 11/17/1803 – War Office.” Records of the War Dept, Office of the Secretary of War. See also Hamlin, *Benjamin Henry Latrobe*, 25, 255-256.

³ Mackey to Hodgdon, 3/12/1799, HAFE Document 102, No. 9.

The canal survey was completed in May 1799 and the masonry dam was completed in October 1799.

Construction of the armory's canal was now the establishment's top priority and the responsibility fell squarely on Paymaster Mackey. As he envisioned it, the canal was:

to be nothing more than a common Water course of about 15 feet wide and 3 feet deep...The digging of this requires no ingenuity, and in my opinion can be perfected by Men of Industry in this country, at less expence [sic] and trouble than would be incurred by employing professional Men, who commonly make their employers pay for the name.⁴

Mackey contracted with three local merchants to manage the canal construction project. They included Captain Abraham Shepherd, a distinguished Revolutionary War veteran and community leader in nearby Shepherdstown, Virginia. Shepherd was hired as the superintendent of construction, but due to his advanced age and ill-health, he was unable to make more than an occasional visit to the work site. As a result Mackey also contracted with Robert Whittel, a dry goods store operator, to oversee the construction, and with John Tulley to be the on-the-job foreman. Unfortunately, none of these men were the least bit qualified to supervise the project. Instead, their political connections to the Federalist party and local influence with Mackey seems to have secured them the contract. Despite Mackey's stated desire to save the government money by hiring what he called "*Men of Industry*" instead of experts, in a contradictory move he paid the three men nearly double what Brindley had requested.

Construction on the canal was slow from the beginning and the work fell behind schedule almost immediately. One of the main problems was finding a reliable supply of laborers to perform the work. The long hours of removing tons of rocks, poor working conditions in an unhealthy environment, and inadequate housing all resulted in a high turnover of laborers. Mackey complained about the manpower shortage in a letter dated July 14, 1799:

We have not been able to muster more than 50 labourers on an average since the Canal was commenced. We use every means in our power to allure them to ... but such is the habitual laziness of the poor of this country that nothing but absolute want can drive them from home ...⁵

As the project floundered, Mackey filed several conflicting progress reports to his superiors. In one report he stated, "*We have at this time finished fully 1/2 of the Canal*" and only a week later reported "*about 1/3^d of the canal is now done.*" Adding to his troubles, Mackey also triggered a strike among the workmen over the quality of provisions that he secured. Mackey created intense friction with everyone connected to the project, and at one point described himself in a letter

⁴ Mackey to Hodgdon, 3/12/1799, HAFE Document 102, No. 9.

⁵ Mackey to Hodgdon, 7/14/1799, HAFE Document 103, No. 3.

as follows: "Never was a Man more universally hated than I am at this moment throughout the whole Country."⁶

Paymaster Mackey provided a glimpse of some of the armory's earliest buildings in his letters and reports. Writing to Intendent General Samuel Hodgdon on December 26, 1799, he triumphantly reported:

The Smith Shop & Factory are finished - The Arsenal is built but not entirely finished. Two upper floors are yet to be laid. All, even my numerous Democratic Enemies, agree that the Buildings are elegant. The Smith Shop is 80 by 26 ft. clear of the walls; The Factory 120 by 26 feet, and the Arsenal 120 by 27 feet within - The [smith] Shop contains 10 forges, one of which is designed for a Tilt-hammer. The ground floor of the factory is designed for the boring grinding & polishing machinery; the filers & stockers will occupy the upper floor - The Garret will receive Gun Stocks lumber &c. The Mill is almost built, but will not be put together until the Water is in the Canal. The Arsenal has three floors. This building stands within the confluence of the [Shenandoah and Potomac] Rivers.⁷

In January 1800, faced with a full-scale investigation of his failure to keep systematic records, Mackey submitted his resignation. In April, Secretary of War James McHenry appointed Samuel Annin, a former soldier in the Continental Army, the new Paymaster of the U.S. Armory at Harpers Ferry. Like Mackey, Annin would be responsible for "the Stores, together with the Superintendence of the erection of all the buildings, Dams & other business" at the armory. Arriving at Harpers Ferry in May, Annin was given the authority to retain the contractors hired by his predecessor. However, after reviewing the accounts, Annin found discrepancies in the vouchers and dismissed Captain Abraham Shepherd for defrauding the Government of \$185. Unable to find a suitable replacement, Paymaster Annin assumed personal supervision of the canal building program.⁸

Like Mackey before him, Paymaster Annin found it difficult to attract and retain a sufficient workforce upon taking control of the project. As a solution he suggested that volunteers from the United States Provisional Army take over the construction of the canal, an idea that was first advanced by George Washington. At the time there were three regiments of soldiers under the command of Major General Charles C. Pinckney that were still in their winter encampment at nearby Camp Hill. Over some strong opposition to utilizing soldiers in this way, President Adams gave his permission for the soldiers to work on the canal. Major General Pinckney's orders stated:

The president has directed that as many soldiers shall be employed on the Canal in the Vicinity of the camp as the good of the service will permit. The major general has conversed with the superintendent of the works on this business and the superintendent is desirous of commencing next week with 50 soldiers as fatigue men and a proportionate number of sergeants. They will be allowed a Sixth of a Dollar per day and double rations of provisions per man. This is to be

⁶ Mackey to Hodgdon, 7/10/1799, HAFE Document 102, No. 11; 7/17/1799, HAFE Document 102, No. 14.

⁷ Mackey to Hodgdon, 12/26/1799, HAFE Document 102, No. 14.

⁸ Smith, *Harpers Ferry Armory*, 49.

*a weekly fatigue agreeable to the strength of the Different Regiments. Volunteers are preferred for this duty.*⁹

By June, Annin's work force increased to 100 men and rapid progress was reported on the canal. Unfortunately this ready source of labor did not last as the Provisional Army was disbanded later that month. Work slowed down considerably as once again Annin had to rely on private laborers.

There are questions as to how African-American slave labor was used in the construction of the canal and at the Harpers Ferry Armory in general. Park Service historian Charles Snell asserts that slave owners refused to lease their slaves to perform the heavy labor of canal construction because they considered them too valuable to expose to illness and injury in such heavy work.¹⁰ In *Harpers Ferry Armory and the New Technology*, author Merrit Roe Smith concludes that the project relied solely on white, unskilled laborers pulled largely from the surrounding agricultural areas. Smith bases his conclusion on the premise that there was a limited labor supply in this late 18th-century backcountry setting. Furthermore, Smith surmises an unwritten social code prohibited African Americans and whites from laboring together.¹¹

Some documents indicate African-American slaves filled at least supporting roles at the armory. Invoices from the Cumberland Iron Works, an early 19th-century supplier to the armory near Harrisburg, Pennsylvania, provide the names of teamsters used to make deliveries to the armory. Among the entries are a number of payments to two African Americans, "Negro Dick" and "Negro, Peter."¹² It is likely these men were the slaves of prominent local families, and that they were rented to the armory as a way to earn extra income. The full extent of the utilization of slaves in armory business is unknown. If large numbers of slaves were used, then the evidence is lacking. Free African Americans had opportunities at the armory, as evidenced by contracts held by John Gust for his services as a mason and quarryman.

Regardless of whether or not African Americans actually helped build the canal, the armory's existence generated an economy which attracted a large number of free blacks to Harpers Ferry. Women worked as cooks, laundresses, and housekeepers while men were laborers and harvesters. Some worked for building contractors while others were businessmen who managed to acquire property. Interesting testimony is offered on the topic by an early visitor to Harpers Ferry: "*There are more Black people here than I expected to see; the streets are full of them, and there are Blacks in every trade.*"¹³ African Americans

⁹ Records of the Office of the Judge Advocate General, National Archives Records Administration (NARA), Record Group (RG) 153, Orderly Book, Division Orders, 5/22/1800.

¹⁰ Snell, "Historic Structures Report...Musket Factory Canal," 17.

¹¹ Smith, *Harpers Ferry Armory*, 44.

¹² James L. Kochan Manuscript Collection. "Manuscript Archive Relating to Iron Supplies for the United States Armory & Arsenal Harpers Ferry." Shepherdstown, West Virginia. Abstract of collection on file at HAFE.

¹³ Magazine of the Jefferson County Historical Society, vol. XXVI (December 1961), 19.

participated in a variety of roles in the business and commercial sectors that arose in support of the armory. Unfortunately for the historian, the role of African Americans during this early period of the armory's history, both slave and free, is under-represented in the historical record.

Forced to rely instead on private labor, Paymaster Annin continued to make slow progress in getting the armory off the ground. Canal construction progressed during the entire working season of 1800. Finally, in early 1801, a little more than seven years after the armory's enabling legislation, the canal was completed.

The completion of the canal did not signal an immediate outpouring of manufactured weapons at Harpers Ferry. For one thing, as soon as water flowed into the canal, it began to leak. On August 4, 1801, the Acting Secretary of War notified Annin that Superintendent Perkin had reported "*that the works at Harpers Ferry are much impeded in their progress by the leakings of the Canal and that proper attention to a remedy is not paid.*"¹⁴ Owing to a leaky canal and to difficulties and delays in procuring quality raw materials, tools, and other essential manufacturing supplies, output at the armory during the early years was modest. In 1801, Superintendent Perkin and his workforce of 28 armorers were able to produce a total of 293 flintlock muskets.



Figure 3 Circa. 1808 illustration showing the large arsenal at Harpers Ferry. NPS Collection, courtesy of the Museum of Early Southern Decorative Arts.

¹⁴ HAFE Microfilm, Reel 18, Vol. 1, 21, as quoted in Snell, "History of the Physical Plant...", Vol. I, 46.

Output at the armory for the years 1801-1808 remained sporadic. The number of skilled armory workers dropped to 20 during 1802 before rising steadily to 87 in 1807.¹⁵ Health and environmental conditions contributed to the meager output, as workers' sicknesses were often attributed to their poor living conditions. Yellow fever epidemics, which coincided with the summer work seasons, were one reason production remained low. The unhealthy conditions were exacerbated by the low-lying lands that were prone to both flooding and periods of low water. Low water levels also restricted the use of the canal and interrupted the use of the water-powered machinery.

According to author Merrit Roe Smith, the town's "isolated, even frontier-like position" was its greatest handicap.¹⁶ In 1805 Harpers Ferry was still a small village, consisting of a post office and about 15 private houses. The Musket Factory complex at this time consisted of eleven buildings: the "Armory" (or "Factory"), a Smith's Shop, a Forge, a Coal House, a Proof House, the Superintendent's residence, and five other structures of unknown use. In 1808 additional government funding finally spurred production at the armory. Commercial development of the town grew at a corresponding rate and by 1810 Harpers Ferry had "a good tavern, several large stores for goods, a library, one physician, and a professor of the English language."¹⁷

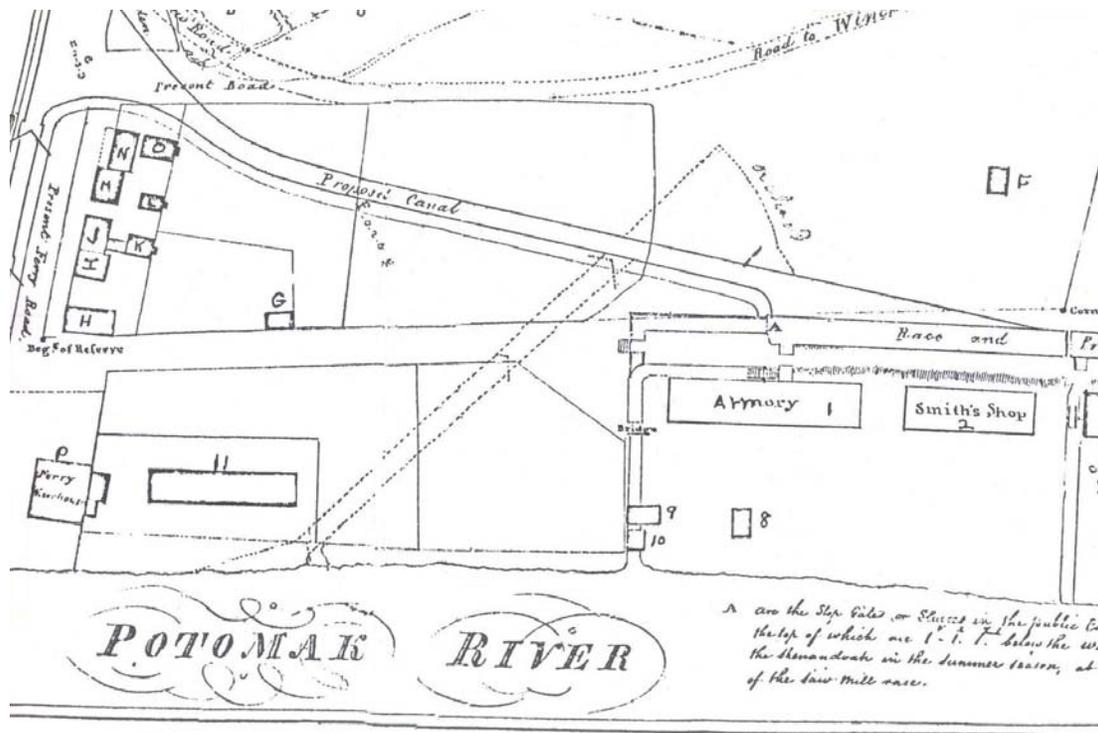


Figure 4 Detail of 1803 map of Musket Factory Yard at Harpers Ferry. NPS Collection.

¹⁵ Snell, "History of the Physical Plant...", Vol. I, 64.

¹⁶ Smith, *Harpers Ferry Armory*, 20.

¹⁷ Charles Varle, "Topographic Description of Jefferson County," 1810, as in Noffsinger, 20.

CHAPTER 3



The Corps of Discovery: Meriwether Lewis at Harpers Ferry

The Lewis and Clark expedition of 1804-1806 was a mission combining politics, diplomacy, geography, and science. Most popular accounts of this expedition emphasize the difficult journey and the exciting discoveries made along the way. With such an emphasis, however, one might come to the mistaken belief that the expedition somehow sprang fully planned and ready for execution. In actuality, several months of careful preparation and planning were needed to ensure the success of the venture. Indeed, by the time the members of the Corps of Discovery departed from near St. Louis in May 1804, Meriwether Lewis had already spent many months educating himself and gathering together all types of supplies including weapons, scientific equipment, clothing, and food.



As a co-leader of the expedition, Meriwether Lewis immersed himself in several academic disciplines in order to meet the multi-faceted goals of the mission. He learned much while serving as President Thomas Jefferson's personal secretary, reading and studying intensively. During the spring and summer of 1803, Lewis consulted with leading engineers and scientists in the fields of surveying, mathematics, astronomy, medicine, anatomy, botany, natural history, and meteorology. Using a working knowledge of these various disciplines, Lewis and his men were instructed to record in detail every facet of the terrain through which they would pass during the twenty-eight month journey.

Figure 5 1807 portrait of Captain Meriwether Lewis by Charles Willson Peale. NPS Collection (Independence NHP).

Although none of the Corps members were trained scientists, the detailed observations and accurate descriptions found in their journals are evidence of their dedication and enthusiasm for scientific discovery. First and foremost the men were soldiers. They were generally experienced outdoorsmen who had much practical experience living off the land and adapting to the situation at hand. Even if they may not have understood the finer points of taxonomy or geology, they realized the importance of being properly outfitted to survive in an uncharted wilderness. The task of procuring the necessary supplies and equipment was just as crucial to the success of the expedition as the scientific preparation. The Harpers Ferry Armory, established only a few years earlier, played an important role in addressing those supply needs.

Meriwether Lewis first traveled to Harpers Ferry in March of 1803 to scout out supplies for the impending expedition, especially to acquire guns and other needed hardware from the armory. He had inspected other available military stores at an earlier date in Philadelphia but was apparently unimpressed with what he saw. Lewis arrived at Harpers Ferry on March 16, 1803, carrying with him a general letter of credit from the War Department. Armory Superintendent Perkin received instructions from Secretary of War Henry Dearborn to cooperate with Lewis and to “*make such arms & Iron work, as requested by the Bearer Captain Meriwether Lewis and to have them completed with the least possible delay.*”¹

The armorers and blacksmiths were put at Lewis's disposal and he took full advantage of this favorable situation. The following is an inventory of the items Lewis procured from the Harpers Ferry Armory:

- 15 rifles
- 24 pipe tomahawks
- 36 pipe tomahawks for “Indian Presents”
- 24 large knives
- 15 powder horns and pouches
- 15 pairs of bullet molds
- 15 wipers or gun worms
- 15 ball screws
- 15 gun slings
- extra parts of locks and tools for repairing arms
- 40 fish gigs
- collapsible iron boat frame
- 1 small grindstone.²

The tomahawks, knives, and fish hooks were intended as gifts for Native Americans encountered along the way, but the other items were for their own use. Of particular importance to the expedition were the weapons and spare weapons parts.

Confusion exists regarding the type of rifles Lewis acquired from the armory. Many assume these weapons were the celebrated Model 1803 rifles, but this may not be true. Instead, many experts believe the guns were 1792 Contract Rifles: .49-caliber weapons



Figure 6 Reproduction of a modified 1792 militia rifle with powder horn and pouch. Photo courtesy William L. Brown III.

¹ Henry Dearborn to Joseph Perkin, 3/14/1803, in Jackson, *Letters*, 75-76.

² Jeffrey, “Meriwether Lewis at Harpers Ferry,” *We Proceeded On*, Journal of the Lewis and Clark Trail Heritage Foundation, November 1994, n.p.

with 42-inch barrels that Lewis had subsequently modified. More than 300 of these rifles were stored at Harpers Ferry when Lewis arrived in March.³

To prepare the rifles for the expedition, the barrels were shortened to between 33 and 36 in. and re-bored. Lewis also had the gunsmiths fit them with new lock plates and add swivels to make it possible to carry them with a leather sling. The rifles not only enabled the men to protect themselves against possible enemies and wild animals, but also provided a means to hunt for food.

Of the items acquired at the armory, Lewis was most interested in the iron boat frame. The collapsible boat frame, an idea conceived of jointly by Lewis and Jefferson, was intended to allow Lewis and his men a ready way to portage around the Great Falls of the Missouri River and any other falls the Corps might encounter along the western journey. It was designed to be easily portable and assembled. When needed, the boat would be covered with animal hides and sealed with pitch. According to the journal of one crew member, when fully assembled the frame was 36 ft. long, 4 ½ ft. wide and 2 ft. 2 in. deep.⁴ Evidently the armory mechanics that worked on the unique craft had difficulty in perfecting its design, and Lewis spent considerable time with them to complete it.



Figure 7 Portrayal of Armory Superintendent Joseph Perkin (left) and Captain Meriwether Lewis inspecting the iron boat frame at Harpers Ferry by artist Keith Rocco, 2002. NPS, Harpers Ferry Center Collection.

³ "Weapons of the Expedition," see: <http://www.army.mil/cmh-pg/lc/The%20Mission/Facts/weapons.htm>.

⁴ Moyer and Herrin, "The Journey Ahead...", 31-32.

Lewis had planned to stay at Harpers Ferry for only a short time, one week at most. Instead he remained for a month. Unfortunately, no documentation has been found to indicate where Lewis may have boarded during his stay in Harpers Ferry. Speculation suggests that he resided at the home of one of the armory's two senior administrators. Superintendent Perkin lived in a converted warehouse at the eastern end of the armory grounds and it is possible that Lewis found lodging there. The home of Armory Paymaster Samuel Annin has also been advanced as a possible candidate for where Lewis lodged. Annin's house stood near the banks of the Shenandoah, not far from the Arsenal Square. Certainly Lewis had ample dealings with both of these armory officials, conferring with Perkin on the nature of the supplies and settling accounts with Annin. Another possibility is that Lewis was a guest at the Harper House Tavern, at that time the only tavern in town. Until solid evidence emerges, the details of Meriwether Lewis's stay in Harpers Ferry must remain a matter of conjecture.

Lewis's unexpected delay in Harpers Ferry was particularly troubling to President Jefferson who, because of political opposition to the mission, was anxious for the westward journey to begin. On April 15, 1803, after completing and successfully testing the design of the boat, Lewis headed to nearby Frederick, Maryland. He stayed briefly in Frederick before traveling on to Lancaster and Philadelphia to purchase more supplies and to obtain additional training in the scientific aspects of the mission. On April 20, Lewis wrote to Jefferson:

My detention at Harper's ferry was unavoidable for one month, a period much greater than could reasonably have been calculated on; my greatest difficulty was the frame of the canoe, which could not be completed without my personal attention to such portions of it as would enable the workmen to understand the design perfectly. My Rifles, Tomahawks & knives are already in a state of forwardness that leaves me little doubt to their being ready in due time.⁵

Lewis completed his preparations in June and returned to confer with Jefferson in Washington. By early July he was ready to begin the expedition. Most of the supplies were being delivered from Philadelphia to Pittsburgh via Harpers Ferry, and Lewis himself headed to Harpers Ferry to inspect the arms and equipment made for him at the armory. On July 5, Lewis learned that his supply wagon from Philadelphia had reached Harpers Ferry on June 28. To complicate matters, the wagon driver did not believe his team was strong enough to carry everything – the weight of the cargo is estimated to have exceeded 3,500 pounds – and so he continued on to Pittsburgh without picking up the guns and other supplies in Harpers Ferry. Lewis was therefore forced to hire a second teamster from Frederick with a small wagon and two horses to carry the remaining supplies.

Lewis arrived at the Harpers Ferry Armory on July 7, 1803, and inspected the arms and equipment. The following day he wrote to Jefferson, explaining that the teamster from Frederick had “*disappointed*” him and that he was thus obliged to hire yet another teamster for the trip to Pittsburgh. Of the equipment he obtained from the armory, he seemed very pleased, stating: “*Yesterday, I shot my guns and examined the several articles which had been manufactured for me*

⁵ Lewis to Jefferson, 4/20/1803, in Jackson, *Letters*, 39.

*at this place; they appear to be well executed.”*⁶ Lewis set out for Pittsburgh the same day, traveling through Charles Town, (West) Virginia; Frankfort (now Fort Ashby, West Virginia); Uniontown, Pennsylvania; and Redstone Fort (now Brownsville, Pennsylvania), and arrived in Pittsburgh on July 15. The wagon from Harpers Ferry arrived one week later, “*bringing every thing with which she was charged in good order.*”⁷

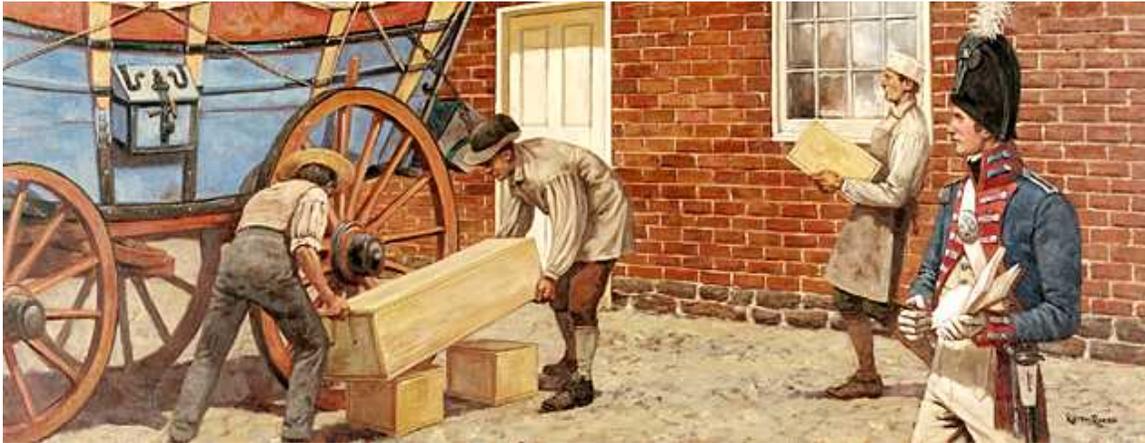


Figure 8 Portrayal of Captain Lewis inspecting his weapons and supplies, 1803 by artist Keith Rocco, 2002. NPS, Harpers Ferry Center Collection.

The expedition formally commenced in May 1804. Throughout their arduous journey up the Missouri River and beyond, Lewis and Clark and seven other explorers recorded their experiences and observations with varying degrees of regularity in journals. In some instances the journals mention the items Lewis procured from the Harpers Ferry Armory. For example, Lewis commented on the value of the extra gun parts:

*The guns of Drewyer and Sergt. Pryor were both out of order. the first was repaired with a new lock, the old one having become unfit for uce; the second had the cock screw broken which was replaced by a duplicate which had been prepared for the lock at Harpers ferry where she was manufactured. but for the precaution taken in bringing on those extra locks, and parts of locks...most of our guns would at this moment been entirely unfit for use; but fortunately for us I have it in my power here to record that they are all in good order.*⁸

Lewis also mentions the small grindstone: “*We have on this as well as on many former occasions found a small grindstone which I brought with me from Harper’s ferry extremely convenient to us.*”⁹

The journals also describe the fate of the collapsible iron boat that had been fabricated at the armory. The expectation for the craft was that the animal hides,

⁶ Lewis to Jefferson, 7/8/1803, in Jackson, *Letters*, 106.

⁷ Lewis to Jefferson, 7/22/1803, in Jackson, *Letters*, 111-112.

⁸ Lewis, 3/20/1806, in DeVoto, *Journals*, 335.

⁹ Lewis, 7/9/1805, in DeVoto, *Journals*, 153-154.

pine tar, and other materials needed to assemble it would be readily available. This reasoning proved unsound. In July 1805, as the expedition faced a sixteen-mile portage to get around the Great Falls of the Missouri River, Lewis and a few men hurried ahead to have the collapsible boat ready while the rest of the crew completed the portage. They assembled the frame and covered it with elk and buffalo skins. Preparing the lining and making the boat watertight was the next step. Finding no pine trees to provide the necessary tar to prevent the hides from leaking, a substitute mixture of charcoal, beeswax, and buffalo tallow was applied.



Figure 9 Portrayal of Captain Lewis and members of the Corps of Discovery preparing the boat for launch at Great Falls, Missouri by artist Keith Rocco, 2002. NPS, Harpers Ferry Center Collection.

Unfortunately, this was ineffective; when the boat was put in the water, *“She leaked in such a manner that she would not answer.”* The leaking of the boat *“mortified me not a little,”* wrote Lewis. *“But to make any further experiments in our present situation seemed to me madness... I therefore relinquished all further hope of my favorite boat...and deposited the iron frame at this place as it could probably be of no further service to us.”*¹⁰ With reluctance, Lewis ordered a cache to be dug and the boat was buried.

Many historians and educators portray the Lewis and Clark expedition as strictly a Western event, a 4,000-mile odyssey that began near St. Louis, encompassed an upriver navigation of the Missouri River, a horseback crossing of the Rocky Mountains, and finally a downriver journey on the Columbia River to the Pacific Ocean. Their teachings and writings on the subject emphasize the route of the journey and the amazing discoveries and encounters made upon the way. Though the actual journey and its attendant discoveries are the main story, this conceptualization overlooks the careful planning and equipping of the venture, much of which was accomplished in the East. The Harpers Ferry Armory played an important role in meeting the supply needs of the expedition. The materials Meriwether Lewis requisitioned there in the spring and summer of 1803 provided security, sustenance, and the ability to meet many rigorous challenges. In that sense, the armory at Harpers Ferry contributed greatly to the overall success of the mission.

¹⁰ Ibid.

CHAPTER 4



Harpers Ferry Armory and the War of 1812

Productivity at the Harpers Ferry Armory remained low during its first five years of existence. The first weapons were produced in 1801 and output remained sporadic for the next seven years. The slow start has been attributed to a number of reasons including the primitive, frontier-like setting of the town; unhealthy environmental conditions; unreliable water power; administrative incompetence; the inability to attract and maintain skilled workers; and design and manufacturing problems relating to the weapons. All of these factors undeniably contributed to the armory's meager output early on, but compounding these problems was a lack of public money to support the operation.

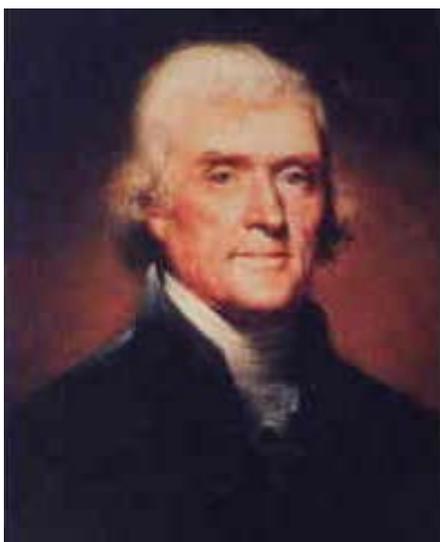


Figure 10 Portrait of Thomas Jefferson. Granger Collection, Smithsonian Institute.

President Thomas Jefferson took office in 1801 during a period of rising military expenditures and mounting debt. Committed to the idea of a simple and frugal federal government, he promptly initiated policies that promoted fiscal responsibility. His administration cut taxes, reduced the size of government, and made progress in paying off the national debt. But when Jefferson drastically reduced the budget of the War Department, the Harpers Ferry Armory felt the effects. The reduced appropriations meant fewer funds were available to support the operations at the armory.

Altered circumstances, however, led to the modification of many of Jefferson's policies before the end of his second term. Around 1807, activities at the armory began to increase. Renewed war in Europe, interference with American commerce, and repeated violations of America's neutrality resulted in a crisis for Jefferson. Realizing the nation was unprepared for military conflict, Jefferson opted instead for economic retaliation. With the intention of banning all American ships from foreign trade, Congress passed a series of measures including the Nonimportation Act of 1806 and Embargo Acts of 1807 and 1808. At the same time Congress increased military expenditures. The results of these Acts were not what Jefferson had hoped for.

The embargo not only failed to change British and French policies, it had the unintended effect of devastating large parts of the American economy. In New England scores of prosperous ship owners were ruined and many seaports

entered a severe economic depression. The area around Harpers Ferry, which had considerable downriver trade on the Potomac, was also adversely affected and resulted in considerable opposition to Jefferson's policies. The Embargo Act of 1807 proved so unpopular in the Shepherdstown, (West) Virginia area, 200 to 300 citizens met in protest on February 23, 1809.¹ Captain Abraham Shepherd, who a decade earlier was among the individuals contracted to build the armory canal, was secretary at a formal meeting denouncing the act.

Failing in peaceful efforts at forestalling the crisis and facing economic depression, Congress was compelled to prepare for war. Measures were taken to increase musket production at the Harpers Ferry Armory. In April 1806, Secretary of War Henry Dearborn wrote Armory Superintendent Joseph Perkin, authorizing him to hire 8 to 10 new workmen to begin work on extra tools and equipment. This increase in manpower brought the total number of armorers to about seventy.

Superintendent Perkin died in December 1806, and in April 1807 was replaced by the Virginia gun maker, James Stubblefield. Stubblefield's appointment coincided with a period of increased funding. At the time of his appointment, the armory consisted of six buildings. Under Stubblefield's management, the armory commenced large scale production of muskets and also began an extensive building program which lasted over three years. In the fall of 1807, Stubblefield informed the War Department that if modest additions were made to the "Armory" building and Smith's Shop, there would be room enough to accommodate 100 men for making muskets. The War Department immediately approved Stubblefield's plan and directed Paymaster Annin "*to please adopt measures for making an addition of thirty five feet to the Armoury and Twenty to the Smith's shop; also an additional water wheel, and such other apparatus as may be necessary.*"² Before these additions to the two shops could be made, however, the War Department had formulated an entirely new plan.

Beginning in 1808, Congress appropriated \$200,000 annually for the purpose of arming state militias. An additional \$218,000 was budgeted that year for use at the arsenals and armories. Clearly President Jefferson and his administration was now more concerned with weapons production than with balancing the budget. As a result, total expenditures at the Harpers Ferry Armory increased dramatically, from \$40,631 in 1807 to \$104,953 in 1808, \$158,835 in 1809, and \$145,042 in 1810.³ With funds now readily available, the War Department planned to double the production of small arms at Harpers Ferry. In June 1808, Secretary Dearborn wrote to Stubblefield, explaining the new plan:

It has been determined to enlarge the Armoury Establishment both at Springfield & Harpers Ferry, & I have given Mr. Annin directions to commence the erection of the necessary buildings, water works, machinery & Apparatus without delay &

¹ Bushong, *Historic Jefferson County*, 107.

² Stubblefield to Dearborn, October 1807, Letters Received, Office of the Secretary of War. Dearborn to Annin, 11/11/1807, Miscellaneous Letters Sent, Office of the Secretary of War, NARA, RG 107.

³ Smith, *Harpers Ferry Armory*, 75.

to have the whole performed on such dimensions & in such manner, as he and you shall agree on generally. For the machinery &c. you will from time to time furnish him with sketches, drawings or directions which he will follow.

It is desirable that the buildings & machinery should be such as may be sufficient for as many workmen, as would be necessary for the manufacture of from 15 to 20,000 muskets annually & a due proportion of Rifles, Pistols & Swords.⁴

As a result of this new directive, seven new workshops were built between 1808 and 1809 – five in the Musket Factory yard on the Potomac and two on the Lower Hall island in the Shenandoah River. By May 1810 the armory consisted of 28 buildings and employed almost 200 workers – a considerable increase over a short time frame.⁵ Although no original plans for the Musket Factory buildings have been discovered, a great deal of information is known about the various shops. In 1810 and again in 1811, Paymaster Annin submitted a list of all the armory's structures to the Secretary of War. These lists detail the use, dimensions, number of stories, and materials used for each building.⁶

During the development of the armory from 1808 to 1810, the Musket Factory was significantly expanded. The original line of workshops adjacent to the armory canal was extended to the east and to the west. On the east end near the main entrance to the Musket Factory yard, a two-story brick residence was built (1808-1809). The structure, to be used as the Superintendent's quarters, measured 36 ft. by 20 ft. and had a kitchen in the cellar. Between the Superintendent's quarters and the existing "Armory" or "Factory" building, a new two-story brick building measuring 131 ft. by 45 ft. was erected (1809-1810). In addition to a water wheel and machinery, the first floor of this new building contained a finishing shop and a storage room for musket stocks. The second floor housed the superintendent's office, a filing shop, a storeroom, and a room used for religious services. A two-story tilt hammer shop was added (1808-1809) on the western end of this line of buildings, adjacent to the old "Smith's Shop." The tilt hammer shop was built of brick, measuring 101 ft. by 30 ft.. A water wheel powered the tilt hammers on the first floor while the second floor was used to provide much needed lodging space for armory workers.

During the expansion a second row of brick workshops was erected on the bank of the Potomac River, parallel with the original line of shops. The workshops in both rows were arranged in rough symmetry so that buildings of about equal

⁴ Dearborn to Stubblefield, 6/3/1808, Miscellaneous Letters Sent, Office of the Secretary of War, NARA, RG 107.

⁵ Smith, *Harpers Ferry Armory*, 75.

⁶ See "Public Buildings at Harper's Ferry in Virginia, 1st January 1810" and "Public Buildings at Harper's Ferry in Virginia, 1st October 1811" submitted by Annin to Office of the Secretary of War, abstracted in Snell, "A Physical History..." Vol. I, 29-30.

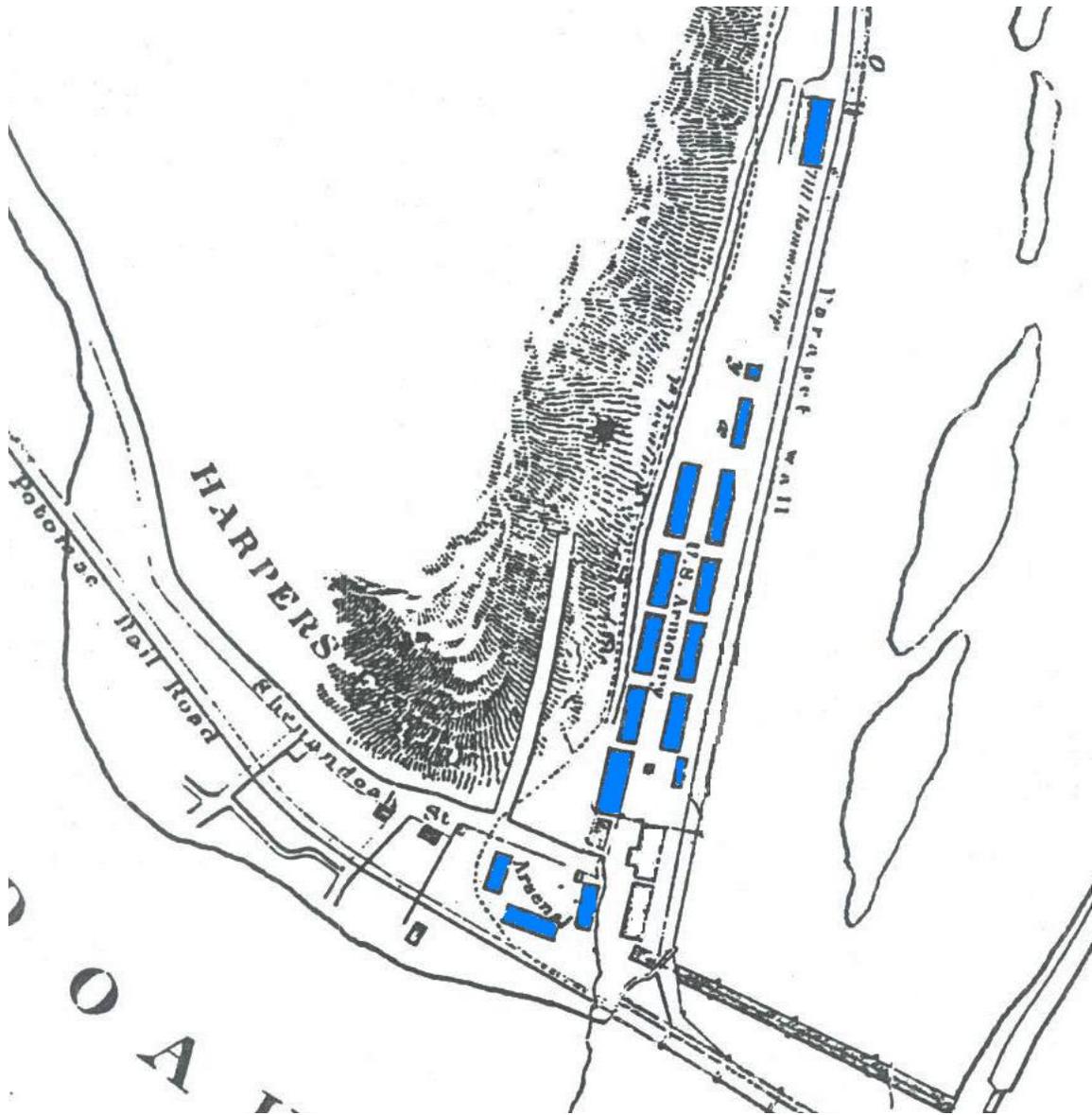


Figure 11 During the period 1808 to 1810, a second row of armory workshops was constructed on the shore of the Potomac River, as depicted in this 1838 map. NPS Collection.

length were opposite each other.⁷ Between the two rows ran a 70 ft.- wide street called Potomac Street [not to be confused with the present-day street of the same name].

On the east end of the northern row of shops, opposite the finishing shop on the canal, was a two-story smith's forge. The dimensions of the building were 131 ft. by 30 ft. The first floor contained sixteen forges, each with its own chimney. The second floor was used as a stocking shop. Next in the line, opposite the old

⁷ Snell, "A History of the Physical Plant..." Vol. I, 78.

“Armory” building, was another large two-story smith’s forge, 123 ft. by 30 ft. It also had sixteen forges and chimneys on the first floor. The second floor was intended for use as a filing shop, but served in 1810-1811 as lodging for armorers. Next in the line, opposite the 1799 Smith’s Shop, was an 83 ft. by 29 ft. building that housed ten additional forges. Built 1809-1810, the second story of this workshop remained unfinished in 1811. Rounding out this line of workshops was a 1 ½ -story foundry. The dimensions of the foundry were 25 ft. by 25 ft. Armorers occupied the loft area of this small shop in 1811.

Despite the increased expenditures and significantly expanded facilities, the armory was not able to meet its quota of arms produced. When Secretary Dearborn approved the expansion plan of 1808, he was assured the factory would be producing at least 15,000 muskets annually by 1810. That year the armory produced only 9,400 new arms. The number of weapons produced did increase slightly during the following two years, but never exceeded 10,200.⁸

Historian Merritt Roe Smith summarizes the conventional wisdom of the day that was used to explain the disappointing production figures. The low output was attributed to “*managerial shortcomings, craft traditions, harsh environmental conditions, bizarre local customs, and the baneful influence of several families who owned and controlled the town of Harpers Ferry.*”⁹ Also cited was a serious shortage of skilled labor. Competition for workers in the firearms industry was especially intense at that time.

The United States declared war against Great Britain on June 18, 1812. Although war was avoided for several years, the continued harassment of U.S. ships and impressment of American sailors by the British finally pushed the nations to the brink. Another cause of the war was the rapid expansion of the American frontier. Land hungry settlers repeatedly clashed with Native Americans and there was a growing suspicion that the British were behind many of the troubles. Resentment grew as stories circulated after every Indian raid of British Army muskets and equipment being found on the field. By 1812 the settlers were convinced that their problems could best be solved by ousting the British from Canada. In the midst of the anti-British fervor, President James Madison determined that there could be no agreeable solution short of war.

Despite overall opposition to the Republican policies of President Jefferson and his successor James Madison, Jefferson County, Virginia, provided at least seven companies of volunteers for the army in the War of 1812.¹⁰ Naturally, as one of the nation’s two federal arms manufactories, the Harpers Ferry Armory played an important role in the three-year long conflict, dubbed by many “The Second War of Independence.” During the first twelve years of its existence, the armory produced a grand total of 61,257 small arms. Arsenal records for the period between 1812 and 1814 indicate that 29,500 arms were shipped to

⁸ Snell, “A Physical History...,” Vol. I, 27.

⁹ Smith, *Harpers Ferry Armory*, 76.

¹⁰ Bushong, *Historic Jefferson County*, 107.

Pittsburgh, Pennsylvania and Knoxville, Tennessee in support of the war effort. Specifically, the weapons consisted of 27,500 flintlock muskets, 1,000 flintlock rifles, 500 carbines, and 500 pistols. In addition to the guns the armory supplied 30,000 cartridges, 500 cartridge boxes, 10,000 gun flints, and 100 cavalry swords.¹¹

At first the war was distant from the people of Jefferson County and the armory workers at Harpers Ferry. For the first two years the fighting was confined to Canada, the Great Lakes, and on the high seas. Most of Great Britain's forces were preoccupied with a simultaneous war against Napoleonic France and England did not have the resources to wage war in the Middle Atlantic states. Tensions began to rise in 1813, however, when a British war fleet established a blockade on the Chesapeake Bay. British forces began raiding the surrounding prosperous countryside, roaming and burning and engaging in sporadic fighting. Once Great Britain overthrew Napoleon in April 1814, it was able to consolidate its forces against the United States. The constant arrival in North America of British reinforcements enabled the enemy to take the offensive in several quarters, and to the dismay of the inhabitants of the region, raids along the Chesapeake Bay intensified.

When British warships were spotted on the Patuxent River in Maryland on August 22, 1814, an urgent appeal for aid was sent throughout the region. When the citizens of Charles Town, Virginia, learned that 4,000 British troops landed and were marching towards the nation's capital in Washington, a call for volunteers was made at the town market house. In short order a company of fifty men enrolled. The following day the men went to the Harpers Ferry Armory to get weapons and ammunition. Enthusiasm for the upcoming fight spilled over to the armorers and about 40 of the gun makers, including Superintendent Stubblefield – representing approximately 20% of the armory's workforce – joined the company.

This contingent of volunteer soldiers and armorers set out from Harpers Ferry on August 24, 1814, aboard two flat boats. After an hours voyage the company landed and elected officers. At the same time, Superintendent Stubblefield reconsidered the wisdom of his decision to join the expedition. Feeling that the work back at the armory was too important to interrupt, he and most of the armorers returned to Harpers Ferry.¹² The remainder of the party continued on but was too late to make a difference; the British already had won the Battle of Bladensburg and turned their attention towards Washington.

¹¹ Snell, "A Physical History," Vol. I, 31.

¹² *Virginia Free Press (VFP)*, 8/3/1868, 2 col. 2-3; Bushong, *Historic Jefferson County*, 109.



CAPTURE AND BURNING OF WASHINGTON BY THE BRITISH, IN 1814.

Figure 12 Drawing of the “Capture and burning of Washington by the British, in 1814” Prints and Photographs Division, Library of Congress.

British troops marched into Washington and burned most of the major government buildings, including the White House, Capitol, Navy Yard, Library of Congress, and the offices of the War and Treasury Departments. The resulting inferno was so great that the glow in the night sky was seen as far away as Baltimore and Leesburg, Virginia.¹³ The volunteers from Charles Town and the few armorers that remained with them witnessed the spectacle from near the mouth of Seneca Creek, Maryland. After several more months of war, including the successful but unnecessary Battle of New Orleans, the United States declared victory, ratifying the Treaty of Ghent and ending the war on February 17, 1815.

In 1815 the Harpers Ferry Armory was still isolated. Communications with the Springfield Armory were infrequent and, with the exception of a few nearby iron works, it was insulated from other machine-using establishments. These conditions probably retarded its progress as a center of innovation. To remedy the situation, both National armories were placed under the military jurisdiction of the Ordnance Department. Additional administrative reforms were made that were intended to transform the Harpers Ferry Armory into a well-disciplined and more productive installation. Other regulations were drawn up to help streamline correspondence and clarify the chain of command.¹⁴

¹³ Pitch, “The Burning of Washington,” 6-18.

¹⁴ Smith, *Harpers Ferry Armory*, 141-142.

CHAPTER 5



The Rise of Industry

Following the War of 1812, the town of Harpers Ferry could still be characterized as rural and isolated. Even though the armory facilities expanded in 1808-1810 to meet the increased needs caused by the impending War of 1812, the town grew at a very slow rate. The settlement consisted of a small sawmill, tavern, country store, a few houses, and a scattering of stables and storage sheds. The armory, like the town, remained isolated from other centers of manufacturing. Other than the armory, the town had few industrial or business establishments at all. Though unquestionably rural when the armory was established in 1799, by the mid-19th century Harpers Ferry had emerged as a major manufacturing center with the armory as its industrial centerpiece.

Three major developments led to this remarkable transformation of the town and armory. First was the adoption of new manufacturing technologies. The introduction of new labor-saving machines at the workshops ushered in the industrial age. Emerging ideas about the standardization and interchangeability of parts led to a tremendous expansion of manufacturing. As these ideas were implemented, arms-making at Harpers Ferry evolved from a craft-based industry into a true factory system.

New methods of transportation that reached Harpers Ferry in the mid-1830s were another catalyst for growth. The nearly simultaneous arrival of the Baltimore & Ohio Railroad (B&O) and the Chesapeake and Ohio Canal (C&O) assured a steady supply of raw materials to the factories and workshops. As a result the quality of materials improved as supplies arrived from sources previously considered impractical. The regularity of delivery by railroad and canal also simplified planning and made coordinating factory output easier. Finally, the new modes of transportation linked the armory and town to nearby urban markets and the broader national economy.

Another important factor in the growth of the armory was the administrative reforms introduced beginning in the early 1840s. In 1841 a new management philosophy was implemented whereby civilian superintendents were replaced by military superintendents. Prior to 1841 the town's ruling elite and civilian managers viewed the armory not as a federal institution, but as a convenient source of jobs, contracts, and local opportunities. For years this situation stifled innovation and productivity. The appointment of military superintendents and the reforms they enacted did much to stimulate growth at the armory.

Combined, these three developments – new technologies, new modes of transportation, and administrative reforms – led to the emergence of Harpers

Ferry as one of the region's most important industrial centers. The changes did not come easily, however. Because of the unique way in which the armory and town had developed, with a few well-connected individuals wielding a great deal of power and influence, any action that was perceived as a challenge to local authority was discouraged. Outsiders were seen as a source of interference and were regarded with suspicion. This generated persistent problems at the armory in enforcing regulations, changing personnel, and altering administrative procedures.

New Technologies and Industrial Growth

As the industrial age dawned at Harpers Ferry during the first decades of the 19th century, firearms manufacturing underwent a gradual transition from a craft-based to a factory-based production system. In its earliest days, the armory's workforce consisted mostly of highly-skilled gunsmiths, each capable of producing the entire object upon which he was working. An armorer, for example, would make the entire gunstock or forge and assemble all the components of a single musket lock. Such a system depended on the availability of experienced gunsmiths. In this regard, the armory benefited from the approximately one dozen men that Superintendent Perkin brought with him from the federal arsenal in New London, Virginia. With the exception of a few native-born Virginians, all these men were recruited or received training in Philadelphia, Pennsylvania, a city with a reputation as a great crafts center and a point of arrival for immigrant gunsmiths, engravers, and other skilled workers. As the armory expanded its workforce, it recruited gunsmiths from other parts of Pennsylvania and from arms-making shops in Maryland.¹

In 1816, the first year there are adequate biographical records, nearly 40% of the armory's eighty-four workers earning above \$40 per month had either worked or had served apprenticeships in Pennsylvania or Maryland gun shops. The evidence strongly suggests an additional 40% came from a similar craft background. Even taken alone, the 40% figure is impressive because it includes four of the five shop foremen. The significance of such a high percentage becomes clear when one considers the overall influence of these men; in their positions they oversaw day-to-day production, served as masters to apprentices, and decided on the adoption of new techniques.²

In the pre-industrial days of the armory, musket manufacturing consisted of an armorer using hand tools and traditional methods. Gun making was comprised of six separate processes: barrel making, lock forging, lock filing, brazing, stocking, and finishing. A rudimentary division of labor existed under which the individual armorers each made a particular component of the gun, such as the lock, stock, or barrel. The principal responsibility of the master armorer was to

¹ Smith, *Harpers Ferry Armory*, 60-62.

² Smith, *Harpers Ferry Armory*, 57-58.

coordinate the output of each part to ensure that an equal number of parts were made simultaneously. Despite the division of labor, when assembled each musket was essentially a handcrafted piece.³ Like other craft pieces, the makers of the individual gun components can often be identified based on a unique style or distinguishing marks. Thus, it was inevitable that the weapons displayed much variation.

Though the craft-based labor used at Harpers Ferry worked on a small scale, it was not suited for the technical and economic requirements of large-scale weapons production. Differences in the fit, finish, and quality of weapons made at different firearm manufactories, and even variations between weapons produced at the same manufactory, resulted in major problems when replacement parts were needed for broken or damaged weapons.⁴ Prior to 1816 there were no efforts made to standardize production between the national armories at Springfield and Harpers Ferry. In addition to the problems caused by discrepancies between muskets of the same model, the costs associated with producing weapons by traditional methods were extremely high.

These drawbacks led the War Department to become a strong advocate of the “uniformity system” during the 1810s. The idea called for the uniformity, and therefore the interchangeability of parts and the mechanization of production. These two basic principles became the cornerstone of the emerging factory system. It became so prevalent in the United States that the British later called it “the American System of Manufactures.”⁵

When the Harpers Ferry Armory was pressed to increase production in the days leading up to the War of 1812, Superintendent James Stubblefield initially hoped to increase output by adding additional craftsmen and continuing with the old method of production. Because of intense competition for skilled labor, he could not employ a sufficient number of armorers. Stubblefield then settled upon a new scheme. He explained the situation twenty years later:

I determined to adopt a new plan of manufacturing the arms for the United States, and in the Spring of 1809 commenced making tools and machinery for the purpose of distributing the component parts of the guns so as to make the work more simple and easy. In June, 1810, we got our tools and machinery ready for making arms; and it is upon this uniform plan that they are now made throughout the United States...By this division of labor, a great deal of expense and trouble are saved, a great amount of tools is saved, and the work can be executed with infinitely more ease, more rapidly, as well as more perfectly and uniformly; and moreover, a hand can be taught, in one-tenth part of the time, to be a good workman when he has but one component part to work upon.⁶

³ Smith, *Harpers Ferry Armory*, 78-79.

⁴ Gilbert, *Waterpower*, 25.

⁵ Smith, *Harpers Ferry Armory*, 219.

⁶ Stubblefield to Bomford, 7/11/1829, NARA, RG 156, Records of the Office of the Chief of Ordnance, as in Smith, *Harpers Ferry Armory*, 80.

Although the uniformity idea made perfect sense and had tremendous potential, its acceptance and success were not easy to achieve. Skeptics of the idea said it would cost too much to fabricate the necessary precision machines. Other resistance came from the armory workers themselves.

Many of the craftsmen at Harpers Ferry felt threatened by the use of special purpose machines to produce muskets. Except for using commonly known forging, grinding, polishing, boring, and rifling machines, the armorers relied on their manual skills and used traditional hand tools. Ideologically they considered themselves artisans and believed they had certain rights and privileges in the ways they performed their work. The armorers felt threatened because they recognized that the new manufacturing ideas endangered craft production and threatened to change them from skilled craftsmen to wage laborers who tended machines.⁷ But as employees of a public institution whose fortunes fluctuated with the course of political events, the Harpers Ferry armorers could not shield themselves from external forces of change. Innovators and entrepreneurs were attracted to the armory at Harpers Ferry as the U.S. Government continually sought to expand production and increase efficiency.

In 1819 the War Department entered into a contract with John H. Hall, a gun maker and inventor from Maine. Under the terms of his contract, Hall would come to Harpers Ferry and produce 1,000 breech loading rifles made entirely of interchangeable parts – a weapon he designed and patented in 1811. In addition to the contracted amount to make the guns at \$25 per rifle, Hall received a monthly salary of \$60 and a royalty of \$1 for each weapon produced.⁸

Hall experienced immediate setbacks when he assumed his duties at Harpers Ferry in April 1819. Among them were clashes with the armory's administrative officers. Perhaps resentful of Hall's presence and annoyed by his abrupt manners and substantial ego, Superintendent Stubblefield and Master Armorer Armistead Beckham were less than forthcoming with the aid Hall required to begin his operations. Though they were impressed by the four sample weapons Hall submitted in 1818, Stubblefield and Beckham offered Hall some of the most derelict armory-owned workshops, including a run down sawmill that badly needed repairs. In addition to the inferior state of the facilities, the personal animosity between Stubblefield and Hall also led to confrontations on such matters as allocation of funding, workers, and raw materials. To make matters worse for Hall, severe malaria epidemics broke out in 1820 and 1821, limiting his workforce and impeding progress.⁹

Before any measurable progress was made towards completing his contract, Hall spent several years designing the new tools and machinery he required. Financial concerns began mounting. In 1822 the Inspector General remarked

⁷ For more on this topic, the reader is referred to Smith's, *Harpers Ferry Armory*, especially 65-68.

⁸ Smith, *Harpers Ferry Armory*, 196.

⁹ Smith, *Harpers Ferry Armory*, 198.

that Hall “is too fond of projects, too much of an innovator ever to have been entrusted with public means to complete machinery of his own invention. The 1000 rifles which he is about making will cost the Government more than \$50 each before they are finished.”¹⁰ Hall was mindful of the rapidly increasing costs and while he readily acknowledged that his ideas were costly in the short-term, he emphasized that when completed “the machinery will answer as well for one hundred thousand of the guns as for one thousand.”¹¹

Fortunately for Hall both the Secretary of War and the Chief of Ordnance recognized the potential of his mechanical experiments at Harpers Ferry and were committed to his success. Despite all the obstacles and criticisms that he faced, Hall held firm to his vision of interchangeability of parts and the mechanization of production. Finally, in December 1822 he was able to claim success, writing:

*I have succeeded in an object which has hitherto completely baffled...all the endeavors of those who have heretofore attempted it – I have succeeded in establishing methods for fabricating arms exactly alike, & with economy, by the hands of common workmen, & in such a manner as to ensure a perfect observance of any established model, & to furnish in the arms themselves a complete test of their conformity to it.*¹²

At the height of his career Hall boasted of his labor revolutionizing inventions, when he wrote “that one boy by the aid of these machines can perform more work than ten men with files, in the same time, and with greater accuracy.”¹³

During his two decades at the Harpers Ferry Armory, Hall designed and constructed numerous mechanical devices in support of his work. He made drop hammers, stock-making machines, balanced pulleys, drilling machines, and specialized machines for straight-cutting, lever-cutting, and curve-cutting. His straight-cutting machine was the prototype of today’s versatile milling machine, a critical tool used in the fabrication of precision metal firearm components.¹⁴

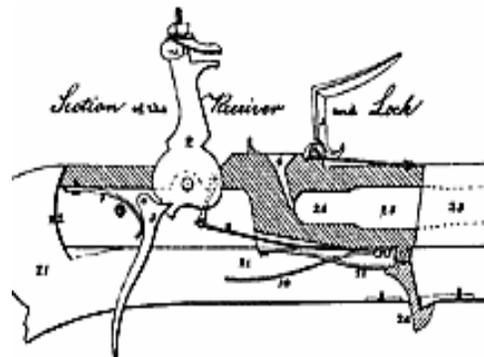


Figure 13 Detail of Hall Rifle receiver and lock. NPS Collection.

¹⁰ “Notes of a Tour of Inspection, Harpers Ferry armory” December 1822, NARA, RG 159, Records of the Office of Inspector General.

¹¹ John H. Hall to Secretary of War John C. Calhoun, 5/15/1822, NARA, RG 156, Records of the Office of the Chief of Ordnance.

¹² John H. Hall to Secretary of War John C. Calhoun, 12/30/1822, NARA, RG 156, Records of the Office of the Chief of Ordnance.

¹³ Hall to Bedinger, 10/29/1834, payrolls and accounts, Harpers Ferry Armory – 1834. NARA, RG 217, Records of the United States General Accounting Office.

¹⁴ Gilbert, *Waterpower...*, 44-45; See also <http://www.nps.gov/archive/hafe/hall.htm>.

During his time at the Harpers Ferry Armory from 1819 to 1840, John H. Hall sought to perfect the system of interchangeable manufacturing based upon the “uniformity principle.” His mechanical genius and the success he eventually achieved astonished the military inspectors of the Ordnance Department. Colonel George Talcott recognized the significance of Hall’s work and wrote “[Hall’s] *manufactory has been carried to a greater degree of perfection, as regards the quality of work and uniformity of parts than is to be found elsewhere – almost everything is performed by machinery, leaving very little dependent on manual labor.*”¹⁵ Whether it was directly through the machinery he designed and the armorers he trained or indirectly through the spread of his ideas, Hall helped transform the Harpers Ferry Armory from a small craft-based operation to a full-fledged industrial center.

New Transportation and Industrial Growth

The relative isolation of Harpers Ferry from sources of raw materials and other manufacturing centers was one of the objections to establishing an armory there in the first place. The closest towns of any size were Frederick, Maryland, 20 miles to the east, and Hagerstown, Maryland, 25 miles to the north. Since neither of these towns supported large mercantile economies, the necessary arms-making tools and supplies for the armory had to be procured in distant cities and shipped to Harpers Ferry, often at great expense. Most often these materials came from Baltimore and Philadelphia and were hauled over land by horse-drawn wagons. Other goods were acquired from centers of trade on the Potomac and were boated upriver. Even high quality pig iron and bar iron – two essential commodities in the manufacture of weaponry – were teamed over rough country roads for nearly 100 miles from furnaces and forges located in central Pennsylvania.¹⁶ Logistically, armory managers faced many challenges. Because of the generally poor condition of the roads and the seasonal unreliability of river traffic, planning and coordinating factory production was difficult. An inadequate transportation network in the early 19th century was a key factor that prevented the Harpers Ferry Armory from becoming a center of innovation.

A major catalyst for industrial development at Harpers Ferry was the nearly simultaneous arrival of the canal and railroad in the mid-1830s. In addition to providing a major boost to the local economy and drastically reducing travel times for the area’s inhabitants, these new forms of transportation greatly simplified the logistical challenges faced by the armory because they assured a steady supply of raw materials. Heavy machinery purchased from the machine shops of New England, Baltimore, Philadelphia, and New Jersey could now be

¹⁵ Colonel George Talcott to Chief of Ordnance Bomford, 12/15/1832, “Inspection of Hall’s Rifle Factory at the Harpers Ferry Armory,” NARA, RG 156, Records of the Office of the Chief of Ordnance.

¹⁶ Smith, *Harpers Ferry Armory*, 33-34.

delivered quickly and conveniently. Close connections of the canal and railroad with the mines of western Maryland also ensured a source of high quality bituminous coal for the armory's furnaces and forges. Building materials for expanding the physical plant also arrived by canal boat and railcar.¹⁷

The C&O Canal reached a point opposite Harpers Ferry on the Maryland side of the Potomac in November 1833. An inlet lock permitted barges loaded with supplies for the armory to cross the river, enter into the armory canal, and make deliveries to the workshops at the Musket Factory Yard. The construction of the C&O Canal, a continuous waterway with locks that controlled water flow, was a vast improvement over the series of skirting canals that were built along the Potomac in the late-18th century. When construction of the C&O Canal was completed in 1850, it extended 184 ½ miles from Georgetown in the District of Columbia to Cumberland, Maryland. The canal allowed barges as large as 92 ft. long by 14 ½ ft. wide to travel both upstream and downstream. The canal remained a fixture at Harpers Ferry for years, reaching its heyday in the late 1800s, before being closed for good in 1924. As important as the canal was, the railroad was an even greater catalyst for growth.

Merchants from the city of Baltimore, not wanting to miss out on the promise and profits about to be captured by the C&O Canal, countered with a scheme of their own. The B&O Railroad Company was incorporated in 1827 and construction began in 1828. As daunting as the challenge was, the company's immediate goal was to construct a rail line up the north bank of the Potomac as far as Harpers Ferry.

The proposed B&O line at Harpers Ferry was surveyed in 1832-1833. At Harpers Ferry an important junction could be made with the Winchester & Potomac (W&P) which was also under construction. The W&P was a thirty-mile rail line that, when completed in 1835, connected Winchester, Virginia, to Harpers Ferry and the Potomac River. A B&O connection to the W&P, it was reasoned, would bring traffic from the fertile Shenandoah Valley and provide a steady stream of badly needed revenue. The railroad arrived at Harpers Ferry on December 1, 1834, about one year after the C&O Canal had reached the same location.

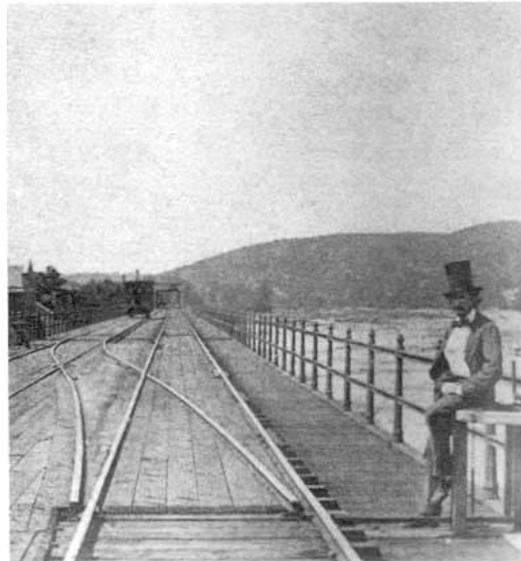


Figure 14 1859 photograph of the armory trestle at Harpers Ferry. Courtesy of WV and Regional History Collection.

¹⁷ Gilbert, *Waterpower*, 44-45; Gilbert, *Where Industry Failed*, 17.

In order to proceed further west the railroad had to cross the Potomac River and build through Harpers Ferry. When the B&O's Potomac River bridge was completed in 1837, it connected the B&O to the newly completed W&P and transformed the old ferry landing near the confluence of the Shenandoah and Potomac into an area of bustling commercial activity. By 1838 the B&O was ready to resume building its mainline west towards Cumberland, Maryland, and then to the Ohio River and beyond. Its first challenge, however, was to escape the bottleneck at Harpers Ferry. Because of its unique physical geography, there was a limited amount of level land upon which to build the line. The Musket Factory shops, arsenal buildings, and private landowners already occupied the choice flat land along the Potomac. The B&O had two alternatives: it could either continue along the Shenandoah River and turn north outside of town or head directly west through the U.S. Armory property.

Because of the orientation of the railroad bridge, the Shenandoah route was the preferred choice. After surveyors demonstrated the feasibility of the Shenandoah route, the B&O entered into negotiations with the W&P to lease six miles of track. Motivated by reasons that are not clearly understood, the W&P refused to grant the B&O the necessary track rights.¹⁸ This refusal left the B&O little choice but to utilize the south bank of the Potomac River for its route west. This was not a desirable alignment for the B&O because the shops of the Musket Factory stood there and a right-of-way had to be obtained from the U.S. Government to pass through the property. The engineers also had to decide whether the line should follow the edge of the river or whether the route should be at the base of the bluff away from the river.

An investigation found that to run the line along the bluff would cost more than a million dollars. It would be necessary to cut through more than a mile of rocky hillside, and in the process a county road would have to be relocated. Accordingly, the request for the right-of-way was made for the route along the river bank.¹⁹ The War Department was initially hesitant to allow the railroad access to the armory grounds because of fear of possible fires caused by embers and sparks from train engines. The two parties reached an agreement in 1838. The agreement permitted the B&O to run its track along the edge of the armory, but stipulated that the line be built upon an elevated trestle and that nothing be done to injure the armory property.

To elevate the track, the railroad company was required to construct a stone river wall that paralleled the armory's own river wall at a distance of about 20 ft. The space between the two walls was to remain open for the free passage of river water. The railroad wall was to contain sufficient openings for each of the eight Musket Factory tail races to allow the discharge of that water back into the river. The agreement further specified that the elevated trestle be built of wood, brick, stone, or iron. The legs of the trestle were to be no more than 18 inches in

¹⁸ Stinson, "The First Railroad Bridge at Harpers Ferry," 8.

¹⁹ Noffsinger, "Contributions Toward a Physical History," 35.

diameter and be set at least 15 ft. apart. One set of legs was to be built on top of the armory's river wall and the other atop the stone wall the railroad was to build.²⁰ In addition, the railroad company was required to fill the space between the trestle and the armory workshops and grade it as a street.

In December 1839 the B&O let contracts for construction of the one and a half miles of railroad in and around Harpers Ferry. The company's river wall extended 1,380 ft. from the abutment at the old armory boat landing to above the Rolling Mill at the west end of the Musket Factory Yard. The massive stone wall was 4 ½ ft. thick and stood approximately 15 ft. above the level of the river. The trestle was made of wood.²¹ With the completion of the railroad wall in 1841, the Musket Factory Yard achieved its present width.



Figure 15 1897 photograph of Harpers Ferry from the Maryland shoreline showing railroad wall and trestle. From "Art work of Scenes in the Valley of Virginia," WH Parish Publishing Co., Chicago. NPS Collection.

By November 1842 the rail line was open from Baltimore to Cumberland, Maryland. Coal began moving east from the mines of western Maryland, slowly at first, but then in ever-increasing amounts. By 1850 coal accounted for nearly 60% of the B&O's eastbound freight.²² The boom in coal traffic was significant to the region's industrial growth as the numerous furnaces and forges were fueled by coal. Shipping costs fell for all goods as the canal and railroad competed for business.

With the arrival of the railroad and canal in the 1830s, the town of Harpers Ferry was set to experience an industrial transformation. Manufacturers began to

²⁰ For the complete terms of the right-of-way, see "An Agreement Between J.R. Poinsett, Secretary of War, and Louis Mclane, President of the B&O Railroad Company, Containing the Terms and Conditions Allowing the Railroad to Build a Line Through United States Property at Harpers Ferry" dated 11/5/1838, as in Noffsinger, Appendix I, 128-134.

²¹ Snell, "The Town of Harpers Ferry in 1859," 6.

²² Stover, *History of the Baltimore and Ohio Railroad*, 61.

recognize the benefits provided by the new modes of transportation. One newspaper described the opportunities at Harpers Ferry:

The town of Harpers-Ferry is situated at the confluence of the Potomac & Shenandoah rivers, and at the eastern most outlet of the great Valley of Virginia, contains about 2,000 inhabitants, is the seat of the U.S. Armory, and enjoys a water power on the two rivers almost without limit. In addition to its natural advantages, its importance as a place of trade will be immensely augmented by the great public works which now connect it with the City of Baltimore and the District of Columbia on the one hand and the fertile valleys of the Potomac and Shenandoah, and the Coal region of the Cumberland on the other, viz.: the two Rail Roads above mentioned and the Chesapeake and Ohio Canal.²³

Another editorial described the town's industrial potential as:

decidedly one of the best situations in the United States for...factories; the water-power is unsurpassed; and the facilities for getting supplies of raw material, and for transferring the manufactured articles to market are as great as could possibly be desired.²⁴

With access to raw materials and new markets, Harpers Ferry was no longer an isolated village.

New Reforms

A key development in the growth of the town and armory was the eventual breakup of a local monopoly and the introduction of administrative reforms. A primary figure in this monopoly was James Stubblefield. Stubblefield came to Harpers Ferry in 1807 after being appointed Superintendent of the armory. He remained in that position for 22 years, longer than any other superintendent. After sharing control with Paymaster Samuel Annin for several years, Stubblefield acquired greater control of administrative affairs in 1815, when Annin's departure made him the armory's senior officer. In 1816 Stubblefield's authority was further expanded when a change in armory regulations gave him the authority to let contracts and hire workers.

In 1815 Stubblefield recommended that Armistead Beckham be appointed to the position of Master Armorer, the third highest office at the armory. Normally the appointment of a Master Armorer was a routine matter, but in this instance it is notable because Beckham was Stubblefield's brother-in-law. As author Merrit Roe Smith points out, even this familial relationship would not be particularly noteworthy, except that it is one of numerous examples of the interconnecting family bonds that translated into social and economic power at Harpers Ferry. Specifically, it illustrates Stubblefield's key position as a source of patronage and profit for an elite group of local citizens. Smith notes that Stubblefield and

²³ VFP, 4/7/1836.

²⁴ VFP, 10/9/1834.

Beckham were part of an extended kinship group that influenced nearly every aspect of life at Harpers Ferry, including armory work.²⁵

During the first decades of the 19th century, a group of four intermarried families formed a powerful elite at Harpers Ferry. Referred to as the “Junto” by some of their contemporaries, this group consisted of members of the Stubblefield, Beckham, Stephenson, and Wager families – all of whom were influential citizens and prominent in community affairs. The Junto’s power derived from their monopolistic control of private property and business, as well as from their tremendous political influence. This privileged group had every intention of maintaining the status quo so they could continue to dominate life at Harpers Ferry. Consequently, Superintendent Stubblefield and his associates resented and resisted any attempts to introduce reform or innovation at the armory.



Figure 16 James Stubblefield (1780-1855). Stubblefield was Armory Superintendent from 1807 to 1829. His marriage to Mary Beckham aligned him with the most influential citizens of the day. Oil painting by George Cook, 1822; NPS Collection, courtesy Mrs. Charles Green Summers.

The families of the Junto controlled nearly all aspects of the town’s economy. The powerful Wager family, with ties tracing back to town founder Robert Harper, originally sold the land on which the armory stood. At the same time they reserved two extremely valuable tracts for themselves: a one-acre parcel known as the “Ferry Tract” and another “Six-Acre Reserve” that encompassed the town’s business district and the heart of Harpers Ferry. Their monopoly over nearly all of the town’s private property allowed the Wagers to set high rents and exorbitant store prices. Armory workers had little choice regarding where they purchased goods or rented housing, a situation that contributed to increased production costs at the armory because of higher wage rates paid to the workers.

²⁵ Smith, *Harpers Ferry Armory*, 143.

The Junto also exerted a great deal of influence on business at the armory. For example, Superintendent Stubblefield had the power to arrange contracts and appoint his associates to high-paying jobs. Members of the Junto or their agents controlled all buying of raw material for the armory workshops, including purchases of wood, coal, and iron. A small number of businessmen who successfully aligned themselves with the Junto also enjoyed the exclusive business practices of a “company town” as well as a higher social status. Similarly, armorers or prospective armorers who were dependent on the Junto for jobs and credit, tried to gain favor with those in power. Dismissals, demotions, loss of business, foreclosure, and other forms of economic and social harassment often awaited those who were perceived as insubordinate or critical of this existing form of patronage.²⁶

All the members of the Junto were on familiar terms with the established leaders of Virginia politics, including Senator (later Secretary of War) James Barbour and President John Quincy Adams. Thus in much the same way the Junto controlled the local economy, they were able to influence local politics. Those who expressed opposition viewpoints risked unemployment and harassment. Conversely, no candidate could hope to be elected to local office without their blessing. If political partisanship had served to strengthen the Junto, there was one source of outside authority that threatened and ultimately succeeded in breaking up their power – the military.

The Harpers Ferry Armory was placed under the Ordnance Department in 1815. Originally created in 1812 as an agency for the inspection and distribution of military supplies, the guiding principle of the Ordnance Department was efficiency. Above all else, it sought to increase production of cheaper, more uniform weapons. Intrigued by the possibility of making weapons with interchangeable parts, two of the Ordnance Department’s chief officers, Colonel Decius Wadsworth and his principal assistant Colonel George Bomford, began to take a more active interest in the day-to-day affairs of the Harpers Ferry Armory and Superintendent Stubblefield. At first Stubblefield cooperated with the military men and seemed eager to promote more uniform standards of manufacture, but by 1818 conflict emerged.

Colonel Wadsworth appropriated additional funds to settle some long standing debts at the Harpers Ferry Armory and, after they were liquidated, he expected Stubblefield to stay within his budget. Stubblefield, however, continued many of his questionable business practices and exceeded his budget by nearly \$55,000 in 1818-1819. Wadsworth became openly critical of Stubblefield. He began to perceive that the needless expenditures arose from the high cost of labor caused by the Junto’s stranglehold over the town’s economy. To break this “*odious monopoly*” he proposed building a government-owned store that would enable armorers to purchase necessities at more reasonable prices. This would allow him to reduce wages and eliminate the armory’s deficit. Though the plan was

²⁶ Smith, *Harpers Ferry Armory*, 150.

eventually quashed by the Wager family and its political allies, it illustrates the Ordnance Department's dedication to eradicating the influence of the local gentry at the armory.²⁷

Upon succeeding Wadsworth as Chief of Ordnance, Colonel Bomford continued to reprimand Stubblefield about exceeding budgets, non-payment of debts, poor record keeping, and questionable employment practices. Bomford constantly reminded Stubblefield that his actions must "*be based upon considerations affecting the public interests solely; and be influenced in no degree whatever by considerations touching the interests or feelings of those individuals who may be effected by the objects proposed.*"²⁸ The ruling elite at Harpers Ferry resented such sentiment and members of the Stephenson, Wager, and Beckham families actively participated in efforts to remove Bomford from office.²⁹ Meanwhile, reports continued to come into the Ordnance Department about Stubblefield's abuses of his office as Superintendent.

With his familial and business relationships so intertwined, Superintendent Stubblefield faced accusations that he abused his office to enrich himself, his family, and friends. Throughout the 1820s various individuals complained to Stubblefield's superiors in the Ordnance Department about his mismanagement of the armory and the benefits that he and the Junto received in direct violation of armory regulations. One charge, for example, stated that he directed armory workers to build a wall and an embankment to divert water towards a mill that Stubblefield himself owned. Another charge alleged that public materials were used to repair private properties owned by Stubblefield and his brother-in-law Fontaine Beckham. One member of the Ordnance Department, after considering the charges, remarked:

*I had supposed that the family influence which has hitherto controlled everything at Harpers Ferry, and monopolized all the patronage, power, profits, and emoluments of that place, had been somewhat lessened; but I now perceive that it has been too deeply planted to be easily eradicated.*³⁰

The charges against Stubblefield, lodged by various disgruntled armory workers and disenfranchised businessmen, were persistent enough that the Secretary of War ordered a court of inquiry be held to investigate the complaints. Held in Harpers Ferry over a period of eight days in April-May 1827, Stubblefield's influential political friends came to his defense and testified in his favor. Most of the charges were not sustained and Stubblefield was found not guilty. The Inspector General issued a report which noted a "*few instances of neglect of minor importance*" but concluded that the "*charges against Mr. Stubblefield are*

²⁷ Smith, *Harpers Ferry Armory*, 153.

²⁸ Bomford to Stubblefield, 4/4/1826, Letters Sent, NARA, RG 156, Records of the Office of the Chief of Ordnance.

²⁹ Smith, *Harpers Ferry Armory*, 155.

³⁰ Wade to Lee, 4/14/1827, Letters Received, Records of the Springfield Armory, NARA, RG 156.

generally unsupported by evidence and appear to have been...from malicious sources."³¹

Cleared of any serious improprieties, Stubblefield and his supporters felt vindicated by the court's decision. Stubblefield's critics, on the other hand, were not satisfied. They believed investigators had made only a half-hearted attempt to investigate the alleged misconduct. They complained that the board failed to make use of the armory's records during the inquiry and they demanded a more thorough investigation. Some even insisted that Stubblefield's brother-in-law, Master Armorer Armistead Beckham, and a gang of local thugs intimidated witnesses to prevent any negative testimony from coming out.

After the trial Stubblefield seems to have made little effort to change his policies or practices. According to one account, local businessman Lewis Wernwag bragged about his lucrative dealings with the Superintendent, boasting that he secured government contracts without competition because they were unadvertised. However, with fewer and fewer allies remaining in positions of power, Stubblefield was without the political influence to shield himself from his critics. Consequently, in May 1829 a group of Congressmen insisted upon a second hearing to provide a "*rigorous scrutiny into [the armory's] management.*"³² This time very specific allegations were to be investigated including Stubblefield's alleged nepotism, discretionary employment practices, high rate of absenteeism, awarding contracts without competitive bidding, needless and excessive expenditures, and misuse of government property.³³

At the conclusion of the trial, very few of the charges could be proven because Stubblefield's records were too muddled and incomplete to be used as evidence. Evidence of the abuses was found but it was not enough to prove that Stubblefield was personally involved. Though the haphazard state of his records did not support criminal charges, it was a serious indictment of his competence as an administrator. The War Department concluded that as the Superintendent, Stubblefield was responsible for failing to recognize, prevent, and correct the abuses. Stubblefield's shoddy record keeping revealed that the Harpers Ferry Armory was in a state of administrative confusion. To ease any tensions that an immediate dismissal may cause, Stubblefield's superiors allowed him to resign in two months time.

Stubblefield's resignation on August 1, 1829, ended a 22-year association with the Harpers Ferry Armory. His departure marked a significant setback for the Junto and a small group of local elites. Though the available evidence proved insufficient to determine his own involvement in the fraudulent schemes, it is clear that Stubblefield's family, friends, business associates, and political allies

³¹ Extracts from the Proceedings of a Court of Enquiry convened at Harpers Ferry, 4/26/1827. Letters Received, Records of the Springfield Armory, NARA, RG 156.

³² Bomford to Sprigg, 4/30/1829, NARA, RG 156, Records of the Office of the Chief of Ordnance.

³³ Smith, *Harpers Ferry Armory*, 178.

benefited from his position. And though the Beckhams, Stephensons, and Wagers continued to exert influence over local affairs for many years, their sway on matters at the armory was greatly diminished after Stubblefield was replaced as the superintendent. Their influence was even further lessened in 1835 when the estate of James B. Wager was declared bankrupt and portions of the Six-Acre Reserve were sold.

Thomas Dunn, manager of the nearby Antietam Iron Works, replaced Stubblefield as the Superintendent in 1829. His appointment pleased members of the Ordnance Department and manufacturing community, believing that he would end the restrictive influence of the Junto and implement much-needed changes at the armory. Turning his attention to administrative reforms, the new superintendent posted meticulous rules forbidding loitering, gambling, and drinking on the armory's premises, and he imposed strict standards of inspection that cut into armorer's piece-work wages. Because of the severity of the rules, Dunn was never popular with the armorers.

Protests against this new era of discipline reached a climax in early 1830 when Ebenezer Cox, a disgruntled worker released during Stubblefield's trial and who Dunn refused to re-hire, murdered the new superintendent in his office.³⁴ Cox's execution for the crime made him a folk hero among the armory workers, a symbol of rebellion against military interference and the factory discipline they detested.

Despite the resistance, the Ordnance Department efforts to instill discipline and achieve efficiency at Harpers Ferry did not let up. After a series of civilian appointments to the superintendent's post of individuals with mixed qualifications and administrative abilities, a military officer, Major Henry Craig, took command in 1841. True to his military background, Major Craig set out to enforce the factory discipline first established by Dunn. The rules outlined in 1827 were reintroduced: idle, drunk, or disorderly workers were fired; armorers were required to explain their absences; and abusive or disrespectful language was not tolerated. In a move especially offensive to the armorers, a standard work day was established that was reinforced by the installation of a clock.

Chafing against the rules, the entire workforce went on a week-long strike in 1842. They sent a delegation to plead with President John Tyler, explaining that their rights as craftsmen had been stripped and that the new regulations converted them into "*mere machines of labor*."³⁵ Their protest proved futile, however, as Congress passed and Tyler signed a law establishing military superintendents at all U.S. armories and arsenals. Throughout the 1840s workers at the armory continued to resist their new working conditions and imposed military discipline.

³⁴ Barry, *The Strange Story of Harpers Ferry*, 25-26.

³⁵ Craig to Talcott, 3/21/1842, HAFE Reel 12, no 10: 942-944.

Under the management of the military superintendents, innovative machinery was installed, the division of labor was refined, and work at the armory was transformed from craft-based production to a full-fledged industrial system. Armorers' discontent with the new order did not slow the reorganization of the labor force and the renovation of the armory. The military system of management endured at the Harpers Ferry Armory for nearly 15 years. In 1854, after considerable debate, Congress ordered the removal of the military system. In the meantime, beginning with Superintendent Major Henry Craig in 1841 and continuing under the leadership of Superintendent Major John Symington in 1844, much progress was made to modernize the armory. During their tenures the town of Harpers Ferry and the U.S. Armory would expand to become a leading industrial center.

CHAPTER 6



Overhaul of the U.S. Armory

In the early 1850s the town of Harpers Ferry was one of the leading centers of industry in America. It rose to prominence for a number of reasons, including the ready accessibility of waterpower, the adoption of innovative technologies, and a rapidly expanding transportation network featuring the railroad and canal. Another important factor in the town's rise was the stability provided by government-sponsored arms manufacturing at the U.S. Armory. Like the town itself, since its founding in 1799 the armory had changed significantly.

Once under the control of either politically connected individuals or prominent citizens of dubious qualifications, since the early 1840s the armory was managed by military superintendents who introduced much more efficient labor practices. As a result of these reforms, the work at the armory evolved from a craft-based industry to a more disciplined factory system dedicated to interchangeable manufacturing. Its physical layout grew from a total of six buildings with only a handful of employees to a facility of more than fifty buildings and nearly 250 armory workers.

The expansion of the armory during the first half of the 19th century did not occur according to a well-thought out plan, but rather proceeded on a piecemeal basis. A combination of inconsistent funding, unsatisfactory civilian management, inefficient labor practices, and outright neglect resulted in a random arrangement of dilapidated buildings. By the 1840s most of the workshops and storage buildings were at least thirty years old, dating from 1810 or earlier. Even as early as 1827 the Inspector General of the Ordnance Department remarked on the rundown appearance of the armory facilities. In a confidential report he wrote:

This establishment has, undoubtedly, been badly managed. Large sums of money have been expended without reference to permanency or utility. Everything about it bears a temporary aspect. Very few, if any, substantial buildings are to be found at the place. The shops are built of brick but in a state of dilapidation. These are surrounded by small buildings not fit for habitation... To pull down the buildings, which are a disgrace to the establishment and improperly located, and to erect those of a permanent character for the habitation of the workmen, and to make such other improvements as are necessary to place the establishment on a proper and respectable footing, would probably cost forty or fifty thousand dollars, which sum might have been saved if due regard had been paid originally to the location and construction of the buildings.¹

No solutions were offered over the next decade to remedy the situation. This led Chief of Ordnance Colonel George Bomford to warn Congress in 1839, “*The*

¹ “Confidential Report,” John E. Wool, U.S. Army to Maj. Gen. Isaac Brown, 11/16/1827, HAFE Document; Microfilm Reel 18, Vol. 13, 1302-1303.

*strongest necessity exists for the improvement of the public buildings at Harper's Ferry Armory – they are exceedingly unsightly and unworthy of a National Establishment.*² In his opinion the armory had become a second rate establishment and a source of embarrassment for the War Department. Indeed, much criticism about the armory's general appearance was leveled against the government.

In addition to its shoddy architectural appearance, the armory facility also lacked any semblance of functional unity. As arranged, work did not flow smoothly from one stage of production to another. Workshops with similar functions were sometimes separated by large distances. One observer noted that the *“whole establishment is cramped for room, not having been constructed upon a plan arranged beforehand, but put up building after building as appropriations were obtained.”*³ Efficiency was hampered by these conditions. Clearly, a program of modernization was needed.

On February 2, 1842, the Secretary of War ordered the Ordnance Department to make a formal and detailed examination of the U.S. Armory at Harpers Ferry. Inspector General Colonel S. Churchill and Major Henry K. Craig, the new Superintendent of the Harpers Ferry Armory, were appointed to make the study. Their report recognized:

*the necessity of very extensive improvements, repairs, and additions to the buildings, machinery, & attached to this armory; not only for the increase and quality of its production, but for the security of those productions and of the other public property, and also for the comfort and preservation of the health of the officers and workmen of the armory...*⁴

Confronted with a hodgepodge of structures, there seemed to be no way for Superintendent Craig to modernize operations short of renewing the entire physical plant. To achieve that goal, Craig needed funds. In 1841 Congress appropriated \$38,000 in a special fund for the stated purpose of making repairs and improvements at the Harpers Ferry Armory. Most of the money was used to make repairs to buildings and to pay off cost over-runs accrued by the previous civilian superintendent.⁵ Additional money was still required to install new machinery for manufacturing the new 1842 Model percussion musket and rifle, which was to go into production as soon as possible.

In 1842 the Ordnance Department asked Congress for \$40,000 for improvements at Harpers Ferry. In contrast to the usually specific budget requests, the Department's submission was somewhat vague, citing only

² “Special Estimates for Additional Appropriations for the Service of the Ordnance Department for the Year 1839,” 11/16/1838, HAFE Document; Microfilm Reel 20, Vol. 6, 624. From NARA RG 156, Records of the Office of the Chief of Ordnance, Entry 129, Vol. II, 6.

³ Maynadier to William L. Marcy, 6/18/1846, From NARA RG 156, Records of the Office of the Chief of Ordnance, as quoted in Smith, 275.

⁴ “Permanent Improvements,” Public Documents of the United States, Serial No. 404, Document No. 207, 44.

⁵ Snell, “Physical History...,” Vol. II, 10.

generalized needs for repairs to workshops, machinery, dams, and embankments. Perhaps because its spending plan lacked the necessary details, the armory received only 75% of the requested amount. More importantly, the vagueness of the request indicates that a definite plan for renovating the armory did not yet exist.

The estimate for the following fiscal year, 1843, was more definitive on how appropriations would be spent. The requested amount would be spent building a new boring mill and a new proof house, as well as completing construction on a warehouse. In all, during the two and a half year period from January 1842 to June 1844, Congress appropriated \$90,500 for use at the Harpers Ferry Armory. During that time, Superintendent Craig began the process of reconstructing the armory's physical plant. Despite a lingering national economic depression that severely restricted War Department finances, six structures were built during his tenure.⁶ Significantly, Craig also set a new standard for all future construction projects; he insisted that all new buildings be well-designed, of superior workmanship, and made of the finest materials.

Major Craig left Harpers Ferry in November 1844 for new duties at another post and was replaced by Major John Symington as the Superintendent of the armory. The appointment of Major Symington, a talented engineer and graduate of West Point, had long-lasting, positive consequences for the armory at Harpers Ferry. As a young lieutenant, Symington briefly served as Acting Superintendent following the resignation of James Stubblefield in August 1829. During that time he familiarized himself not only with many of the land use issues that plagued the armory, but also with the schemes being devised to solve them. Later, during his official seven year tenure that lasted from 1845 to 1851, he revived many of the plans that were never successfully executed due to changing political and economic conditions.

During his superintendency, Symington displayed considerable skills as a builder, architect, and town planner. Among his most notable accomplishments, Symington introduced a uniform architectural style to the armory buildings; solved the persistent problem of inadequate housing for armory employees; and in 1850 laid out the basic street and lot plan for Harpers Ferry that still prevails.

After only one month on the job, Symington presented a master plan to improve the Musket Factory to his superiors in the War Department. Included were thirteen detailed cost estimates along with five detailed sketches of proposed buildings. The overall plan included ideas for rebuilding workshops and storage facilities at both the Musket Factory and the Rifle Works, and also for repairing and constructing machinery.

Another important component of Symington's master plan concerned the acquisition of necessary land and, conversely, the disposal of unproductive lots.

⁶ Smith, *Harpers Ferry Armory*, 277; Snell, "Physical Plant...", Vol. II, 11.

Symington devised two alternative land buying programs, one for purchasing thirty-six buildings and eighteen lots and the second for acquiring forty buildings and twenty-two lots. The two proposals were accompanied by a detailed and accurate map drawn to scale and in color. The map depicted the lots and buildings to be purchased under each plan. Impressed by Symington's proposals, in January 1845 Chief of Ordnance Colonel George Talcott presented the plans and map to the Secretary of War in his annual report for operations, remarking:

The officer [Symington] who has recently taken charge of the armory has furnished plans and estimates for renewing several of these defective buildings; they have been prepared since the completion of the annual estimates submitted to Congress, and the importance and urgency of the case is believed sufficient to justify their presentation at this time; and I respectfully recommend them to your favorable consideration...⁷

Talcott also recommended the careful consideration and the implementation of one of the two land purchasing programs proposed by Symington.

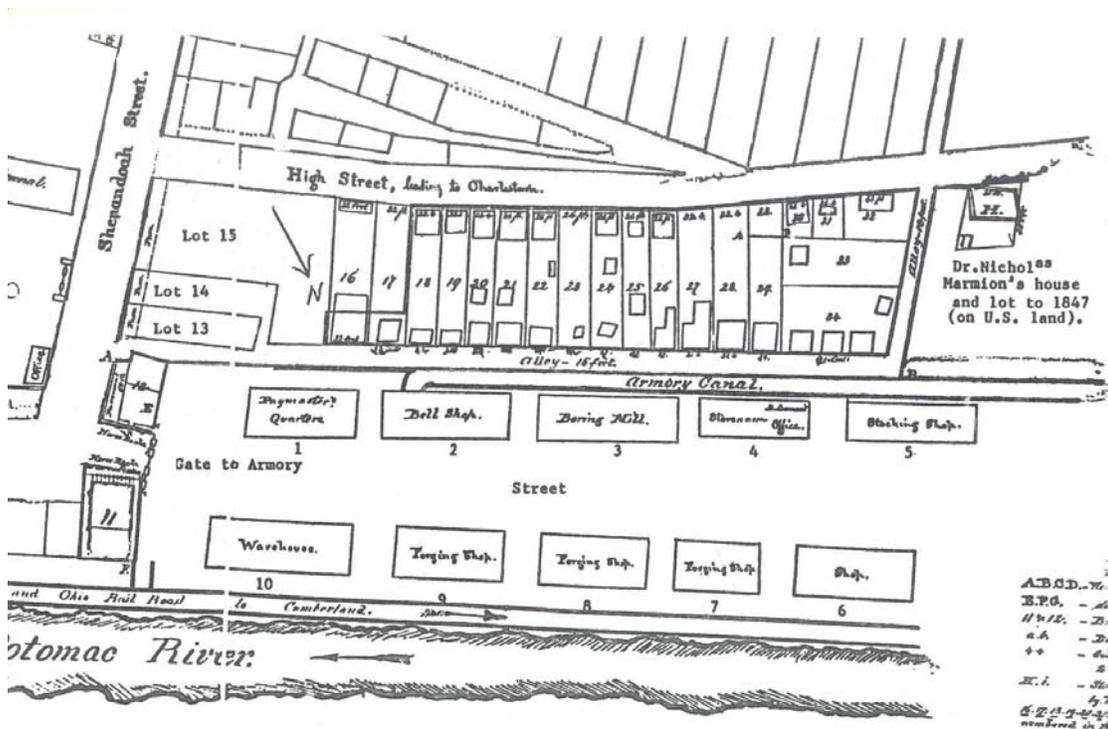


Figure 17 Detail of 1844 map showing the layout of the armory prior to the majority of Symington's reorganization. NPS Collection.

Symington's efforts to rebuild the infrastructure at the armory were greatly aided by the course of international events in the mid-1840s. As was the case in 1799 and again before the War of 1812, war or the threat of war led Congress to earmark large sums of money for national defense. In May 1846 the United

⁷ Public Documents of the United States, Serial No. 464, Document No. 43, 2.

States declared war on Mexico, and for the two years of the conflict, Congress readily designated large amounts of money to make repairs and improvements at the Harpers Ferry Armory. Economic conditions within the United States improved and this, too, aided Symington in executing his master plan at the armory.

Benefiting from the large influx of cash, thirty buildings were added to the armory during Symington's tenure. Nineteen were newly constructed, eight were purchased, and three that Major Craig began were completed. Many of the new structures were built at the Musket Factory along the Potomac riverfront as part of Symington's master plan for transforming the armory into a modern facility.

With some finishing touches made in 1843, construction of a two-story warehouse was completed. A new Boring Mill was erected in 1845. In 1845-1846, two of the forging shops erected in 1808-1810 were torn down and replaced by a new one-story Forging Shop with an adjacent two-story building used for the inspector's office and model and pattern rooms. This structure contained a large chimney stack, 90-ft. tall, that was connected to a line of double forges in the Forging Shop by horizontal flues. A new three-story Stock House was also completed in 1846.

Another new structure built by Symington was the "Engine and Guard-House." Completed in 1848, the structure had room for two fire engines and also a guard room for the night watchmen. Located at the east end of the Musket Factory Yard, this relatively minor structure would achieve fame in October 1859 as "John Brown's Fort." It was within this structure that Brown and several of his followers barricaded themselves during the ill-fated raid.

A new Smiths Shop was also completed in 1848 and was connected to the Forging Shop and Inspector's office. When completed, the combination Smith and Forging Shop, with overall dimensions of 280 ft. by 36 ft., was the largest workshop ever erected at the armory. The next structure erected at the Musket Factory was the Stocking and Machine Shop, completed in 1849-1850. The Bell or Finishing Shop, built prior to 1810, was extensively renovated and modernized around 1850. A new Polishing Shop was built in 1849-1850, which connected the Finishing Shop to the Boring Mill and housed a large waterwheel that drove some of the machinery in the adjacent shops. Symington designed and erected a Tilt Hammer and Barrel Welding Shop in 1849-1850 and a new Grinding Mill, Saw Mill, and Carpenter's Shop in 1850-1851.

1852 saw the completion of an Annealing Shop and Brass Foundry. The final building in Symington's plan for the Musket Factory was a new Rolling Mill at the far west end of the complex. Symington designed the mill but it was completed by Colonel Benjamin Huger and Major William H. Bell, his successors, in 1855.⁸

⁸ Snell, "Town of Harpers Ferry in 1859: A Physical History," 2-8.

Major John Symington as Architect

As an architect Symington insisted on continuing the practices instituted by his predecessor. Like Superintendent Craig, Symington insisted that all new armory workshops be constructed of high-quality materials and of the finest workmanship. In sharp contrast to the old structures, his plans for the various new buildings had many design elements in common, giving the entire facility a uniform appearance. All the major workshops and storehouses designed by Symington had substantial foundations of cut stone; their walls were made of brick and were trimmed with cut stone water tables, window and door sills, and coping. Doors and window frames were generally of cast iron. The gabled roofs had gutters and downspouts made of copper and were covered with either slate or sheet iron to lessen the danger from fire. The shops also were protected by lightning rods. Brick walls were painted with two coats of oil paint or cement wash and the shops were heated by cast iron stoves.⁹

Symington devised a basic floor plan that he used, with minor variations, on eight of the largest workshops. His standard plan called for a three-part structure, consisting of a central block and two flanking wings. Each section had a gable roof, but the roof of the center building was set perpendicular to that of the wings. The basic plan was flexible as to length and height, with structures of one or two stories in height and ranging from 60 to 280 ft. in length. The width of the wings was consistent at 35 ½ to 36 ft. Other single unit structures were built on simple rectangular plans.

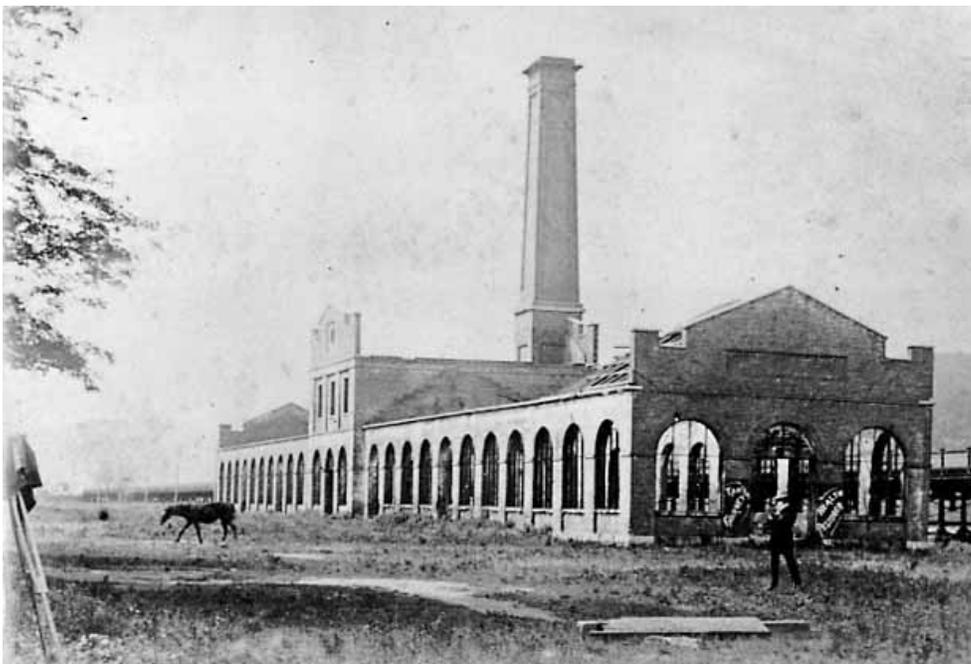


Figure 18 1886 photograph of the Smith and Forging Shop illustrating Symington's standard design plan for a three-part structure. NPS Collection.

⁹ Snell, "Physical History," Vol. II, 49.

The exteriors of the buildings were all treated in a similar architectural style. Referred to as a “Factory Gothic” style, the side gable ends of the buildings, as well as the front facing gables of the center buildings, featured brick parapet walls that were crenellated, capped with cut stone coping, and rose above the edge of the roof. The first stories were subdivided into repeating arcaded bays. Each bay was comprised of a round arch supported by capped brick pilasters. Each bay had a recessed brick panel that contained either an arched window or a door.

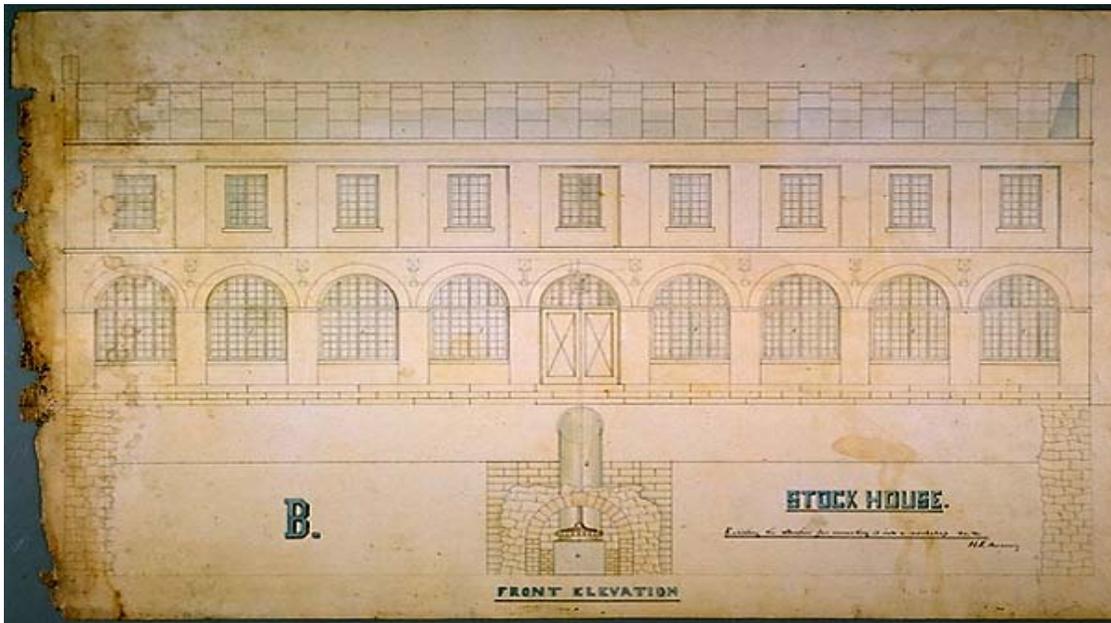


Figure 19 The architectural style of the newly transformed armory is illustrated by this James Burton drawing of the front elevation of the Stock House showing the proposed alterations for converting it into a workshop. NPS Collection.

The second stories of the two-story structures differed from the first stories in that they were subdivided into rectangular bays with flattened arches. Recessed within each of these bays was a brick panel that contained a window topped with a flat lintel. A few of the structures had decorative semi-circular windows set into the upper edges of the gable ends. A wood cupola and bell tower were built on the Engine House and the Finishing Shop, respectively. All of the major workshops and storehouses that were built at the U.S. Musket and Rifle Factories at Harpers Ferry between 1852 and 1861 were constructed according to Symington’s basic architectural plan and style.

More than just the construction of new, well-integrated buildings, the renewal program included improvements to other aspects of the armory facility as well. The armory canal was enlarged (1844, 1857) and fittings for machinery were modernized. Drainage ditches (1843); privies and cesspools (1849); and drinking water cisterns (1853) were constructed to improve sanitation and health conditions. Other enhancements included the installation of lightning rods (1851), water hydrants (1853), and other firefighting equipment throughout the

workshops. Street lamps were installed (1852) and sidewalks were built (1855). Considerable grading and filling of the grounds was undertaken in an attempt to raise the buildings above typical flood levels (1850, 1855-1861). Landscaping was introduced (1853) to give a neat and well-groomed appearance, including the planting of grass and shade trees.

To unify the site, the entire Musket Factory was enclosed by a six to nine ft.-high wall consisting of brick and iron panels mounted on a granite base. The walls were capped with a protective course of cut and shaped sandstone blocks. A formal entrance was made facing east towards Shenandoah Street and the Wager Ferry Lot Reservation. The impressive entrance featured a large double wrought-iron gate, two single wrought-iron gates, and five granite gate posts.¹⁰



Figure 20 Civil War-era photograph of the armory entrance illustrating wrought iron gates and gate posts. NPS Collection.

Except for some minor enhancements, the reconstruction of the Harpers Ferry Armory ended by 1855. By that date the canal and waterworks system were essentially rebuilt, new workshops were erected, and new machinery was installed. The era of interchangeable manufacturing was well underway. The new facility, with its spacious buildings neatly arranged along paved streets on landscaped grounds, stood in striking contrast to the muddle of decrepit buildings that were previously such a source of embarrassment.

The Ordnance Department was impressed with the transformation that occurred at the Harpers Ferry Armory. Its inspector of arsenals and armories expressed his satisfaction with the new operations, declaring “*the System under which they are conducted is a very excellent one.*”¹¹ In 1854 Colonel Henry K. Craig, former armory superintendent and now the Chief of Ordnance, wrote that “*the buildings are now of a decidedly superior character to what they formerly were, and the machines, which have been almost entirely renewed are of the best kind and most improved patterns.*”¹²

¹⁰ Snell, “Town of Harpers Ferry in 1859”, 5-8.

¹¹ Baker to Craig, 7/19/1854, “Reports of Inspections of Arsenals and Depots” From NARA RG 156, Records of the Office of the Chief of Ordnance, as quoted in Smith, 297.

¹² Colonel H.K. Craig to Secretary of War Jefferson Davis, 3/17/1854, as in Gilbert, *Waterpower*, 75.



Figure 21 Beyer's 1857 illustration of the Harpers Ferry Armory. NPS Collection.



Figure 22 1857 lithograph of Virginius Island showing the complex of water-powered industries on the Shenandoah River near Harpers Ferry. Sachse Co., 1857. NPS Collection.

Armory Grounds, 1859

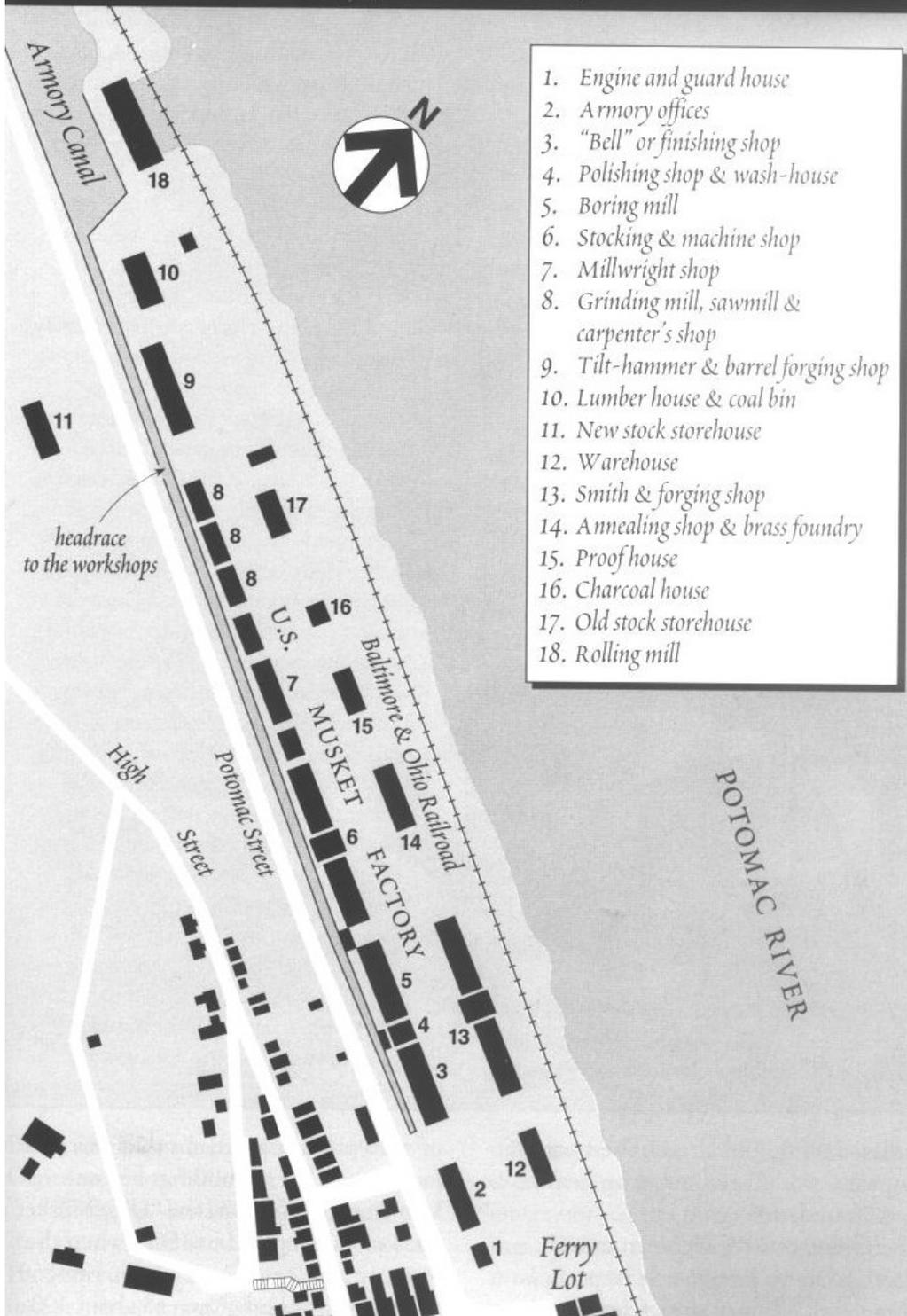


Figure 23 Armory Grounds, 1859. Map by David T. Gilbert, *Walker's Guide to Harpers Ferry*.

By the mid-19th century, Harpers Ferry had evolved from a little-known frontier village into a sprawling industrial town. In addition to the recently renewed and expanded armory, the town boasted numerous other manufacturing enterprises such as a textile mill, a flour mill, a saw mill, an iron foundry, a machine shop, and over forty other mercantile shops.¹³ The B&O Railroad and C&O Canal made Harpers Ferry an important transportation center, linking the town, its merchants and manufacturing to regional and even national economies. An 1855 observer of the town stated:

*The village is compactly, though irregularly built around the base of a hill, and is the center of considerable trade. It contains four or five churches, several manufactories and flour mills, a United States armory in which about 250 hands are employed, producing, among other articles, some 10,000 muskets annually, and a national arsenal. In the latter are continually stored from 80,000 to 90,000 stand of arms.*¹⁴

Indeed, the armory was poised on the brink of a new era of increased efficiency and production. Unfortunately, a traumatic event would suddenly interrupt these promising times. Before the armory could reach its full potential, a small band of abolitionists attacked the facility and sparked a crisis from which it never recovered.

¹³ Gilbert, Joseph, and Wheelock, "Cultural Landscape Report," 1.

¹⁴ Edwards as in Noffsinger, 43.

CHAPTER 7



John Brown's Raid and the Civil War

John Brown's attack on the arsenal at Harpers Ferry began the night of October 16, 1859. Thirty-six hours later, he and his men were captured in the armory's small Engine House by a group of U.S. Marines. The sensation caused by the raid and its effects on an already polarized nation would have lasting consequences. For the armory, the raid hastened the end of all arms manufacturing at Harpers Ferry. Though damage to the armory was slight during the raid, the Civil War Brown helped spark led to its destruction and ultimate abandonment.



Figure 24 1859 photograph of John Brown. Prints & Photographs Division, Library of Congress.

Brown's raid began when he and his twenty-one followers, armed with Sharps rifles, seized the B&O Railroad bridge across the Potomac River and then overpowered the watchman at the front gate of the armory. A small contingent of men was then sent to secure the arsenal, the Shenandoah River bridge, and the Rifle Factory. Still others were sent to take hostages and cut telegraph wires. Despite their best efforts to go unnoticed, a gunshot sounded around midnight as the bridge watchman's relief appeared for duty. Then, at about 1:30 a.m., an eastbound train was detained and during the commotion that followed, the station's baggage man was mortally wounded. Brown eventually allowed the train to proceed to Baltimore, carrying the shocking news of the raid outside of the community.

With the morning light came the realization that something was seriously amiss. As the armorers dutifully reported to their workplaces, many were taken prisoner by the awaiting insurgents. Joseph Barry relates how Brown and his raiders took the workers completely by surprise:

It was now daylight and the armorers proceeded singly or in parties of two or three from their various homes to work at the shops. They were gobbled up in detail and marched to prison, lost in astonishment at the strange doings and many, perhaps, doubting if they were not yet asleep and dreaming. Several of the officers of the armory were captured...¹

¹ Barry, *Strange Story...*, 50.

According to the official report of acting armory Superintendent A.M. Kitzmiller, himself one of the captives, fifty or more men were corralled into the Musket Factory yard. Meanwhile, wild rumors of a sizable abolitionist insurrection at the armory quickly spread throughout Harpers Ferry. Messengers hastened to alert militia forces at Charles Town, Shepherdstown, and other nearby villages.

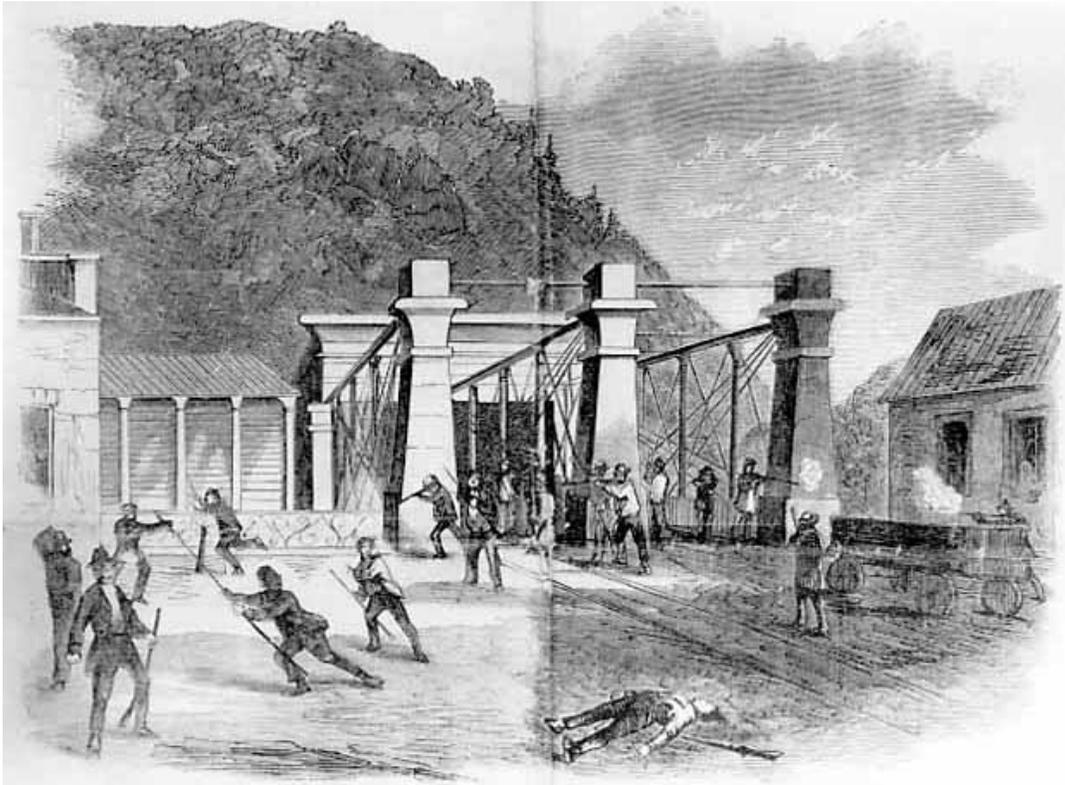


Figure 25 "Attack On The Insurgents At The Bridge By The Railroad Men" during the John Brown Raid, October 1859. NPS Collection.

Militia companies from Maryland and Virginia moved into the town during the day on October 17. The fear that initially swept over the townspeople quickly turned to anger as it became clear that the imagined invasion force was made up of no more than a few dozen increasingly desperate abolitionists. By noon, drunken vigilantes encircled the armory brandishing weapons, some of which were taken from the armory. Several of the raiders were captured and brutally executed.

Brown, the remaining raiders, and a handful of the hostages were then cornered in the small brick building that served as the armory's fire engine house. Militiamen exchanged fire with the raiders, with some taking up positions just across the street near the armory's warehouse. Late in the evening, a force of ninety U.S. Marines commanded by Colonel Robert E. Lee arrived on the scene. At daybreak on October 18, 1859, Brown declined an order to surrender. A

storming party proceeded to break down the sturdy doors of the Engine House and, after a brief scuffle, John Brown was captured.

Kitzmiller reported that damage to the armory was “trifling,” excepting perhaps the loss of rifles that, in the excitement of the moment, were issued to townspeople but not returned. Tensions remained high in the aftermath of the failed raid. Rumors persisted that a large force of abolitionists was lurking on the Pennsylvania border, seeking revenge or ready to invade and free the jailed John Brown. Kitzmiller attempted to resume business as usual on the morning following Brown’s capture, but work at the facility came to a halt. Superintendent Alfred Barbour, away during the raid, hurried back to Harpers Ferry to find the armory in disarray. Troops were billeted in the workshops and Large Arsenal, standing ready to protect government property from further attacks. Windows were broken and tools were scattered about. The workers remained anxious and it took more than a week before repairs were made and operations returned to normal.²

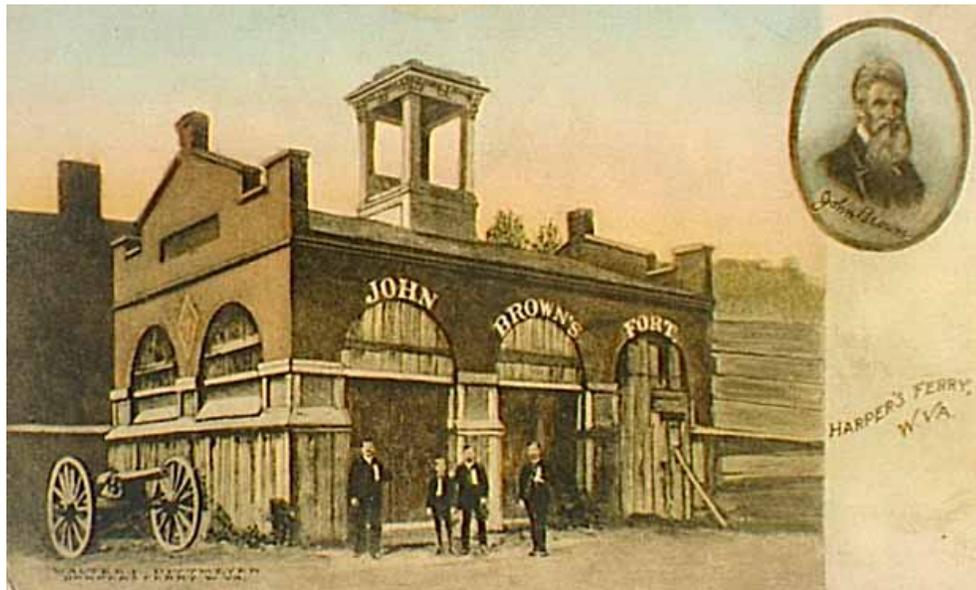


Figure 26 Postcard showing John Brown Fort with a portrait of John Brown. Published by Walter E. Dittmeyer, circa 1910. NPS Collection.

News of the raid reached the American public primarily through the pages of newspapers, including *Harper's Weekly* and *Frank Leslie's Illustrated Newspaper*. Reporters described in dramatic terms the events of the raid and, for a while, the town of Harpers Ferry was etched into the public consciousness. Depending upon their viewpoint, readers reacted with either dismay or approval, to the sensational disclosure that Brown was secretly backed by other prominent Northern abolitionists. As Brown’s trial played out in the media, the B&O bridge,

² Smith, *Harpers Ferry Armory*, 307.

the armory gate, and especially the Engine House all gained a certain prominence. Indeed, the Engine House achieved a permanent landmark status, and is known to this day as “John Brown’s Fort.”³

Brown’s execution at Charles Town for treason on Dec. 2, 1859, did nothing to settle the emotions the raid had stirred. The citizens of Harpers Ferry remained in a state of perpetual alarm through 1860 and on into 1861. In addition to requesting the garrison of soldiers at the armory, the townspeople formed four companies of their own militia. Pickets were posted and night patrols were established. Already somewhat wary of northerners and other outsiders, their “hyperemotionalism” bordered on paranoia as regional political differences became sharper.⁴ A letter written by armory employee George Mauzy illustrates the extent to which the town and surrounding area braced itself for further troubles:

There is an immense concourse of military at Charlestown, not less than 2000 men are quartered there, the Courthouse, all the churches & all the Lawyers offices are occupied. We have upwards of 300 regulars & 75 or 80 Montgomery Guards. These men were all sent here by the Sec. of War & Gov. Wise to prevent a rescue of Brown & his party by northern infidels and fanatics...

*There were some 4 or 5000 of Halls Rifles on hand in the arsenal, which have nearly all been given out to the citizens in this place & in this and the adjoining counties: it would not be advisable for any desperado to make a descent upon this place now unless they were much stronger than Brown’s party, if even the soldiers were not here.*⁵

The divisiveness brought about by John Brown’s raid stressed the already uneasy relationship between Virginia and the Federal government. In January 1860, less than two months after Brown’s execution, the Virginia assembly passed a bill “*For the better defence [sic] of the State.*” The old Virginia Manufactory of Arms – renamed the Richmond Armory in 1861 – was reactivated after being shut down for 38 years. When J.R. Anderson & Company was awarded a large contract to supply new and updated machinery for the reactivated manufactory, the firm hired the experienced engineer James H. Burton to manage the contract. A former Master Armorer at the Harpers Ferry Armory, Burton returned to Harpers Ferry where he was allowed “*free access to the drawings patterns &c. in the Armory*” for his new employer, returning to Richmond with a large portfolio of drawings.⁶

³ Gilbert et al, “Cultural Landscape Report,” 3-50.

⁴ Smith, *Harpers Ferry Armory*, 309.

⁵ George Mauzy to Mr. and Mrs. James H. Burton, 12/3/1859, HAFE Document, available at www.nps.gov/hafe/historyculture/the-mauzy-letters.htm.

⁶ Smith, 312-315; Burton Diary: 12/5/1860 (James Henry Burton Papers, Manuscript Group #117 Box I).

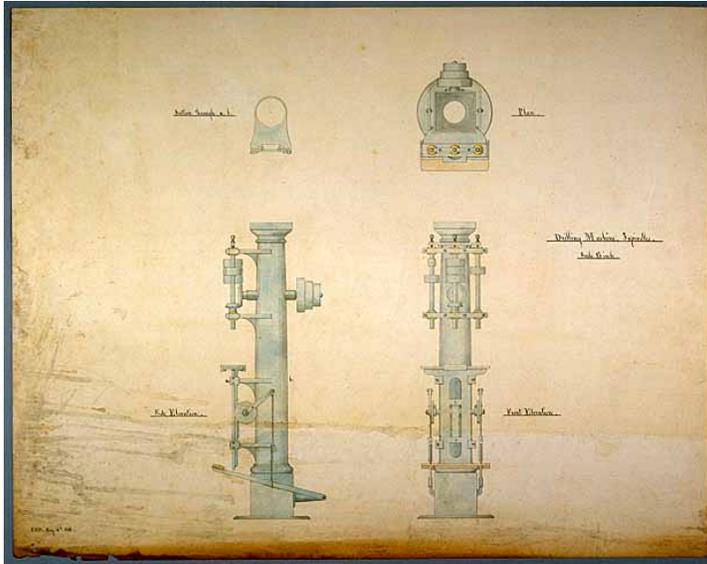


Figure 27 Drawing of drilling machine with three spindles, by James H. Burton, August 16, 1852. NPS Collection.

Throughout the following year, as the nation inched closer and closer to outright warfare, Harpers Ferry Army Superintendent Alfred M. Barbour proceeded cautiously whenever he hired any new army employees. He feared that the community, already highly suspicious of outsiders, would react negatively to any new armorers from the North.

In January 1861 anti-Union sentiments and the fear of “*Yankee radicalism*” reached new heights and caused spirited debate in Harpers Ferry and surrounding Jefferson County. The jittery Superintendent warned his superiors in the War Department that he had “*reason to apprehend that some assault will be made upon the United States Army at Harpers Ferry.*”⁷ Ominously, Virginia’s ex-Governor Henry Wise, a militant supporter of states’ rights, began calling aggressively for Virginia to seize any and all Federal property within its borders and proclaim neutrality.

Though public opinion remained split on a number of social and political issues, by April 1861, an inevitable course towards Civil War was set. John Brown’s raid on the Harpers Ferry Army in October 1859 further polarized a deeply divided nation on the contentious issue of slavery. Scholars agree that Brown’s shocking attack on the armory and his eventual martyrdom helped bring about the Civil War. That terrible national conflict had stark consequences for the small town of Harpers Ferry and the armory site along the Potomac.

Civil War

Very little damage was sustained by the armory buildings during John Brown’s raid, but the war that Brown helped spark less than two years later ultimately led to the destruction and abandonment of the facility. When hostilities finally broke

⁷ *Richmond Enquirer*, 10/11/1861; Wellman, as quoted in Gilbert, *Waterpower...*, 122.

out at Fort Sumter in South Carolina on April 12, 1861, the allegiance of the Commonwealth of Virginia to the federal government was still very much in doubt. Passions ran high as delegates gathered in Richmond to decide Virginia's course of action. News of the surrender at Fort Sumter reached the city only days before and many celebrated what they viewed as a successful rebuke of unwarranted northern aggression in South Carolina. Ex-Governor Wise, who was in office during John Brown's raid, made fiery speeches in favor of states' rights and secession. Another faction favored a position of armed neutrality. Others, more moderate, counseled reconciliation and restraint. Slowly, however, the momentum shifted towards the secessionist viewpoint. Even Armory Superintendent Barbour, who attended the convention as a Unionist delegate for Jefferson County, eventually supported a resolution for secession.⁸ On April 17, 1861, the Virginia Convention met in a secret session and formally adopted an Ordinance of Secession.

Even as the various political positions crystallized, strategic military events were occurring. Planners on both sides recognized the strategic importance of holding Harpers Ferry, located at the confluence of the Potomac and Shenandoah rivers. Even without the extremely valuable arms-making equipment located at the armory, Harpers Ferry was important as a railway junction and a canal town. In addition, the B&O Railroad and the C&O Canal were both important transportation and supply arteries connecting east to west. Nestled in a gap in the Blue Ridge, the town itself was a natural gateway to Washington, D.C. as well as the agriculturally rich Shenandoah Valley. But above all else, it was the armory machinery that made Harpers Ferry a true prize of war.



Figure 28 "Harper's Ferry Armory as it now appears," published by *Harper's Weekly* on July 20, 1861. The square crenellated bell tower was erected between 1860 and 1861. On the right of the tower was a "Workshop for files and cutting and milling machines." NPS Collection.

⁸ Smith, *Harpers Ferry Armory*, 315.

Among the first acts of war by Virginia, which occurred even before announcement of the passage of the Ordinance, was to send several companies of militia to capture the Harpers Ferry Armory in order to obtain valuable stores of arms and equipment for Confederate use. The day after the Convention, on April 18, 1861, Virginia troops began converging in numbers, preparing to march on Harpers Ferry. Just up the Shenandoah Valley, in Winchester, Virginia, numerous companies of militia were seen throughout the day passing through the town. At Charles Town, Confederate Captain John D. Imboden began moving his battery of six guns toward Harpers Ferry. Additional militia men congregated at Halltown, a mere four miles from the armory.

The Virginia forces, under the command of Major General Kenton Harper, moved against Harpers Ferry on the night of April 18. Before entering town, Major General Harper sent a note demanding the surrender of the government works. The demand for surrender stated:

*To the Superintendent of the Armory at Harpers Ferry:
I command you in the name and by the authority of the State of Virginia to
Surrender to me forthwith the armory and public property in your possession.
Kenton Harper
Maj. Gen. Comg.⁹*

The messenger bearing the note found no one in authority and the surrender order was returned to the Virginia headquarters. Upon learning of the approach of the Virginia troops, Lieutenant Roger Jones, in command of a military detachment of forty-two regular United States soldiers and a handful of volunteers, set fire to the buildings and fled with his men. Fearing the armory would be captured, Lt. Jones set fire to the arsenal around 10 P.M. to destroy the finished weapons while a demolition team set bundles of combustible material on fire in some of the principal workshops. Another of George Mauzy's letters provides details on the day's events; it also states which buildings were torched by the retreating Federals:

Considerable excitement prevailed here today...What should [they] do but get a large quantity of Powder from the magazine during the day, & after night had it distributed through the shops & the two Arsenals, and at about 10 O'clock at night they set fire to the Carpenter shop & grinding mill, Stocking shop, & the 2 arsenals, which were both burned down together with some 15,000 guns of Various Kinds. The two first named shops are also a perfect heap of ruins, fortunately the stock shop was saved with but little damage.¹⁰

⁹ WV State Archives, WV Memory Culture website: <http://www.wvmemory.wvculture.org>

¹⁰ George Mauzy to James A. Burton, 4/19/1861, <http://www.wvmemory.wvculture.org>



Figure 29 "The burning of the United States Arsenal at Harper's Ferry, 10 p.m. April 18, 1861."
From *Harper's Weekly*, 1861. NPS Collection.

After firing the buildings, Jones and his men crossed the Potomac bridge and encountered an angry group of secessionists. They made their escape through Maryland northward to Pennsylvania, only after posing in a line of battle and dispersing the belligerent mob which was forming around them.

The approaching militia forces could hear several loud explosions and see smoke rising into the air as they neared Harpers Ferry. By the time the troops reached the town, much of the armory workforce and local residents – perhaps fearful of losing their jobs and economic security – already extinguished what fires they could in the shops and saved much of the machinery from total destruction. A newspaper sympathetic with the Southern cause later reported that Colonel H.W. Clowe, a former Superintendent of the armory, was personally involved in dousing the flames and the:

*seemingly providential rescue of its costly machinery from the destruction to which our...Vandal foe had consigned it...Regardless of his own personal safety, and turning a deaf ear to the reports that the buildings had been all mined, Col. Clowe, guided by his intimate knowledge of the situation and relative value of the machinery, rushed into the burning shops, and not only himself saved much which to us was of inestimable value, but inspired others to imitate his patriotic example, and to finally subdue the flames.*¹¹

¹¹ *Richmond Enquirer*, 10/11/1861.

When the smoke cleared, the two arsenal buildings were destroyed, but at the Musket Factory, a significant amount of materials was saved from the blaze. The capture of the Harpers Ferry Armory represented a significant early victory for the South.

Harpers Ferry was then occupied by Confederate forces for about two months. On April 19, 1861, the day after the fire at the armory, news reached town of a riot in Baltimore, caused when Massachusetts soldiers were attacked while en route to the national capital. Shortly after this disturbance, many of the rioters and other volunteers from the State of Maryland came to Harpers Ferry.



Figure 30 1861 sketch "Secession Batteries at Harpers Ferry, erected on the heights overlooking the town..."reproduced in *Frank Leslie's Illustrated Newspaper*. NPS Collection.

They were shortly joined by additional Southern troops arriving from Virginia, Mississippi, Alabama, Tennessee, and Kentucky.¹² Martial law was soon declared and the citizens of Harpers Ferry received their first, though certainly not their last, taste of military occupation. During this time, all U.S. Army property at Harpers Ferry was seized by the Commonwealth of Virginia. Many of

¹² Barry, 100.

the armory workers were forced to vacate their government-owned living quarters so that the structures could be used as barracks for the various militiamen.¹³

Under the scrutinizing eye of Harpers Ferry commander Col. Thomas J. Jackson, many soldiers and former armory workers were set to the task of dismantling the machines of the Musket Factory and Rifle Works, salvaging any machines, materials, and tools that could possibly be used. Inventories show that over 300 machines for musket and rifle-making – comprising nearly two complete sets – and thousands of feet of belting and shafting were confiscated from the workshops of the armory. Over 57,000 assorted tools and gun parts in various stages of manufacture were taken, as were 4,287 finished firearms and enough components to assemble for immediate use between 7,000 and 10,000 weapons of the latest design.¹⁴ Perhaps because it was too badly damaged, some of the machinery – consisting primarily of tilt and drop hammers located in the Tilt Hammer Shop – and shafting was not dismantled, but instead was left in place.

Shortly after the capture of the Harpers Ferry Armory, efforts were made by the new Confederate government to assess the industrial capacity of the South, with particular attention paid to its ability to manufacture items needed for war. While the South did have numerous flour mills, cotton mills, and small manufacturing establishments such as iron forges, the region traditionally relied more on agriculture and less on industry to sustain its economy. The Tredegar Iron Works, located in Richmond, Virginia, was the only shop located in the South producing heavy ordnance – cannon, shot, and shell – in any quantity before the war. Small-arms production was practically non-existent. Making matters worse, supplies of raw materials were inadequate to meet the needs of the Confederacy. The importance of the Harpers Ferry Armory machinery to the nascent Confederacy can not be overstated.¹⁵

During the first weeks of June 1861, the confiscated materials were placed into crates and sent from Harpers Ferry by rail to Winchester, Virginia. There it was loaded on wagons and hauled by teamsters over land to Strasburg, Virginia. At Strasburg it was re-loaded onto the Manassas Gap Railroad and transported to Confederate armories in other parts of the South. The musket machinery was sent to Richmond, Virginia, and the rifle machinery was eventually shipped to Fayetteville, North Carolina.

Put simply, the machinery seized at Harpers Ferry formed the backbone of Confederate arms manufacturing. Observers on the Southern side made note of its “*timely acquisition*,” coming as it did after “*the National difficulties had culminated in the disruption of the Union, and the enforcement, by the mobs of the North, of a practical embargo upon the exportation of their manufactures to the South.*” They boasted that the Harpers Ferry Armory machinery was:

¹³ Snell, “Physical History,” 283.

¹⁴ Davies, 330-339; Norman 2-4.

¹⁵ Norman, 1-2.

of the best description, worth in the aggregate upwards of two hundred thousand dollars, and which, under the most favorable circumstances, of ordinary methods of supply could only have been furnished us after years of delay. [And with it]...our Army can now turn out as perfect a musket as ever emanated from Harper's Ferry. Made – lock, stock, barrel and mounting – entirely by means of machinery formerly employed by the old Government for the same purpose.¹⁶

Having stripped the armory factories of useful materials, the Confederates withdrew from Harpers Ferry, falling back on June 14, 1861, to a safer position in Winchester, Virginia. Before evacuating the town, however, the departing army blew up the B&O Railroad bridge and burned the remaining Musket Factory buildings, a total of twenty-two structures. The interiors of the workshops, offices, and storehouses, many of which had wood floors and frame roofs, were completely gutted. With the exception of a few buildings at the eastern end of the Yard, only brick walls remained standing.



Figure 31 Ruins of Baltimore and Ohio Railroad bridge destroyed by Confederate forces on June 14, 1861. NPS Collection.

¹⁶ *Richmond Enquirer*, 10/11/1861.

First Sergeant Augustus L.P. Vairin, a soldier in the 2nd Mississippi Infantry, was an eyewitness to these events. In his diary he wrote:

*14 June Thursday, fine day. 6 AM orders to cook breakfast & strike tents & we waited for further orders which were to march at 6 PM. At 6 AM the bridges over the Potomac were blown up & burned by order of Gen. Joe Johnston commanding. During the forenoon all the public buildings at H.F. & the long tresseling of the Baltimore & Ohio Railroad were burned, all of which was in plain view of our camp. This was a great destruction of fine & expensive works but it was all for the best as it will not do to leave & give the enemy a chance to follow us quickly as we are encumbered with many sick...*¹⁷

Two weeks later, on June 28, 1861, a Confederate regiment returned to set fire to the Rifle Works and the Shenandoah River bridge. Vairin's diary reveals that, in addition to their work of destruction, companies of soldiers were detailed to load "*machinery, lead, copper &c*" – presumably items from the Rifle Works that were left behind the first time – for transport to Winchester. With the destruction of the buildings of the Rifle Works, the entire physical plant of the Harpers Ferry Armory – comprised of 78 workshops and storehouses, was now completely in ruins. Of the town, Vairin noted that "*The place looks quite deserted...*"¹⁸

Arms-making machinery was not the only asset the Confederacy gained when it captured Harpers Ferry in 1861. Much of the armory workforce followed the machines to the Southern side. While each individual worker ultimately had to decide where his loyalties were, many factors may have pushed the majority to become citizens of the Confederate States. First, if the men – already skilled in the use of these highly specialized machines – stayed with the machines, they remained gainfully employed. Many workers were desperate to provide for their families. James Shewbridge was typical of many of these employees. He wrote to his brother asking for help:

*David, we are in dreadful condishon [sic] here. Our armory is burnt and we have no money and no nothing else. At this time there is about five thousand soldiers at this place and more coming. Our men is leaving – them that have money enough to carry them away...We have two months work that we expect to lose. Most of the hands here have not a cent and I am...now in a suffering condishon [with] a large family, no money, and no work.*¹⁹

Suddenly stripped of its industry, the town of Harpers Ferry offered few economic opportunities for the unemployed.

Second, many of the armorers may have viewed the South's newly established armories as job advancement opportunities, a chance to rise through the ranks of the new and rapidly expanding Confederate Ordnance Bureau. Starting largely from scratch, the South was in great need of skilled labor in order to produce

¹⁷ Brown, "Diary of Old Ord...", unpaginated.

¹⁸ Ibid.

¹⁹ James Shewbridge to David Shewbridge, 4/23/1861, Shewbridge Letters, HAFE Document 581.

quality weapons. An examination of the personnel records of the C.S. Army in Richmond in 1861 reveals that the superintendent, all four of the shop foremen, and nearly one-sixth of the 200 member workforce were former Harpers Ferry armors.²⁰ The industrial expertise the men gained at Harpers Ferry certainly aided them in finding work after the workshops of Harpers Ferry were destroyed and abandoned.

Among the most distinguished of the “graduates” of the Harpers Ferry Armory was James H. Burton. Burton began working at Harpers Ferry in 1844 as a mechanic, worked his way up to Foreman of the Rifle Factory Machine Shop, and eventually was named Acting Master Armorer, all within a span of five years. A gifted draftsman with an appreciation for the benefits of the mechanization of arms production, Burton left Harpers Ferry in 1854 to take a job as a consultant with the Ames Company of Chicopee, Massachusetts. The Ames Company supplied both federal armories with precision machinery for the manufacture of firearms. After serving as Chief Engineer of the Royal Small Arms Manufactory in Enfield, England, Burton returned to the United States and was hired as a contractor in 1860 to supply machinery for the recently re-activated Richmond Armory.

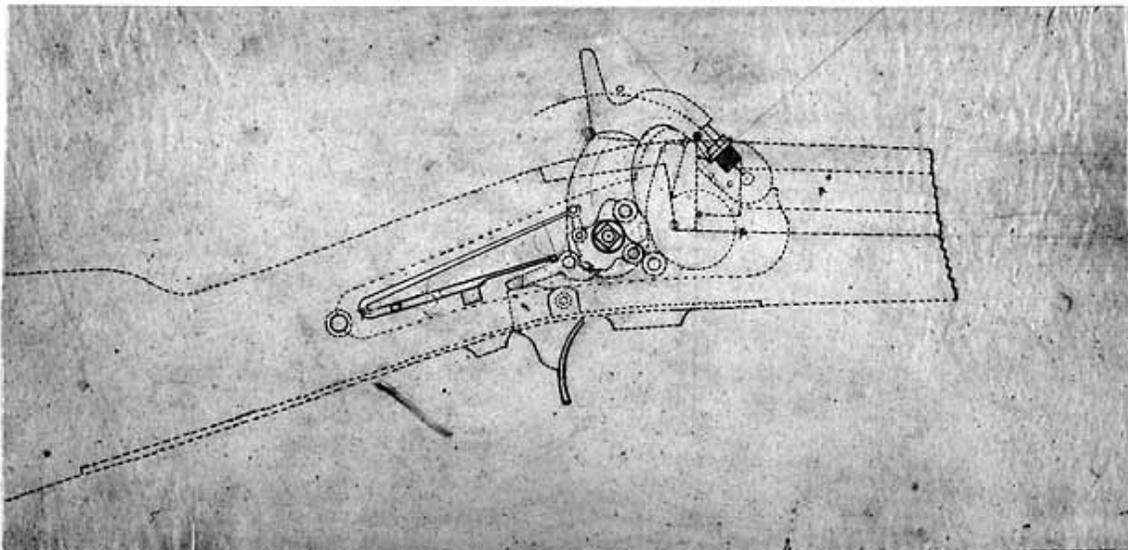


Figure 32 Burton illustration of a Back-Action Lock with Maynard Tape System. This drawing exhibits a breech-block mechanism similar in appearance to that found on a Sharps rifle. NPS Collection.

When the Civil War began, Burton cast his lot with his native Virginia and the Confederate side. He was soon appointed superintendent of the Richmond Armory and he personally supervised and directed the transferal of the machinery confiscated at Harpers Ferry. His precise drawings of key fixtures, patterns, and tools of the Harpers Ferry Armory were of immense value in re-

²⁰ Davies, 5; *Richmond Enquirer*, 10/11/1861.

assembling the complicated equipment and fixing damaged parts. So great was Burton's knowledge of firearms manufacturing and so complete was his familiarity with the machinery, he was commissioned a Lieutenant Colonel in the Confederate States Army in December 1861, and placed in charge of all Southern armories.²¹

Harpers Ferry Becomes a No-man's Land

When the Confederates abandoned Harpers Ferry in June 1861, taking the armory machinery with them, the town was unoccupied for a brief time. After only two months of war, the citizens of Harpers Ferry were stunned, many without work and not knowing what to do. Local resident and historian Joseph Barry remarked:

It was sad to see the rapid demoralization of the people at this time and the various phases of corrupt human nature suddenly brought to light by the war. Not only were the government buildings ransacked for plunder, but the abandoned houses of the citizens shares the same fate.²²

On July 21, 1861, the same day as the First Battle of Bull Run, Union Major General Robert Patterson's men fell back from a position in Charles Town to Harpers Ferry. Patterson's men, consisting for the most part of "three month's men," bivouacked in the Musket Factory Yard and occupied the town for several days. During their short stint at Harpers Ferry, according to Barry, Patterson's men were unsupervised and freely plundered the town. Barry's sarcasm was obvious when he wrote of Patterson's men:

Whatever may be said of their exploits on the field of battle their achievements in the foraging line are certainly worthy of mention...[I]f they were not thieves before their enlistment their proficiency in the art of stealing was extraordinary...Indeed, every thing movable disappeared before them...²³

Barry was especially puzzled after learning that a half dozen soldiers were witnessed carrying a tombstone from the Methodist cemetery to their campsite down in the armory yard.

From the time Union troops finally departed on August 17, 1861, until February 25, 1862, the town became a no-man's land. The majority of the buildings in the Musket Factory Yard stood as burnt out shells, but the flat ground around them was utilized again and again throughout the rest of the war. Adjacent to the railroad along one of the Union's major east-west supply corridors, the old

²¹ For an excellent overview of Burton and his role at the Harpers Ferry Armory, see the "Burton Collection Online Exhibit" located on the Harpers Ferry National Historical Park website <http://www.nps.gov/hafe.net>. The exhibit includes drawings that detail the evolution of the minie bullet and illustrate armory buildings, furnaces, lock mechanisms, machine tools, and various aspects of the water-powered works.

²² Barry, 109.

²³ Barry, 110.

armory site became a staging ground for all kinds of quartermaster's and commissary supplies. It also served as a convenient place for accommodating the tents, wagon trains, and horses of a large number of soldiers and other personnel.

Beginning in late February 1862, Harpers Ferry served as the primary supply depot in support of the Shenandoah Valley operations of Major General Nathaniel Prentiss Banks.²⁴ Later, during the Confederate siege of Harpers Ferry in September 1862, Union forces used an armory building to store ammunition, either in one of the re-roofed structures in the Musket Factory yard or in the similarly repaired Large Arsenal building on Shenandoah Street. After the town was reoccupied by Federal forces on September 20, 1862, they maintained a guard house in the Musket Factory Yard, a structure described as having a "*dungeon*." This probably refers to the Paymaster's Old Office, which had a "*burglar, air, and light proof*" vault. Other armory workshops were converted into a bakery and a slaughterhouse, though the documentation is unclear as to the exact structure or structures that were used.²⁵

Despite a difference of opinion with General-in-Chief Henry W. Halleck, General George McClellan decided to establish Harpers Ferry as his new base of operations for the Army of the Potomac on September 24, 1862, one week after the Battle of Antietam. Accordingly, large amounts of supplies were forwarded to Harpers Ferry. McClellan's First Corps commander, General John Reynolds, reported in mid-October that many of his men were without shoes and poorly clothed. In response the Quartermaster General forwarded 10,000 pairs of shoes by wagon train to Harpers Ferry. Headquarters informed Reynolds: "*At least 10,000 suits, 20,000 blankets, and 10,000 shelter-tents... should soon be at Harpers Ferry*" and instructed him to draw his supplies from the storehouses there.²⁶ An inventory of supplies at Harpers Ferry on October 22 included: 24,000 booties, 1,800 blankets, 3,000 stockings, 4,000 infantry trousers, 4,000 infantry overcoats, 7,500 knit jackets, 1,500 cavalry trousers, and 3,000 cavalry overcoats. Indeed, the depot at Harpers Ferry played a major role in supplying the Army of the Potomac. A partial list in military records reveals that, during the six week period between September 12 and October 29, 1862, the Quartermaster supplied the troops with 97,000 drawers; 17,000 ponchos; 34,500 forage caps; 123,425 stocking pairs; 28,229 canteens; 45,301 flannel shirts; 33,889 haversacks; 13,800 pairs of boots; 44,060 infantry coats; and 86,440 booties.

In addition to their use as storage facilities, the abandoned armory buildings sometimes provided cover for sharpshooters or other fighting forces. For example, In July 1864, as part of the run up to the Battle of Monocacy, the

²⁴ Frye, *Antietam Revealed*, 22.

²⁵ Snell, "A Report on the Federal Fortifications..." 6; Snell, "A Physical History..." Vol. II, 289.

²⁶ Frye, *Antietam Revealed*, 149, 151, 155, and 159; *Official Records (O.R.) of the War of Rebellion*, Vol. XIX, (1):430, 437, 464-465; (2):466, 488.

armory's great river wall served briefly as cover for a regiment of Confederate artillery and sharpshooters. During his campaign to threaten Washington, D.C., Confederate Lieutenant General Jubal Early directed a portion of his forces to make a feint towards Harpers Ferry, which was then guarded by approximately 6,500 Union men.

As part of this action, on July 4, 1864, a Confederate regiment of Brigadier General Cullen A. Battle's brigade captured Lower Town Harpers Ferry along with a large cache of supplies left behind when the Union forces retreated to fortifications on Maryland Heights. Late in the evening, Battle's artillery opened fire from its position hidden behind the stone river wall in the Musket Factory Yard. The artillery duel and sporadic fighting continued the following day and a Union signal station operator at Sandy Hook noted: "*The sharpshooters from behind the railroad wall have been and are yet exchanging leaden compliments with our men.*"²⁷

The river wall was not an especially advantageous position and a North Carolina regiment lost several men to Union sharpshooters while trying to relieve the forces occupying Lower Town. Colonel David G. Cowand of the 32nd North Carolina Infantry wrote:

*After getting in the village it was quite dangerous relieving the troops then on duty. This regiment [43rd] lost several men while relieving Battle's by the fire of the sharpshooters on the Maryland Heights. About night the 32nd North Carolina was ordered in the town to assist in doing garrison duty and to help load the wagons with the quartermaster's and commissary supplies that we captured...*²⁸

Skirmishing continued between the two armies, neither side too anxious for a fight. Confederate commanders soon saw it was not possible to hold Harpers Ferry, even though they succeeded in capturing it. Then, late in the evening of July 6, as they prepared to withdraw, the Confederates set fire to portions of the town. E.R. Warner, an employee of the B&O Railroad Company wrote:

*Eleven o'clock p.m. observing a light at Harper's Ferry, Mr. Donohoo and myself started up to ascertain the cause...Saw the enemy running about. The government buildings [Musket Factory and Arsenal Square structures] and property are burning and I fear our [B&O] platform, trestle, office and all will go in consequence of their close proximity to the government buildings. Capt. Gardner left some 300,000 pounds of forage there and all of it makes a big fire and is now burning brightly...*²⁹

The fire damaged 100 yards of the railroad trestle and much of what remained of the B&O's Potomac River bridge. There are no reports describing what damage was sustained by the armory buildings in the fire. On July 9, Early's troops

²⁷ O.R., Vol. XXXVII, 180-183.

²⁸ O.R., Vol. XLIII, (1):602.

²⁹ Warner to W.P. Smith, 7/6/1864, HAFE Document, R.15, V.4, 589.

bypassed the U.S. troops across the river, moved through Frederick, Maryland, and fought the Battle of Monocacy.³⁰

Sheridan's Valley Campaign: August 1864 - March 1865

As a vital rail, river, and canal junction, Harpers Ferry always played an important role as a supply depot during the Civil War, but the town became especially active during the autumn of 1864. As the war dragged on, the Shenandoah Valley increased in importance as a Union target. The Valley's physiographic alignment from southwest to northeast made it a natural Confederate avenue of approach, enabling the South to carry the war into the North. A continued Confederate presence there also threatened vital Union transportation and communication lines, and made Washington, D.C., itself vulnerable. The agricultural richness of the Valley was a key asset as well, as Valley farms continued to produce a large portion of the food required by Lee's army in eastern Virginia and sustenance for other parts of the Confederacy as well. General Ulysses S. Grant therefore included the Valley as a part of his strategic planning for Federal forces in the spring of 1864. As a result, from August 1864 to March 1865, Harpers Ferry served as Union Major General Philip E. Sheridan's base of operations during his Shenandoah Valley campaign.



Figure 33 These Musket Factory buildings, pictured here in late 1865 or early 1866, were rehabilitated for use as a Quartermaster Depot in 1864 during the Shenandoah Valley campaign. NPS Collection.

³⁰ Snell, "Harpers Ferry Repels..." 26-27.

A key component of the plan to use Harpers Ferry as a base was the B&O Railroad. The Confederates harassed and raided the B&O throughout the war at Harpers Ferry. The railroad bridge across the Potomac was destroyed and rebuilt nine times during the course of the conflict. Duffield's Depot, Martinsburg, Berlin [present day Brunswick, Maryland], and Point of Rocks were also frequent targets and rail traffic was severed repeatedly. In the end, however, the North's ability to repair the damage and keep the trains running outstripped the South's ability to disrupt the railroad. Supplies also arrived at Harpers Ferry via the C&O Canal, but the vast majority was shipped by rail. The Winchester and Potomac Railroad, which was destroyed by Confederates, was also repaired in preparation for Sheridan's campaign. The buildings and grounds of the now abandoned armory, both at the Musket Factory and the Rifle Works, made ideal depots and military staging grounds.

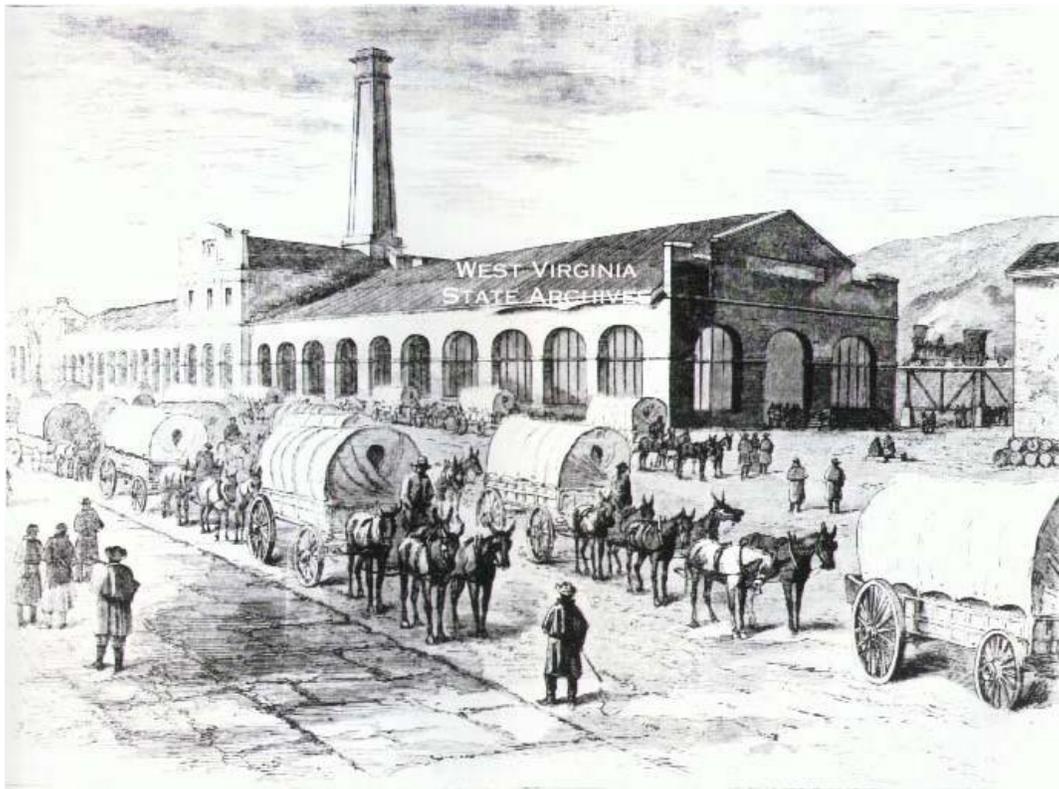


Figure 34 Sketch of the Smith and Forging Shop, used by Sheridan's Quartermaster Corps. West Virginia State Archives Collection.

The configuration of the B&O Railroad at Harpers Ferry was such that the two tracks of the main line ran along the Potomac River front, perched upon an elevated iron trestle that stretched the entire length of the Musket Factory. A 240' wood platform, situated at the West Virginia end of the Potomac River bridge, was a ready point to unload supplies. The oft-burned armory buildings stood 13 ft. below the track and platform behind the 4 ft. - thick river wall. After

repairs were made to roofs and floors by the Quartermaster Corps, they served as convenient warehouses for the goods shipped from Union depots in Washington and Baltimore.

Photographs and illustrations from this period show that several Musket Factory workshops were once again put into service. The buildings included the 1841 Warehouse, the Smith and Forging Shop, the Annealing Shop and Brass foundry, the Stock House, the Engine House (John Brown's Fort), the armory Offices, and the Finishing (or Bell) Shop. In addition, U.S. forces adapted at least two former armory structures in the Arsenal Square for use. There the first floor ruins of the Large Arsenal building were used as a bakery and the Old Superintendent's Office was used as the Post Office. Union army officers also took up residence in former armory structures. Sheridan, for instance, utilized the armory Paymaster's Quarters on Camp Hill for his headquarters.³¹

Sheridan's army consisted of approximately 45,000 men and 20,000 horses. Supplying such a force, especially as it ventured further and further from Harpers Ferry, was a logistical challenge. To meet the challenge, the Quartermaster Corps, the Ordnance Department, the Provost Marshall, the Sanitary Commission, the U.S. Military Railroad Corps, and the U.S. Medical Corps all established operations in the town. These organizations supplied food; clothing and equipment; arms and ammunition; medical supplies; engineering expertise; and all of the necessary infrastructure required to sustain the troops. Later, additional staging areas were established at Martinsburg and at Stephenson's Depot near Winchester.

An estimated 250 tons of supplies arrived at Harpers Ferry daily. Huge quantities of foodstuffs passed through Harpers Ferry: bread, meat, vegetables, sugar, and coffee for men; hundreds of thousands of pounds of grains and forage for the mules and horses. Crate loads of uniforms were delivered and distributed: shoes, stockings, undergarments, coats, trousers, and hats. Enormous numbers of rifles and their replacement parts were shipped there as were bandages, medicines, blankets, tents, and horseshoes. Add to all of that huge amounts of coal, lumber, and other construction supplies, and it is easy to imagine the busy scene that unfolded at the former Musket Factory yard.³²

Sheridan's army departed Harpers Ferry on August 28, 1864. His supplies were forwarded by means of immense wagon trains, sometimes numbering up to 1,000 wagons. Several thousand soldiers were detailed to escort the wagons and protect the supply lines. After delivering the supplies, the wagons returned to Harpers Ferry carrying prisoners and the spoils of war. Thousands of

³¹ Snell, "Harpers Ferry Repels...", 36, 43, 76.

³² *O.R.*, XLIII, (2):670, 683, 697, 708-711, 717, 726, 750, 756, 765, 800, 816, 82; Vol. XLVI, (2):188-189,898; (3):541, 828.

wounded soldiers from both sides were also delivered by wagon and rail to the large medical depot and field hospitals established in Harpers Ferry.³³

Partly a result of major battles at Fisher's Hill, Cedar Creek, and partly the result of the Union strategy of laying waste to the Shenandoah Valley, civilian refugees and runaway slaves fled to the relative safety of the Union camps at Harpers Ferry. Union officers did not immediately receive direction on how to manage this civilian addition to their numbers. Referred to as "contraband of war" or simply as "contrabands," photographic evidence indicates that a tent camp was established for these refugees just inside the main gate and entrance wall of the Musket Factory yard.

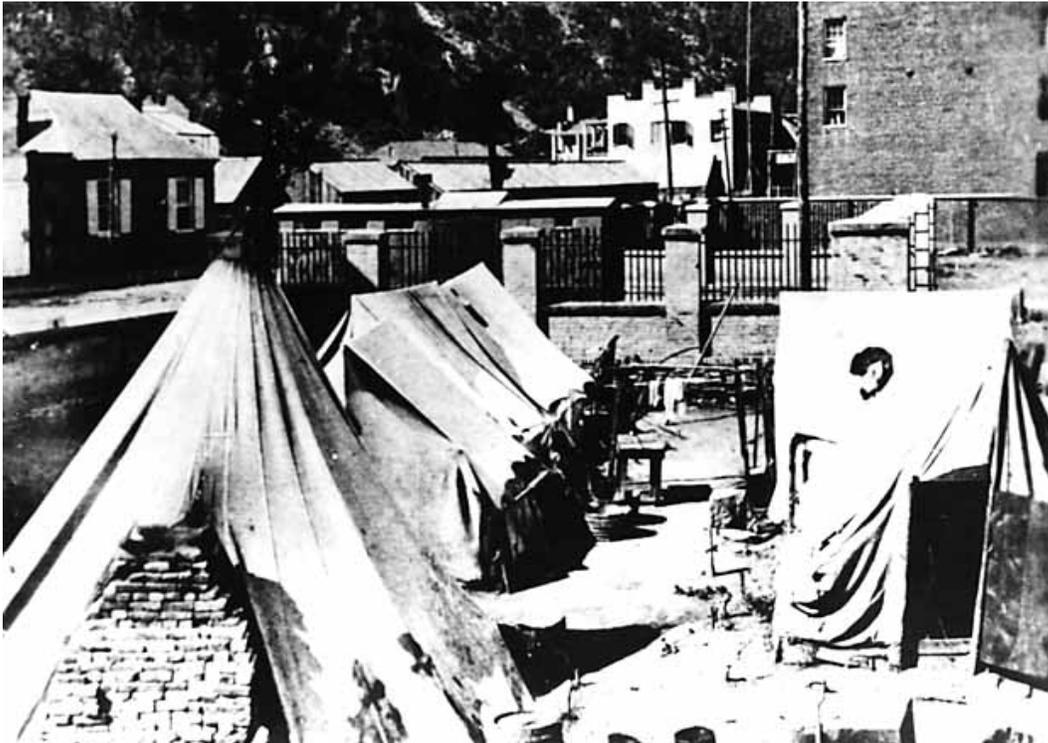


Figure 35 Contraband camp established by the Federal forces in the Musket Factory Yard around the close of the war. NPS Collection.

The *Harper's Weekly* sketch artist who documented Sheridan's campaign, Alfred R. Waud, wrote of the contrabands:

There is something very touching in seeing these poor people coming into camp-giving up all the little ties that cluster about home, such as it is in slavery, and trustfully throwing themselves on the mercy of the Yankees, in the hope of getting permission to own themselves and keep their children from the auction-block.³⁴

³³ Snell, "Harpers Ferry Repels...", 40, 47-49.

³⁴ Library of Congress, American Memory exhibit, <http://rs6.loc.gov/ammem/aaohtml/exhibit/aopart4.html>

In other places, contrabands were used to supplement labor forces, but no evidence was found to indicate the fate of those who stayed behind the lines at the Harpers Ferry garrison.

By all accounts, at the end of the war the town of Harpers Ferry was in a badly dilapidated state. Hundreds of residents were either homeless or had moved away. The few buildings that remained at the Musket Factory and the Rifle Works sat as useless ruins. Pieces of scrap iron and damaged machine parts were littered about the Musket Factory yard. Though still technically considered government property, the ruins were left to deteriorate. The United States was never to manufacture arms again at Harpers Ferry.

CHAPTER 8



Post Civil War

Due to its strategic location and the presence of the U.S. Armory, the town of Harpers Ferry experienced dark days during the Civil War. In the opening days of the conflict, the armory was partially destroyed by retreating Federal soldiers. Over the next few months much of the valuable arms-making machinery was confiscated by the rebels and shipped to other parts of the Confederacy. During the course of the next four years, the railroad bridge was destroyed and rebuilt nine times as the opposing armies took turns occupying the town. In one of the most destructive incidents, the principal commercial section of town, everything between the armory and the B&O Railroad bridge, was burned down in retaliation for a scout's death by a sniper's bullet. During the war, numerous homes were occupied by military personnel and much property was damaged. Mills and other manufacturing establishments were destroyed. Churches were converted to hospitals and stables, and some were even vandalized. The town's industry lay in ruins.

At war's end in April 1865, a certain amount of rebuilding followed and it was hoped that the town would flourish once again. New construction began on a few private residences, but Harpers Ferry found itself in the grips of a severe economic slump. The United States government still owned nearly 1,670 acres of land in Harpers Ferry. Its holdings included twenty-five dwellings, a powder magazine, a stable, nine storerooms, as well as the ruins of the former armory dams, canals, and workshops.¹ Although the war was over, the town continued in a limited role as a depot in service of the Middle Military District, with structures dedicated to the storage of arms and the preservation of munitions. Under the charge of Captain Daniel J. Young, a former Master Machinist at the Rifle Works, officers received and issued ordnance and thirty to forty men were employed repairing and cleaning arms.²

Within a few months of the war's end, the military compiled an inventory of its property at Harpers Ferry. In July 1865 Brigadier General Edward D. Ramsey made a detailed inspection of the military fortifications and other property utilized by the Army. His report was submitted to Brigadier General A.B. Dyer, Chief of Ordnance, on July 27, 1865. Included in the report are details on the condition of the former armory buildings. Ramsey reported:

The stone walls of the Armory buildings on the Potomac and Shenandoah remain, and in condition to be built upon. These could readily be converted into manufacturing purposes, or into barracks for troops. Much of the valuable

¹ Snell, "Physical History..." Vol. II, 296; VFP, 7/5/1866, 2, col. 2.

² VFP, 12/ 7/1865, 2, col. 2; Ramsey to Dyer, 7/27/1865, 7 pages, NARA RG 156, Records of the Office of the Chief of Ordnance.

*machinery remains in good condition – as for example the shafting and pit gearing for the undershot wheels, with the wheels, are in good condition. The greater part of the machinery for the rolling mill, with the rolls and tilt-hammers, remain, but little injured, and the furnaces are good...*³

Ramsey provided a condition assessment of the armory buildings at the east end of the Musket Factory Yard, stating: “*The Q.M [Quartermaster] and Commissary have been and are occupying some of the buildings, but have put upon them very inferior repairs.*” The repairs consisted of new floors and roofs. He also remarked on the crowded nature of the storehouses.

Of the town’s most famous structure, the inspector wrote “[t]he small engine house, celebrated as the citadel of John Brown, is used as a magazine. I consider this very dangerous, and the ammunition should be removed to a place of greater security.” The condition of the former Armory Offices, a brick structure located next to John Brown’s Fort, was listed in the report as good and the inspector indicates that it was partially utilized as a small arms repair shop.⁴



Figure 36 Circa 1869 photograph of the Smith and Forging Shop ruins. NPS Collection.

Other items that Brigadier General Ramsey found laying about in the Musket Factory Yard in 1865 included:

- 8 cast iron anvil blocks in good condition*
- 1 large turning lathe, in Machine shop, damaged*
- 8 grind stone frames, in good condition*
- 34 cast iron columns, new*
- 1 iron forebay or flume, new*
- 1 Rolling Mill with machinery, furnace and forge, damaged*
- arch window frames, new*
- square window frames, new*

³ Ramsey to Dyer, 7/27/1865, 7 pages, NARA RG 156, Records of the Office of the Chief of Ordnance.

⁴ Daniel .J. Young to Brevet Major A.B. Dyer, 3/12/1866. NARA, RG 92, Office of the Quartermaster General, Consolidated Correspondence File: 1794-1915, Box 377.

tons cast iron, scrap
tons wrought iron, scrap
1 lot dressed stone, good
water wheels, in Armory buildings, damaged
*1 lot iron fence around armory buildings, in good condition*⁵

After the Civil War, given the magnitude of the destruction, it became clear that the United States government would not re-establish the armory at Harpers Ferry. In spite of its extensive holdings, the Ordnance Department decided to abandon the armory site in Harpers Ferry. This decision coincided with a general shift in the government's focus to the rapidly developing territories west of the Mississippi River. As a result of this new western emphasis, the Ordnance Department worked to divest itself of any assets from the operation at Harpers Ferry. Excess property would be offered for sale and the proceeds were to help fund construction of a new national armory in the west.⁶

Between September 1865 and March 1866, Brevet Major and Acting Quartermaster George A. Flagg placed several advertisements in local newspapers to notify the public of sales of excess government property.⁷ Large numbers of serviceable mules and horses were auctioned off, both singly and in lots. Wagons, wagon whips, leads, and harnesses were also sold. Various kinds of surplus equipment and supplies were auctioned including thousands of tents and tools, in addition to 155 tons of scrap cast and wrought iron.

Building supplies were put up for sale, too, including the lumber from dismantled railroad platforms, lead pipes, stove pipes, and over 100,000 bricks. Bidders also vied for such miscellaneous items as clothing, trumpets, and the cast iron columns that Ramsey had noted.

Apparently the government bakery that was housed in the arsenal building during the war was also dismantled, as bread racks, pans, a bread table, and the bricks of eight bake ovens were offered at an auction in December 1865. Unencumbered by all the items thus sold, the War Department turned its attention next to disposing of its land and buildings at Harpers Ferry.

In May 1866, Chief of Ordnance Dyer informed the Secretary of War:

*Harpers Ferry can not, in my opinion, be ever again used to advantage for the manufacture of arms, the retention of the property of the United States at that place is not necessary or advantageous to the public interest...and I recommend that...all the public land, buildings, and other property there be sold ...*⁸

⁵ Ramsey to Dyer, 7/27/1865, 7 pages, NARA RG 156, Records of the Office of the Chief of Ordnance.

⁶ Gilbert et al, 3-73.

⁷ See, for example, *VFP*, 9/21/1865; 10/19/1865; 10/25/1865; 11/2/1865; 11/23/1865; 12/8/1865; 1/4/1866; 1/18/1866; 2/8/1866; 2/15/1866; and 3/15/1866.

⁸ Benét, Brigadier General Stephen V., *A Collection of Annual Reports and Other Important Papers Relating to the Ordnance Department Taken from the Records of the Office of the Chief of Ordnance, from Public Documents, and from Other Sources*, Vol. IV, 1049-1050, as quoted in Snell, "Physical History..." Vol. II, 296.

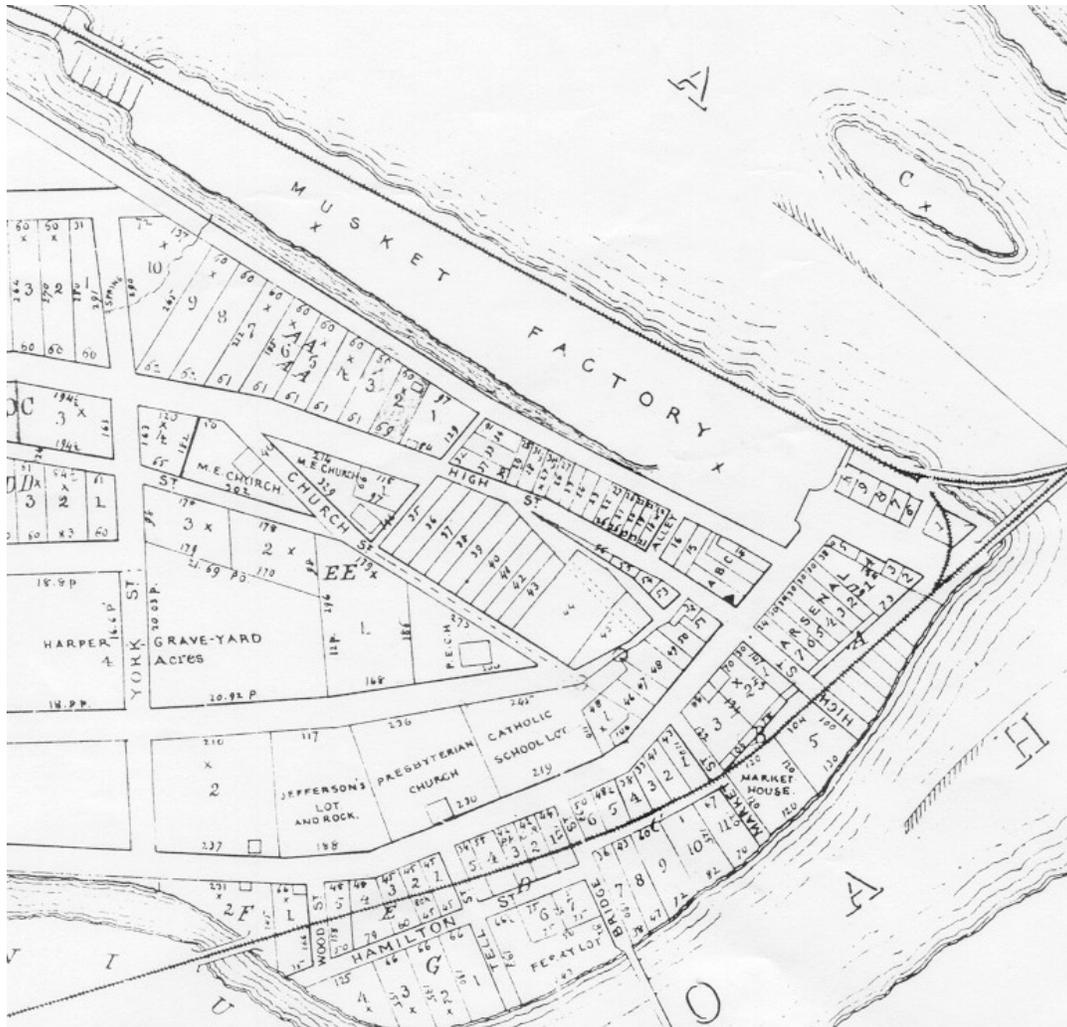


Figure 38 Detail of 1869 S. Howell Brown map of Harpers Ferry Armory property. NPS Collection.

When the auction began for the Musket Factory property, Captain Francis C. Adams, an entrepreneur from Washington D.C., got into a lively bidding contest with Mr. John L. Wilson, Esquire, an agent representing the B&O Railroad Company. Wilson began the bidding at \$10,000. Bids in opposition were placed by several parties until the amount reached \$100,000, at which time the bidding narrowed to between Captain Adams and the railroad company. Bids were then placed in increments of \$1,000 until the amount offered by the B&O was \$175,000. Adams ultimately won the bidding at \$176,000. Adams also purchased the other principal lot that was for sale, the Rifle Works on the Shenandoah River, for \$30,000.

Great optimism resulted among the people of Harpers Ferry at the conclusion of the sale on December 2, 1869. Adams, it was rumored, represented the interests of a company of wealthy "Capitalists" of Washington, New York, and Boston, and that soon they planned to build woolen and cotton factories at the

former Musket Factory site and an extensive paper mill at the old Rifle Works.¹¹ Great expectations were raised and as the results of the auctions were announced “*cheer after cheer rent the air -- the assembled residents seeming to read in the dim future a glorious record for Harper's Ferry.*”¹² In all, the government sold 248 lots for a total of \$297,793.50.

Encouraged by the prospect of re-established industry and eager for “*the renewal of the old-time prosperity,*” many of the poorer local citizens purchased lots at over-inflated prices on similar credit terms.¹³ Assured that Adams and his partners would soon commence manufacturing, an editor of the *Virginia Free Press* pondered “*may we not expect that ere long many of the wants of our valley may be supplied by them, and that Harper's Ferry will, in the future, be far more prosperous than in the past?*”¹⁴ Just when new development seemed to be on the horizon, a disastrous flood struck Harpers Ferry that would keep the town mired in economic stagnation.

The great flood of September 30, 1870, was the most destructive flood to ever hit Harpers Ferry. Largely confined to the Shenandoah River, the fast-moving waters crested at about 30 ft. above flood stage. It claimed the lives of forty-two people in the Harpers Ferry area and obliterated much of what remained on Virginius Island. The flood swept away the machine shop, iron foundry, sawmill, carriage shop, schoolhouse, and around seventy houses.¹⁵ It was a serious blow to a town already struggling to emerge from the damage inflicted during the Civil War.



Figure 39 Illustration of the devastating Flood of 1870, which took 42 lives in the Harpers Ferry area, from *Harper's Weekly*. NPS Collection.

¹¹ *Spirit of Jefferson (SOJ)*, 12/7/1869, 3, col. 1-2.

¹² *VFP*, 12/2/1869, 2, col. 1.

¹³ Barry, *Strange Story...*, 146; Noffsinger, “Toward a Physical History...,” 51.

¹⁴ *VFP*, 12/2/1869, 2, col. 1.

¹⁵ Gilbert, David T., *Waterpower...*, 134-135; Barry, *Strange Story...*, 151-165.

After the flood of 1870, many of the purchasers of the surplus government property defaulted on the terms of payment. Owing to the distress caused by the great calamity, a bill was introduced into Congress to extend the time for payment to five years. At about this same time, Captain Francis C. Adams and his business partners, now incorporated under the name "The Harper's Ferry Manufacturing and Water Power Company," filed a suit of ejectment against the Baltimore & Ohio Railroad Company, claiming that the railroad company's tracks through the old Musket Factory Yard violated the original 1838 agreement with the government. Adams alleged that his company now owned the right-of-way and that the breach of the agreement damaged the potential value of the property. He demanded the B&O pay a high price to continue using the route along the riverfront or else relocate the tracks.

Though Adams hired a watchman to guard the Musket Factory site, and he himself made occasional visits to the place, slowly it became clear that Adams and his associates had no real interest in re-establishing industry at Harpers Ferry. Instead, they were greedy speculators interested only in the considerable profit they stood to gain if their suit was successful.¹⁶ The Harper's Ferry Manufacturing and Water Power Company lost its suit in 1873 and then refused to pay the government for the property, claiming that the B&O presence clouded the title. Additional suits, countersuits, and appeals followed. The end result of all the litigation was that the United States repurchased the properties at a court-ordered sale in September 1876. The United States paid \$70,000 to reclaim its title to the waterpower rights of both rivers and to the sites of the Musket and Rifle Factories.¹⁷ The federal government received the deeds for the properties in June 1877, seven and one-half years after they originally auctioned it away.

Not until the mid-1880s would the government finally succeed in selling the Musket Factory site to another party. The Chief Clerk for the Solicitor of the Treasury visited the site in May 1877. Though he described the old Musket Factory site as "*a sublime ruin*," the clerk made note of its potential value. He warned his colleagues that "[y]ear by year its immense capabilities are diminishing, and the question of what shall be done with it, is one not of easy solution."¹⁸

Before any action was taken, another flood on November 25, 1877, did considerable damage to both the town and the C&O Canal. The major floods at Harpers Ferry during the last decades of the 19th century (1870, 1877, 1889, and 1896) were particularly destructive because of the extensive vegetation and timber clearing in surrounding valleys. The deforestation that occurred during the Civil War in combination with the unsound environmental practices that followed led to massive erosion and severe floods. To the increasing dismay of local citizens, the Musket Factory property continued to lay idle and deteriorate.

¹⁶ Barry, *Strange Story...*, 172.

¹⁷ Snell, "Physical History..." Vol. II, 298.

¹⁸ Chief Clerk for the Solicitor of the Treasury, Webster Elmes to Solicitor of the Treasury, George F. Talbot, 5/29/1877, 9 pages, NARA, RG 121, Public Buildings Service, Case No. 155.

Congress authorized a second public sale of the armory grounds to take place on May 25, 1880.

The public announcement for the 1880 sale included a description of the dilapidated Musket Factory lot. It noted:

*[t]he walls of two large buildings, the John Brown Engine House and the foundations of several other buildings are standing, and large quantities of dressed building, flagging and other stone are upon the ground. The Machinery consists of three Turbine Wheels and four Cast Iron wheels of large dimension, with Gearing, Flumes, &c...*¹⁹

Able to solicit only a single low bid of \$10,000 for the water power rights of the Potomac, the lot was withdrawn from the sale and the offer was rejected. As time passed the Treasury Department changed its view on the matter. Conscious of the considerable technological advances that were made since 1861 and aware of the 20 years of neglect that occurred, government officials realized that lower, more realistic sale prices should be accepted. Eager to sell the property, Congress authorized a third public sale.

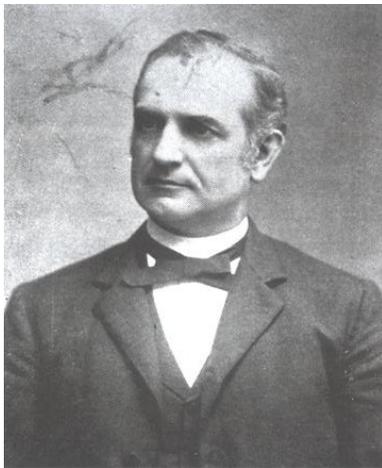


Figure 40 Thomas H. Savery portrait. Courtesy of Hagley Museum and Library.

On October 22, 1884, manufacturer and inventor Thomas H. Savery of Wilmington, Delaware, purchased the Musket Factory lot for \$24,100, outbidding the Baltimore & Ohio Railroad Company by \$1,000. The deed to the property – which included the waterpower rights on the Potomac; the dam and armory canal; seventy-two acres of the Musket Factory Yard; the ruins and machinery of the old workshops; and the two extant armory buildings (John Brown’s Fort and Armory Office) – was conveyed to Savery on March 2, 1885.²⁰

Between 1887 and 1889, Savery erected two pulp mills, one on the Shenandoah and the other on the Potomac at the site of armory’s Rolling Mill. Encouraged by Savery’s status as an industrial leader and good businessman, town chronicler Joseph Barry sensed a new era of opportunity, writing: “*it would appear as if they had come to stay, and give a start to a new Harper’s Ferry.*”²¹

¹⁹ “Announcement,” K. Rayner , pre-5/19/1880, 4 pages, NARA, RG 121, Public Buildings Service, Case No. 155.

²⁰ Gilbert, *Waterpower...*, 139.

²¹ Barry, *Strange Story...*, 173.

CHAPTER 9



Recycling the Harpers Ferry Armory Materials

Whether it was by a tourist seeking a souvenir or by a local builder seeking usable materials, some of the armory's materials found new uses. The story of the dispersal of these items provides a unique look into the history of the armory, especially in those years after the workshops fell silent.

The destruction of the armory began in April 1861 when Federal soldiers set fire to many of the buildings to prevent their capture by the enemy. A few months later the Confederates stripped the armory of most of the valuable machinery and shipped it elsewhere to support their own war efforts. During the war that followed, many northern soldiers that passed through Harpers Ferry sought souvenirs or other relics associated with John Brown and his famous raid. Still other soldiers incorporated bricks or scraps of the armory buildings in their campsites. After the war, the Army hired a watchman to prevent the looting of useable materials that still lay strewn about.

After the War Department decided not to rebuild the armory, the derelict buildings, foundations, and remaining pieces on the Musket Factory property sat abandoned for almost twenty years. The government attempted to divest itself of its holdings at Harpers Ferry through a series of public auctions. In 1869 a group of speculators, representing themselves as industrialists, purchased the 72-acre Musket Factory property along the Potomac. Their motives, however, were not to harness the available waterpower or otherwise develop the tract. Instead they intended to force a lawsuit with the B&O Railroad Company over the legality of the railroad's right-of-way. During the long and drawn out legal entanglements that followed, the structures that remained on the site deteriorated.

Exposed to the weather and periodic flooding, the condition of the buildings and remains of the Musket Factory site continued to deteriorate in the 1870s and 1880s. After the fraudulent scheme of the supposed industrialists was discovered, the watchman who was assigned to keep an eye on the property resigned over a pay dispute. As a result, materials from the crumbling workshops were either vandalized by children or recycled by local builders who salvaged the abandoned resources. After years of neglect, in 1884 the government finally sold the Musket Factory property to Delaware manufacturer Thomas Savery. It was during Savery's ownership that the last remnants of the Harpers Ferry Armory were razed or moved off the property.



Figure 41 1886 photograph showing the remains of a 15 ft. water wheel at the site of the armory ruins. NPS Collection

Harpers Ferry has a long history of tourism. Thomas Jefferson was moved by the town's majestic natural scenery, calling the setting "*one of the most stupendous scenes in Nature*" that was "*worth a voyage across the Atlantic.*"¹ In addition to the beautiful scenery, people were drawn to the town to see the workings of the armory. A government-sponsored factory in a largely rural region must have been a novelty in the early 19th century. In his 1833 *History of the Valley of Virginia*, Samuel Kercheval attested to the attraction when he wrote "*A vast number of strangers annually visit this place [Harpers Ferry] to gratify their curiosity in seeing and inspecting the public works and great mechanical operations, so extensively carried on.*"² As novel as the armory's factories must have been in antebellum Virginia, it was the violence and upheaval caused by John Brown's raid in October 1859 that catapulted Harpers Ferry into the national consciousness and cemented its place as a tourist destination.

Because people recognized the historical importance of the John Brown raid early on, items associated with that event soon became highly sought after. For example, the pikes that Brown and his men used during the raid became highly collectible. Joseph Barry relates that soon after the raid a brisk trade grew up around the pikes, with local boys selling them to railroad passengers. In fact, the B&O Railroad eventually halted the practice because it disrupted operations on

¹ Jefferson, *Notes on the State of Virginia*, 19.

² Kercheval, *A History of the Valley of Virginia*, 362.

the busy platform. Apparently not all of the relics sold were genuine. Barry explained:

as the number of genuine pikes was not very large, the stock must have been exhausted in a very short time. It is said, however, that some ingenious and enterprising blacksmiths in the neighborhood devoted much of their time and capital to the manufacture of imitations, and it is certain that the number of pikes sold to strangers exceeded, by a great many, the number supposed to have been captured at Brown's headquarters.³

Other notable mementos of the raid were the scaffold and rope used during Brown's execution, and – after it was demolished – bricks of the jailhouse where Brown had been confined.⁴ Barry casts doubt on the genuine nature of most of these relics:

The gallows on which Brown was hung must have been a vast fabric and the rope used must have been as long as the Equinoctial Line, or, else, both had some miraculous powers of reproduction. Of the many thousands of soldiers who were stationed from time to time in Jefferson county, from the day of Brown's execution till the last regiment disappeared, more than a year after the war, almost every other man had a portion of either as a souvenir of his sojourn in Virginia. The writer saw pieces of wood and fragments of rope purporting to have formed parts of them -- enough to build and rig a large man-of-war.⁵



Figure 42 Bell tower in Marlboro, MA, where the Engine House Bell rests. Photo courtesy freepages.history.rootsweb.com

John Brown was considered a hero by many Union troops during the Civil War. When the 13th Massachusetts Volunteer Infantry entered Harpers Ferry in 1861, the soldiers removed the bell from the cupola of the engine house that served as Brown's final refuge during the raid. In addition to the bell, some of the soldiers took bricks and pieces of wood from the building itself. The men transported the bell to Williamsport, Maryland, where they encamped for the winter. When the spring campaign commenced, the cumbersome souvenir was too difficult to transport, so they entrusted the bell to an area farm woman for safekeeping. There the bell remained for over thirty years, until 1892 when some of the surviving Massachusetts men wondered if John Brown's bell was still there. They revisited the Maryland farm, paid the woman \$150, and brought the bell back to Marlboro, Massachusetts, where it remains to this day.⁶

³ Barry, *Strange Story...*, 74.

⁴ For items pertaining to the collection of relics associated with John Brown, see for example *SoJ*, 6/30/1874; *VFP*, 8/15/1889; Hunter, 190; Boteler, 408; and Barry, 73-74.

⁵ Barry, *Strange Story...*, 73.

⁶ *Morning Herald*, 10/1/1897; *Farmer's Advocate (FA)*, 6/3/1911, 1 col. 7.

The bell from John Brown's Fort may be unique because of its historical significance, but there were many other ordinary items taken from the armory and used for other purposes. Nearly all the town's buildings, public and private, were damaged during the war and nearly everything of value was either requisitioned or stolen. For example, two of the town's schoolhouses were torn down and the bricks used in the camps to build temporary huts.⁷ One soldier recalled using scrap metal from the armory in his winter quarters while stationed on nearby Maryland Heights:

*Our little group of five built our cabin on the bow of a hill, we dug down about three feet and leveled a space about eight by ten feet, the sides were built with logs and the chinks filled with clay; the roof was laid with saplings covered with the earth which we dug while leveling the space. We made a stove out of a piece of heavy sheet iron picked up in the ruins of the old arsenal at Harpers Ferry...*⁸

Even though the Harpers Ferry Armory was destroyed and scavenged during the Civil War, local leaders still recognized the value and potential of the armory property. In December 1865 an editorial in the *Virginia Free Press* urged the federal government to put its excess property at Harpers Ferry on the market. Such a move, the paper reasoned, would stimulate the local economy and “*give new life to the region.*”⁹

The Ordnance Department also recognized the value of its derelict property. Even though its interests were shifting to the western United States, department officials took active steps to dispose of its surplus at Harpers Ferry. Before the land and waterpower rights were sold, all surplus property – ranging from tools and lead pipes to mules and horses – were sold at a series of public auctions held throughout the winter of 1865-1866.

Among the items that appeared on an auction catalogue in February 1866 was a lot of 100,000 bricks.¹⁰ Though no direct records of the result of this sale have been located, Jacob Engle, a resident of Jefferson County, appears to have been among the high bidders. At the time of the auction, Engle was preparing to build a house on land left to him by his father. Known today as “Alta Vista” and located northwest of Bolivar Heights near present day Engle, West Virginia, the house was constructed in 1866-1868 with bricks salvaged from the armory. Engle's descendents possess his diaries and account books in which he kept information pertaining to the purchase of materials for the house. An entry in the ledger states that 50,000 bricks from the armory were purchased at \$3.00 per 1,000 for a total of \$150.¹¹

⁷ Gilbert et al, “Cultural Landscape Report: Lower Town,” 3-56.

⁸ Frederick Wild letter, 1862, Baltimore Battery of Light Artillery, HAFE manuscript collection.

⁹ *VFP*, 12/7/1865, 2 col. 2.

¹⁰ *VFP*, 2/15/1866, 2 col. 6.

¹¹ West Virginia Landmarks Commission, Windshield Survey 1973-1975, No. C-90, Alta Vista.

In addition to private homes such as “Alta Vista”, bricks from the derelict Harpers Ferry Armory also found their way into community buildings such as schools and churches. For instance, the Old School in Shepherdstown, West Virginia, was built in 1866 with bricks salvaged from armory buildings. This one-room school on Brown’s Alley is the oldest known school for African-American students in Shepherdstown. In 1867 another one-room school for African-American students was built on West Martin Street in Martinsburg, West Virginia. Originally known as the Sumner School, it too was built using bricks salvaged from the Harpers Ferry Armory.¹² These two schools were among the first publicly financed schools for African Americans in the Harpers Ferry area.

Another connection between African-American education and the armory may be found on Camp Hill in Harpers Ferry. There, in 1867, the Storer Normal School was established with the aid of New England philanthropists and grants from the Freedmen’s Bureau, a newly-formed Federal agency created to assist emancipated African Americans. In December 1869 the federal government formally conveyed four former armory residences on Camp Hill to the school’s trustees. These were: Armory Building No. 25, the Superintendent’s house (now commonly known as Anthony Hall); Building No. 30, the Paymaster’s clerk’s quarters (Morrell House); Building No. 31, the Superintendent’s clerk’s quarters (Brackett House); and Building No. 32, the Paymaster’s quarters (Lockwood House).



Figure 43 1889 sketch of Anthony Memorial Hall (center). The north wing of the structure was the former armory superintendent’s quarters, which was deeded to the Storer Normal School in 1869. NPS Collection.

¹² “Walking Tour Guide, Historic Properties of Martinsburg,” Berkeley www.bchs.org/walk2.htm; “Black Schools of Jefferson County,” www.hello-wv.com/blackschools/index.html. The Sumner School in Martinsburg was later enlarged and renamed Ramer Memorial School.

Bricks from the armory were also used to construct the Harpers Ferry Camp Hill United Methodist Church. The Methodist Church suffered heavy damage during the Civil War; its pews were carried off and its windows were broken. The structure was used as a stable and barracks. Led by the pastors Reverend Mr. March and James C. Stewart, the congregation pulled together after the war and quickly rebuilt the church, with a dedication ceremony held on June 27, 1869.¹³ The church was enlarged in later years and a parsonage was built on the lot around 1913.



Figure 44 1914 photograph of the Camp Hill United Methodist Church, reconstructed with bricks from the Federal Armory. NPS Collection.

In 2004 a property owner adjacent to the Camp Hill Methodist Church donated a large cache of reddish-brown, cut sandstone blocks to the National Park Service. These stones, beveled on one side to form a cap stone, were found in the back yard during the installation of a patio. While the original provenience of these cap stones is not known, it seems likely that they were derived from the armory. The stone is from the Seneca quarry near Seneca Creek in Maryland, and such blocks were widely used as decorative copping stones in the Musket Factory gates and walls. Deed research on the property may provide insight on how and when these distinctive stones were deposited on the Camp Hill site.

Local tradition also states that similar cap stones were incorporated into the 1888 Hilltop House Hotel, located at the site of the former armory magazine on a high bluff a short distance away from the former Musket Factory site. These distinct red Seneca sandstones are uncommon to the Harpers Ferry area.

¹³ *SoJ*, 6/8/1869, 3 col. 2.



Figures 45 and 46 Top: 1860 photograph showing the armory's sandstone fence caps. NPS Collection. Bottom: Recycled armory fence stone used in construction at the Hilltop House, Harpers Ferry. Photo by Mia Parsons, NPS.





Figures 47 and 48 Left: Pontoon bridge hardware attached to the stonework at the boat landing. Right: Portion of chain fence at Wolakadia on Bolivar Heights. Photos by Mia Parsons, NPS.

Another wartime relic related to the armory was purportedly used in the construction of a 1904 home on Bolivar Heights known as “Wolakadia.” Wolakadia’s substantial iron chain fence is believed to be constructed from a piece of the pontoon bridge that spanned the Potomac during the Civil War. This temporary bridge allowed troops to cross the river and enter Harpers Ferry at the location of the former armory boat ramp. The heavy-duty bolts and rings that were used to secure the chain to the river wall may still be seen at the base of the boat ramp. In addition to the pontoon chain, relatives of one-time Wolakadia resident Edith Perry Alexander are said to possess an 800-pound anchor that was used to stabilize the pontoon bridge.¹⁴ The specific circumstances surrounding how or when the massive chain was brought to Bolivar Heights are unknown, but it seems likely that as summer homes and retreats such as Wolakadia were erected there in the late 19th and early 20th centuries, resourceful builders would have utilized whatever materials available to them.

An additional example of this reuse of armory materials on Bolivar Heights may be found at the 1908 Turner cottage. The hearth stone of this cottage was made from a single cut stone said to have been salvaged from the foundation of the armory’s 1799 Arsenal building. The stone, weighing six and one half tons, was hauled to Bolivar Heights by a team of oxen.¹⁵



Figure 49 Hearth stone in Turner Cottage. Photo by Andrew Lee, NPS.

¹⁴ See *FA*, 9/12/1908, 2 col. 3; HAFE collection, uncataloged: oral History interview, Mrs. Perry Alexander by HAFE Chief Historian, Dennis Frye; Scott Faulkner, Personal communication, 4/20/2006.

¹⁵ *Spirit of Jefferson-Farmer’s Advocate*, 7/14/1988.

Though some of the armory material made its way into new building projects, much remained on the grounds of the former Musket Factory. In fact, enough remained that the War Department employed a watchman to guard the premises. Captain Daniel J. Young hired Mr. John A. Lashorn to perform this duty until the government sold the property to Captain Francis C. Adams of The Harper's Ferry Manufacturing and Water Power Company in 1869. Lashorn, whose occupation is listed as "gunsmith" in the 1870 census, continued as the custodian under the new owners for a wage of \$40 to \$45 per month.

In June 1872, Mr. Lashorn wrote a letter to the Secretary of War, William W. Belknap, informing him that he had not been fully paid by the new owners and hinted of a possible legal action. In addition to asking the Secretary of War to intervene with the company on his behalf, Lashorn also contacted Attorney General George H. Williams to seek his unpaid wages. After Williams responded that he had no funds under his control from which to pay him, an exasperated Lashorn wrote to Secretary of War Belknap again.¹⁶ In a letter dated March 24, 1873, Lashorn clarified why the new owners, who by this time had been exposed as fraudulent speculators, refused to pay him. A representative of The Harper's Ferry Manufacturing and Water Power Company told the watchman that since the company had been sued by the government and did not hold a valid title to the property, that he did not think the company "*need trouble ourselves about it any further. From appearances I don't see how you are going to get your pay, unless the Government takes charge and pays you.*" Upon learning this Lashorn stated:

*I concluded to relinquish my charge of the property. I did so, and in less than five days thereafter the armory yard was entered by boys and a very valuable iron pipe, about one hundred and fifty feet in length, was broken up and the lead taken from around the joints. I was informed of the fact, and I immediately resumed charge, believing then, as I do now, that the Government would reward me for my services in protecting their interest in this property... I can assure you that had I abandoned the property that by this time irreparable injury would have been done to it, as it is an easy matter to break the large water-wheels to get the lead and brass from around the journals.*¹⁷

Though he was hopeful that the government would pay when the matter was eventually settled, Lashorn asked whether he should continue guarding the former Musket Factory site or "*whether I must abandon the property to the mercy of such trespassers who choose to commit depredations thereon.*" In another letter, he added that "*unless I receive some encouragement I will be compelled to look elsewhere for employment.*"¹⁸

The watchman's letters apparently went unanswered and his warnings about the vulnerability of the property to vandals and thieves were unheeded. On July 15,

¹⁶ See John A. Lashorn to Secretary of War William W. Belknap, 6/15/1872; Attorney General George H. Williams to Lashorn, 3/20/1873 as in Noffsinger, 152 and 160, respectively.

¹⁷ Lashorn to Belknap, 3/24/1873, as in Noffsinger, 159.

¹⁸ Lashorn to Chief Clerk H.T. Crosby, 5/1/1873 and Lashorn to Belknap, 5/23/1873, as in Noffsinger, 161.

1873, he notified Chief of Ordnance Major S.V. Benét that he secured a new job at the Springfield Armory and would therefore soon be leaving his position as watchman. As a final word of warning, Lashorn urged the War Department to tend the former armory property and to “*take such steps as you think best in the matter which may lead to its protection in the future, for I can assure that unless something is done to protect this property that the Government must lose heavily thereby, as parties will enter and destroy the wheels for the purpose of getting lead and brass from around them.*”¹⁹

The armory site, now completely abandoned, continued to deteriorate while the government attempted to find a new buyer for the property. Finally in 1884, manufacturer Thomas H. Savery assumed ownership of the ruins of the Musket Factory on the Potomac and the Rifle Works on the Shenandoah. With access to the B&O Railroad and C&O Canal and an abundance of raw materials in the surrounding region, Savery recognized Harpers Ferry as an ideal site for the manufacture of paper from wood pulp. An absentee owner, Savery organized a group of investors who financed the construction of both the Harper’s Ferry Paper Company and the Shenandoah Pulp Company. The companies built a pulp mill on each of the rivers that met in Harpers Ferry. As president of both of these corporations, Savery became a key figure in this emerging industry.

Before building the mills at Harpers Ferry, Savery had his on-site manager perform a general clean up of the former armory properties. In December 1884 newspaper headlines reported that the “*Purchasers Of Harpers Ferry Government Property Removing Old Iron Machinery & Cleaning Out Forebay of Canal Etc., Preparing To Establish Manufacturing At Site.*”²⁰ Then, in 1887-1888, Savery & Company tore down the still-standing masonry walls of the burned out Rifle Factory buildings and reused the material to construct the first wood pulp mill at the site of the Shenandoah Canal’s lower lock.²¹ The Shenandoah Pulp Mill commenced operations in the summer of 1888.

Meanwhile, over on the Potomac riverfront, work crews used dynamite to raze several of the abandoned Musket Factory workshops. Some of the bricks and stones salvaged during this demolition were reused in the construction of Savery’s other mill, the Potomac Pulp Mill.²² Located at the far west end of the Musket Factory grounds, the Potomac Pulp Mill was erected on the existing foundations of the former armory Rolling Mill. Several flumes for the old Rolling Mill were incorporated into the design of the new pulp mill. By October, 250 men were employed in building the new mill. Nearly identical in design to the Shenandoah Pulp Mill, the Potomac Pulp Mill began production in March 1889.

¹⁹ Lashorn to Chief of Ordnance S.V. Benét, 7/15/1873, as in Noffsinger, 161.

²⁰ SoJ, 12/9/1884, 3 col. 2.

²¹ SoJ, 10/25/1887, 2 col. 3; National Register of Historic Places nomination form, Harpers Ferry National Historical Park.

²² SoJ, 10/2/1888, 4 col. 1.



Figure 50 Circa 1900 photograph of Savery's Potomac Pulp Mill, built on the site of the Armory Rolling Mill. NPS Collection.

Architecturally, the Potomac Pulp Mill represents a significant example of structural recycling. Not only did it rely on the water power generated by the old armory canal, it also incorporated bricks and foundation stones from the adjacent abandoned armory buildings. Furthermore, parts of the foundation and flumes date to either the armory's 1853 Rolling Mill, or even earlier to the 1834 Tilt Hammer shop which also occupied the same spot. And when the structure was severely damaged by fire in 1925, the north and west walls were reconstructed with bricks from an 1847 cotton factory that had been converted to a flour mill on Virginius Island.²³

Thomas Savery's business interests in the Musket Factory Yard during the 1890s were focused on the Potomac Pulp Mill and the old armory canal that powered it. He had no immediate plans for re-using the remaining structures of the Musket Factory Yard, which at that time included the Engine House (John Brown's Fort), the Armory Office, and a portion of the Smith and Forging Shop. As dynamite blasts leveled the remains of the workshops closer to the mill, uncertainties remained about the fate of the most famous armory building – John Brown's Fort. As early as 1884, upon first purchasing the Musket Factory property, Savery was approached with an offer of \$4,000 to buy the historical landmark. According to a

²³ Historic American Engineering Record (HAER), Potomac Power Plant, Survey Number WV-61, 1998.

local newspaper, the offer was made by “Yankees” who wished to open John Brown’s Fort as a “*dime museum*.” After Savery rejected this offer, rumors arose that the structure would be torn down.²⁴ In 1887, headlines proclaimed “*Government Works Ruins on Potomac River Blown Up to Make Room for Paper Mill Company: John Brown Fort Soon to Be Destroyed.*”²⁵ It was unclear what would become of the old building and it continued to sit unused in a corner of the vacant armory yard.

Before Savery’s true intentions for the Fort could be made public, a devastating flood brought his redevelopment of the property to a temporarily halt. On June 1, 1889, both rivers rose to a record height – 34.8 ft – badly damaging the waterpower works of both new pulp mills. Though this natural disaster proved to be a setback to the fledgling wood pulp industry at Harpers Ferry, it did not dampen the local appetite for hearsay surrounding Savery’s plans for John Brown’s Fort and the remainder of the Musket Factory Site.

Speculation about the Fort’s future reached new heights in the fall of 1889 after it was reported that the B&O Railroad purchased a new right-of-way through the abandoned armory grounds. With a new right-of-way obtained from Savery, the railroad was free to realign its tracks away from its elevated trestle that currently stood upon the river wall. The new route would sweep the tracks away from the river wall and relocate them along the entire southern edge of the former armory grounds.

The B&O’s proposed realignment was a much more favorable route for the railroad, but the path led directly through the site of John Brown’s Fort. As a result, a new rumor arose, false as it later turned out, that John Brown’s Fort would be dismantled and transported to Philadelphia where it would open as a small museum. Other accounts, also false, stated that the Fort was to be purchased by a “*Chicago syndicate*” and moved to either Boston, New York, or Kansas City.²⁶ While the exact details were still unknown concerning how it would be accomplished, it became clear that the Fort would either have to be removed or torn down in order to make way for the new railroad track alignment.

Finally, in November 1891, it was revealed that John Brown’s Fort was purchased by Kansas City businessman William S. Brown and a group of investors based in Chicago. This group planned to turn the historic engine house into an attraction at the World’s Columbian Exposition that was to be held in Chicago in 1893.

²⁴ *VFP* 11/13/1884, 2 col. 1-2.

²⁵ *VFP*, 11/3/1887, 3 col. 2.

²⁶ For speculation about what would become of John Brown’s Fort, see, for instance, *VFP*, 9/12/1889, 3 col. 2; *VFP* 10/17/1889, 3 col. 2; *VFP* 10/30/1889, 2 col. 2; and *VFP* 12/4/1889, 3 col. 3.

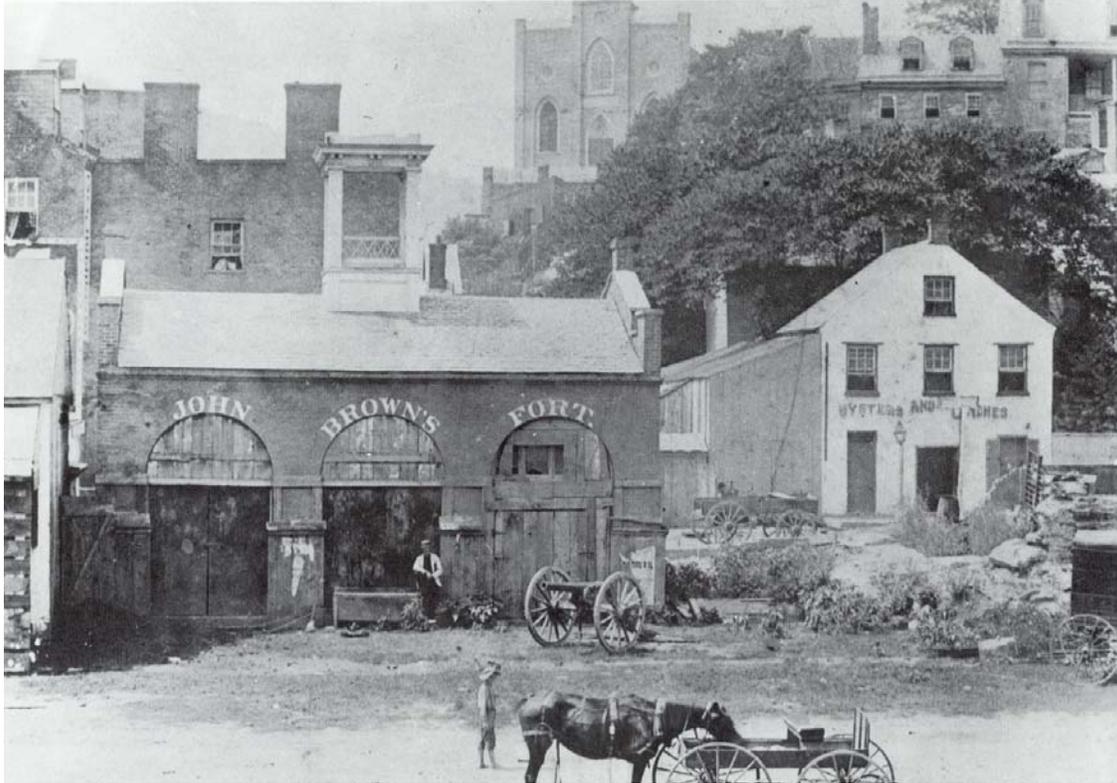


Figure 51 1891 photograph of John Brown's Fort prior to being dismantled and shipped to Chicago. NPS Collection.

Within a month or two of its purchase, the small brick building was unceremoniously dismantled, loaded onto seven train cars, and shipped by railroad to Chicago.²⁷

Local historian Joseph Barry had mixed feelings on the sale of John Brown's Fort. On the one hand, Barry admired Savery & Company for its good business qualifications. For Barry this was evidenced by the fact that they were "*not bothered with sentiment*" when they sold John Brown's Fort. This kind of no-nonsense attitude would surely benefit a town that was still struggling to emerge from hard times. At the same time, however, Barry sensed that the town had lost its most well-known landmark:

*Everybody at the place wishes them [Savery and Company] well and hopes that they realize a good price for this interesting relic, but many regret that they did not retain it, as age but added to its value to the owners and, indeed, to the whole town, for many a tourist has tarried a day at the place expressly to get a good sight of it, and the older it grew, the more interest was attached to it.*²⁸

²⁷ VFP 11/25/1891, 3 col. 4; VFP 12/2/1891, 3 col. 1; FA, 11/27/1909, 1 col. 5.

²⁸ Barry, *Strange Story...*, 173.

At the World's Columbian Exposition, John Brown's Fort attracted only eleven visitors in ten days. The exhibit was closed, dismantled and left on a vacant lot.



Figure 52 1896 photograph of members of the National League of Colored Women in front of the John Brown Fort on the Murphy Farm. NPS Collection.

In 1894, Washington, D.C., journalist Kate Field organized a campaign to return the Fort to Harpers Ferry. The disassembled building was shipped back to the Harpers Ferry area via the B&O Railroad, free of charge. The John Brown Fort was rebuilt on the farm of Alexander Murphy, who made five acres of his nearby farm available for the return of the symbolic structure. It was at this site that members from the 1906 Niagara Movement paid tribute to the Fort.

In 1903, staff of Storer College launched their own campaign to purchase John Brown's Fort. By 1909, for the celebration of the 50th anniversary of the John Brown Raid, the building was purchased and moved to the campus of Storer College. Finally, in 1960 John Brown's Fort was acquired by the National Park Service and moved back to the lower town of Harpers Ferry in 1968. Since the original site of the Fort was covered with a railroad embankment in 1894, the building now sits about 150 ft. east of its original location.

John Brown's Fort was one of the last tangible reminders of the United States Armory at Harpers Ferry. Its removal to Chicago was only one of many instances whereby armory materials were recycled, salvaged, or otherwise removed from their original contexts. The process began in a dramatic episode at the outbreak of the Civil War, when the arms-making machinery at the armory was dismantled by Confederate militia and reassembled in other parts of the South. In some cases, materials from the armory were picked up as souvenirs by tourists or as mementos by soldiers. In other cases, the bricks and stones of former armory buildings were incorporated into new structures – homes, churches, and schools – that were built in and around Harpers Ferry after the war. As the years passed, less and less remained of the armory.

The last vestige of the armory was demolished within a year of the Fort's removal. On December 13, 1892, readers of the *Spirit of Jefferson* newspaper were informed that the immense smoke stack of the long abandoned Smith and

Forging Shop, “which has stood for years as the remaining monument of the U.S. Armory at Harper Ferry, was thrown to the ground last Thursday.” The huge pile of debris that resulted from the demolition was estimated to contain around 100,000 bricks.²⁹ Though no accounts have been found to document what eventually became of these bricks, it is reasonable to conclude that they were recycled in one way or another.

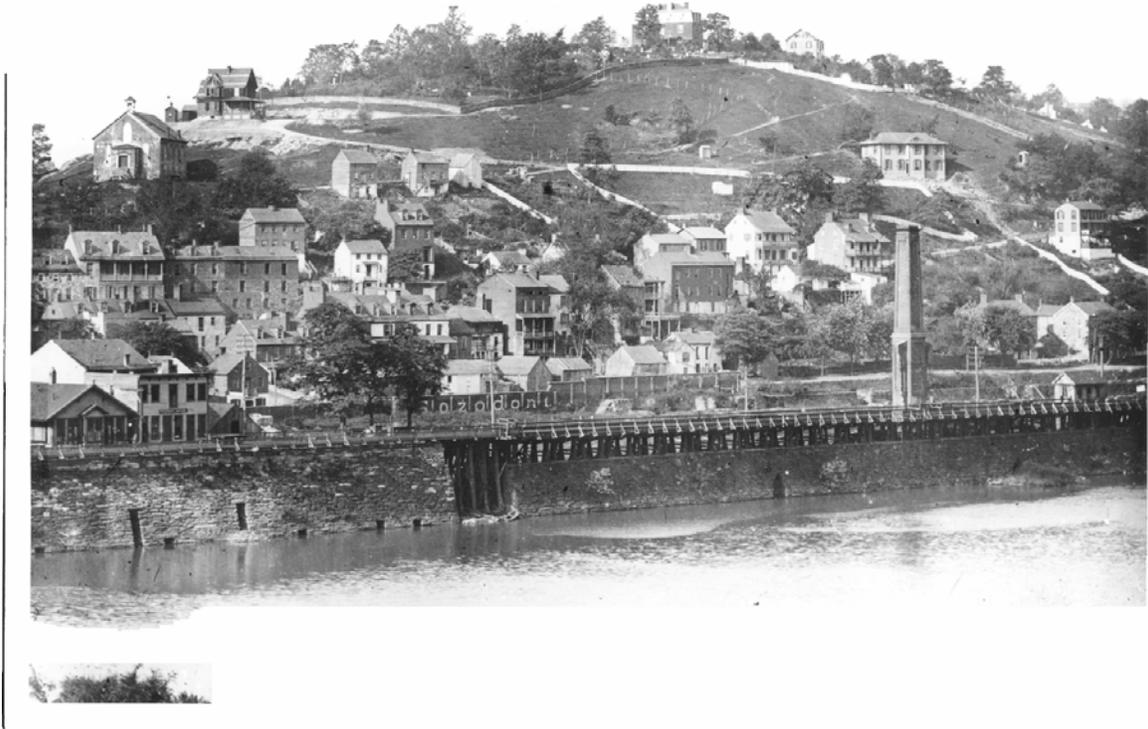


Figure 53 Circa 1890 photograph of the Potomac shoreline at Harpers Ferry. The 90 ft. Smith and Forging Shop chimney stack dominates the center right region of the image. NPS Collection.

²⁹ SoJ, 12/13/1892, 3 col. 4.

CHAPTER 10



The B&O Railroad and National Park Service Acquisition

From the moment the Baltimore & Ohio Railroad's tracks reached the Harpers Ferry shore in 1837, the railroad company maintained an active interest in property issues of the town. Certain conditions existing at Harpers Ferry had long been identified by the railroad as key obstacles to efficient operations. First and foremost were the engineering challenges posed by the physical terrain. In several places steep bluffs rose rapidly from the river's edge, leaving little flat ground upon which to place the tracks. Another obstacle was the set of restrictions placed upon the railroad by the government because of the U.S. Armory facilities along the Potomac shore. The railroad negotiated an agreement with the government in 1838 for passage through the armory, but it did so at less than ideal conditions.

When Thomas Savery, owner of the former armory land since 1884, granted the Baltimore & Ohio Railroad Company a new right-of-way through the now abandoned armory tract, the railroad was finally free to address some of the difficulties it encountered there. In the summer of 1892, the B&O Railroad began work at Harpers Ferry on a major improvement project that had been contemplated for some time. The project was intended to ease operating problems long experienced by the railroad at this important point on the main line.

The B&O's bridge across the Potomac had become obsolete and dangerous in the face of ever increasing locomotive weights and trainloads. The serpentine nature of the tracks at both approaches to the bridge was a serious problem. Once trains reached Harpers Ferry, they were required to make a hard, near right-angle turn onto the river wall trestle in order to continue west. The evolving design of locomotives made this curve increasingly difficult to negotiate. Maintenance of the elevated trestle on top of the river wall was also a recurring expense. Having faced these problems for several decades and only finding them worsening, the B&O was forced to formulate a corrective plan of action. The railroad's plan for improvements at Harpers Ferry had several components that, when completed in 1894, caused the greatest physical change in the town's appearance since the dramatic days of the Civil War. The appearance of the old armory grounds, too, was significantly altered.

The principal components of the plan for the B&O's improvements at Harpers Ferry were the construction of a tunnel through Maryland Heights; the replacement of its old bridge with a modern steel bridge; the erection of a new passenger station; and the realignment of the main line tracks to run through the armory grounds on top of a 20 ft. high embankment. In order to implement this

plan, it was first necessary to purchase the old Wager lot, a piece of land in the commercial area on the Harpers Ferry shore where the new bridge abutment was to be built. The Wager lot was situated adjacent to the entrance at the east end of the armory grounds. In order to realign the tracks the B&O also required a new right-of-way through the armory grounds from owner Thomas Savery.

The abandonment of the armory after the Civil War made the realignment of the tracks possible. Since the late 1830s, the B&O had been forced to run its trains along a trestle mounted on top of the stone river wall. The trestle and right-of-way extended 20 ft. into the armory yard from the river wall.¹ In 1892 the B&O received title to a portion of the old armory property and obtained a new right-of-way through the grounds from Thomas Savery.² Armed with a new right-of-way that was considerably more inland, the railroad was free to abandon its original layout along the river wall. Instead the railroad chose to run the tracks through the former armory grounds on top of a 20 ft.-high embankment. When it was completed, this embankment covered the entrance to the armory grounds, most of the south row of workshops, and the entire armory canal below Savery's pulp mill.

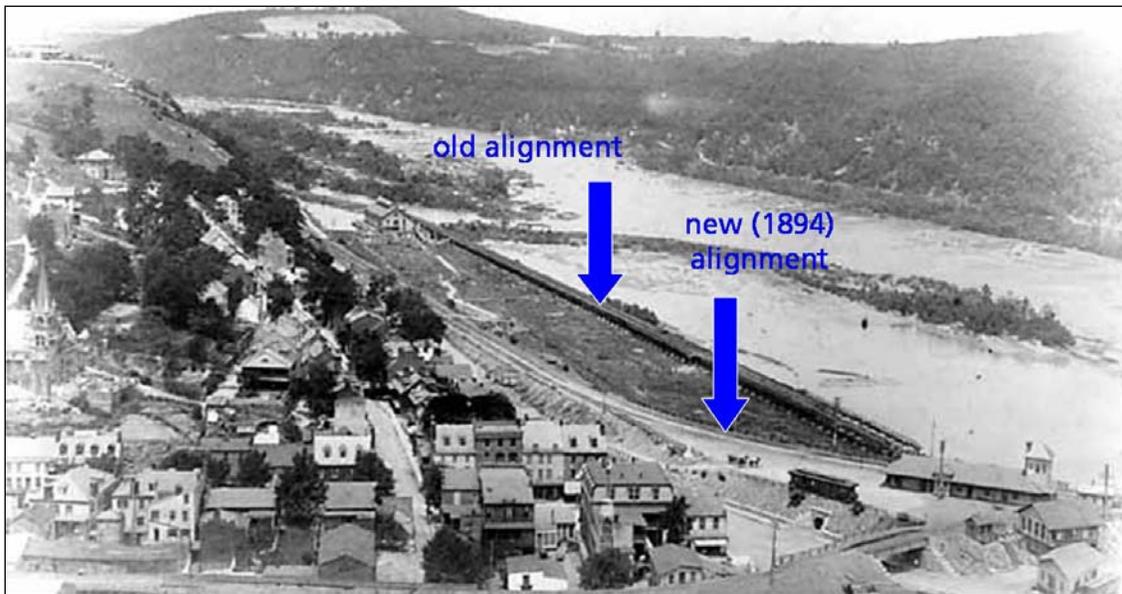


Figure 54 Circa 1896 photograph showing the realignment of the B&O Railroad at Harpers Ferry. NPS Collection.

By sweeping the tracks broadly around on the town side rather than the river side of the armory grounds, the result was a much less severe turn coming off the new bridge. This was a great improvement to one of the tightest curves on the B&O's main line. With the need for the elevated trestle thus eliminated, the wood planking, ties, and rails were removed, as was a small bridge spanning the

¹ Snell, "Town of Harpers Ferry," 7.

² Barry, *Strange Story...*, 172-176.

armory boat ramp. The iron framework of the trestle remained in place until around 1898, and a small section of the old tracks was maintained as an industrial siding. The siding served Savery's Potomac Pulp Mill.³ The new bridge and track alignment were put into service on April 12, 1894.

Another facet of the railroad's realignment was the modification of a small tunnel just west of Savery's mill and the armory grounds. Construction crews cut into the mountainside there and converted the tunnel into an open cut. The hillside cuts, some of which were 80 ft. deep, produced nearly 50,000 cubic yards of dirt and stone rubble. The resulting rubble was used to build the embankment across the armory grounds upon which the new track alignment was set. Rubble from the 800-ft. long Maryland Heights tunnel excavation and from the construction of the new bridge piers was also used for that purpose.⁴

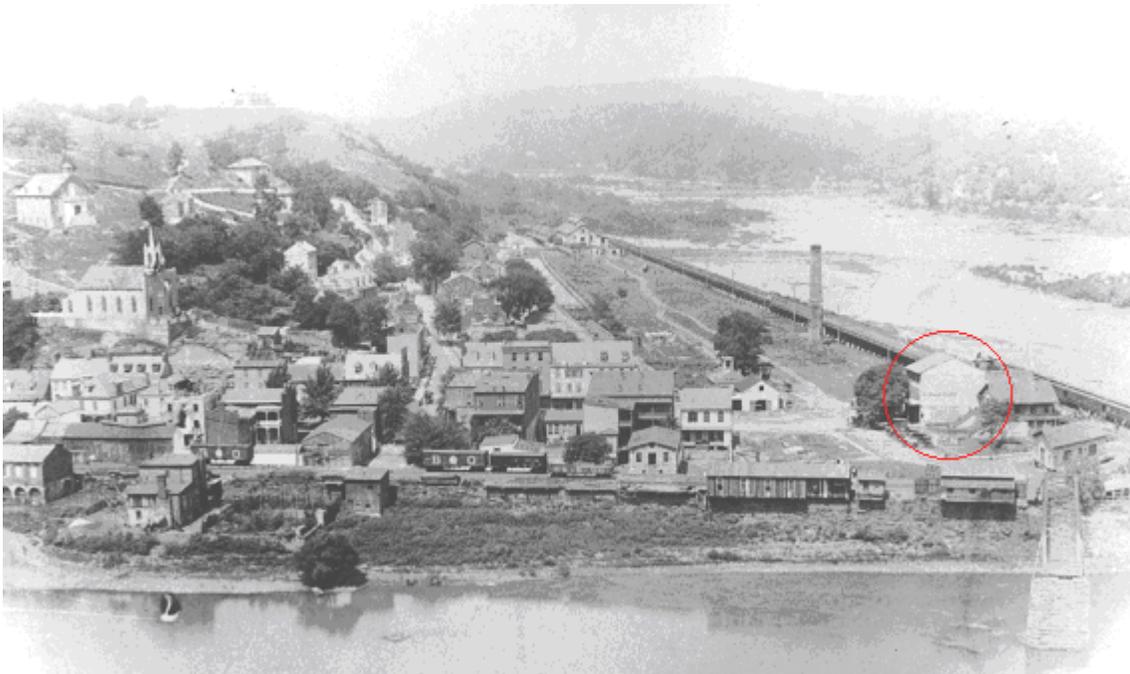


Figure 55 Circa 1889-1891 photograph of Harpers Ferry with the Potomac House restaurant circled red. NPS Collection.

The new embankment necessitated the removal of a cluster of structures from the old Ferry Lot at the Harpers Ferry end of the new bridge.⁵ Notable among these buildings was the Potomac House restaurant, a three-story tavern/hotel that served as the B&O's passenger station since the Civil War, and the livery stables of Thomas Jones and E.S. Cummings.⁶ Of course the new alignment also required the removal of John Brown's Fort.

³ HAER, Potomac Power Plant, Survey Number WV-61, 1998.

⁴ Sisson, "Harpers Ferry Improvement," 352.

⁵ Gilbert et al, "Cultural Landscape Report...", 3-95.

⁶ *SoJ*, 4/11/1893, 3 col. 3; *FA*, 5/3/1913, 1 col. 6.

Several changes in the streets and roads of Harpers Ferry were also required by the railroad improvements. Potomac Street in Harpers Ferry, which ran parallel to the old armory canal, was raised 4 ft. for a distance of about 800 ft. The east end of the street was realigned to pass diagonally under a new overpass constructed as part of the realignment of the Valley Branch approach to the bridge.⁷ And because the newly created embankment blocked drainage of water from downtown Harpers Ferry, it was necessary for the B&O to construct a 186 ft.-long drainage culvert near the east end of Shenandoah Street. The large berm created by the new track alignment essentially blocked the view of the old armory grounds from the rest of the Lower Town.



Figure 56 Circa 1894-1900 photograph of the Harpers Ferry train station and drainage culvert at the east end of Shenandoah Street. NPS Collection.

The B&O improvements in 1892-94 dramatically altered the appearance of Harpers Ferry. Of all of the B&O's plans, however, the one that most excited town residents was the construction of a new railroad passenger station. When it became clear that the old Potomac House depot would be torn down since it was in the path of the re-routed main line, the townspeople realized that a new station would need to be built. Rumors initially placed a new station somewhere near Savery's pulp mill at the west end of the armory yard. It was finally confirmed that the new station would occupy a site in the angle formed by the new junction of the main line and the Valley Branch.⁸

⁷ The "Valley Branch" was the name for the old W&P line.

⁸ *SoJ*, 8/16/1892, 2 col. 4.

In 1894 a tourist lamented about the substantial changes being made by the railroad to the Harpers Ferry landscape since John Brown's raid, writing:

To the thoughtful traveler, meditating here at Harper's Ferry, in early September 1894, there still remain many features of interest, forever to be associated with John Brown and his deeds.... [T]he Loudoun and Maryland Heights still watch, from either side of the Potomac, over the spot where the armory engine-house – "John Brown's Fort" – once stood... [T]here is but now little to call attention to Brown's exploit, or arouse more than a momentary interest. The engine house, into which he was driven... was removed two years ago, and the spot where it stood is covered to the depth of five or six feet by the broken stone of the approach to the new Baltimore and Ohio railroad track.⁹

Although the B&O Railroad Company was primarily interested in efficient and profitable railroading, the company did take active steps to promote Harpers Ferry as a tourist destination. For a fifty year span – from roughly 1880 to 1930 – the railroad made Harpers Ferry a regular destination and departure point for numerous tourist excursion trains. Excursion trains left Harpers Ferry for the short trip to nearby Martinsburg, WV, and Frederick, MD, and for the longer trip to Winchester, Edinburg, Harrisonburg, and Staunton, VA in the Shenandoah Valley. Other special excursion trains took tourists to and from destinations even further afield, to Atlanta, Philadelphia, New York City, Newark, Atlantic City, and Niagara Falls. Even far-off tourist sites in Kansas City, Detroit, Omaha, and San Francisco were connected to Harpers Ferry by the excursion trains.¹⁰

Aside from bringing people to Harpers Ferry to see the area's tourist sites, B&O trains also brought people to hold celebrations, reunions, political conventions, religious retreats, hiking trips, and other special occasions. Many of these events were held at Island Park, the B&O's very own "*first class excursion ground*." In 1878 the B&O purchased Byrnes Island, an island in the Potomac River a short distance upstream from the armory grounds. The company developed Byrnes Island into a summer resort and renamed it "Island Park." In 1894, the same year the new railroad alignment was completed through the armory grounds, Island Park boasted an "eating house," several pavilions, a dining tent, refreshment stands, as well as swings, a skating rink, and a steam powered merry-go-round.

Operated under B&O management, the resort at Island Park was perhaps best remembered as the location of the company's annual employee picnic from 1881 to around 1918. This popular event was always well-attended. For instance, in 1910 *The Farmer's Advocate* reported "*the usual number*" of attendees, estimating the crowd at 5,000 to 6,000 employees and family members. The island was susceptible to flooding, however, and in 1923 the company

⁹ *VFP*, 12/19/1894, 1 col. 5.

¹⁰ See, for example, *SoJ*, 5/29/1877, 3 col. 1; 8/15/1876, 3 col. 2; 5/17/1881, 3 col. 1; 4/25/1908 2 col. 4; *FA*, 7/29/1916 2 col. 3; 5/26/1917, 2 col. 3; and 6/6/1925, 1 col. 1.

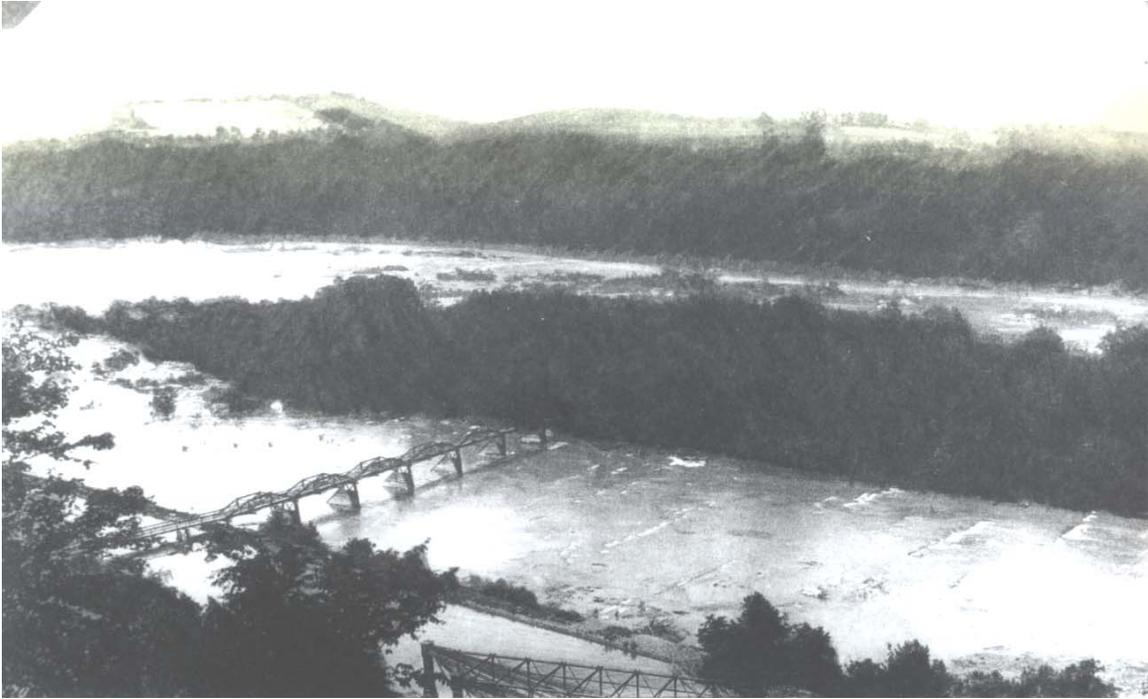


Figure 57 Historic view of a bridge crossing a portion of the Potomac River to Island Park. NPS collection.

dismantled its remaining facilities and leased the island to a local farmer for pasture.¹¹

To further enhance Harpers Ferry as a tourist destination, the B&O Railroad erected a monument in February 1895 to mark the original location of John Brown's Fort. Because the new track alignment significantly raised the ground surface, the monument was placed on the spot high above the original grade. A driveway leading up the embankment to the railroad's passenger station passed near this new blue limestone monument. When it was learned that the Fort would soon be returned to Harpers Ferry, there was optimistic speculation that the Fort would do much to increase the number of "*pilgrimages*" made to the historic spot.¹² Because the original building site was now unavailable, the Fort was reassembled instead nearly two miles distant on the Alexander Murphy farm overlooking the Shenandoah River.

Also during this time, the federal government began memorializing the Civil War events of the surrounding area. In 1890 Congress established Antietam National Battlefield Site at Sharpsburg, Maryland. In 1897 the War Department installed five iron tablets at Harpers Ferry "*for the enlightenment of travelers*" that commemorated the 1862 capture of Harpers Ferry. The narrative tablets described the Civil War action in Harpers Ferry as a prelude to the events at Antietam. They were placed in a prominent spot, clustered in a small grassy

¹¹ FA, 8/6/1910, 2 col. 3-4; FA, 10/27/1923, 1 col. 2.

¹² VFP, 8/21/1895, 2 col. 1.

area next to the John Brown Monument so they could be seen from the train and platform.¹³ The railroad company kept the signs painted and in good repair while they stood near the active platform, but when the train station was moved to its present location in 1931, the signs were not relocated. By 1935 they were badly faded and had fallen into disrepair. Eventually, as automobiles supplanted trains as the primary means of visitor transportation, the signs were moved to another location along the main highway.

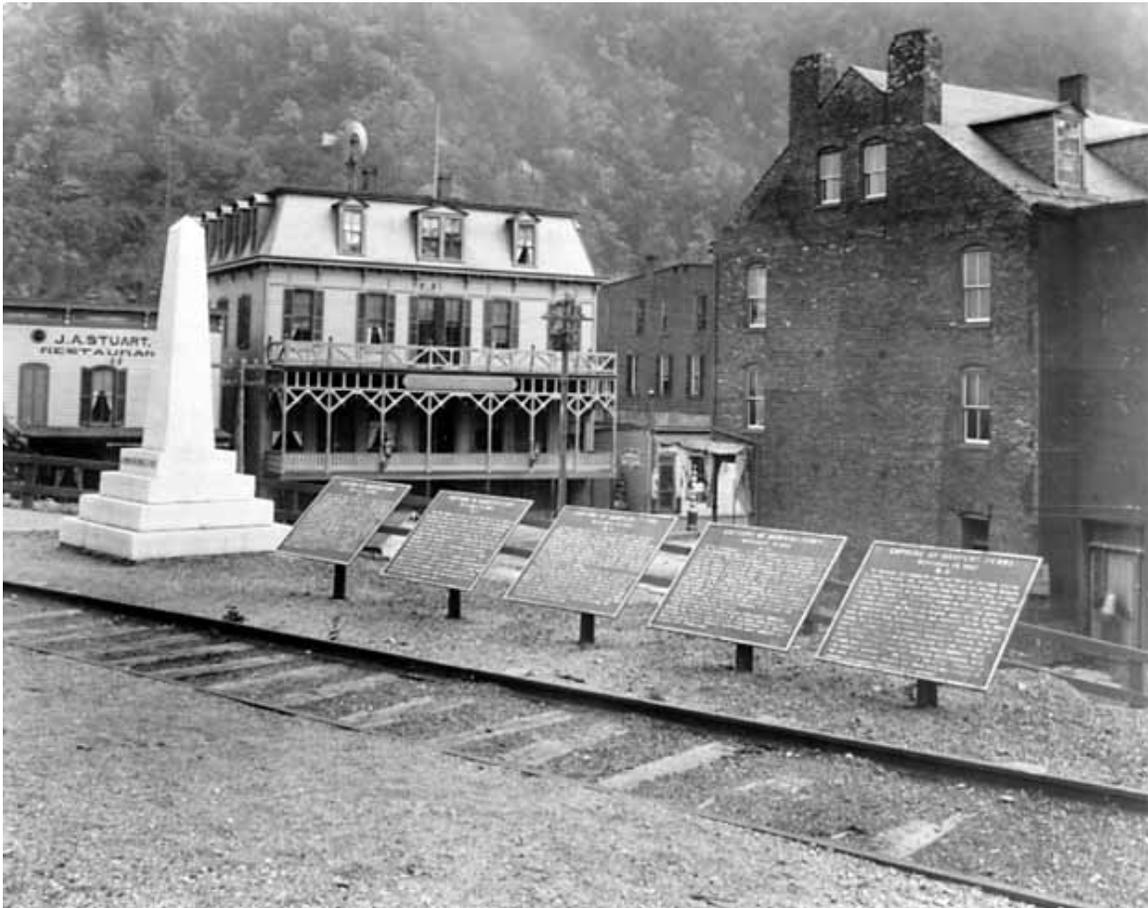


Figure 58 Historic photograph of the John Brown Monument and the 1897 iron tablets installed by the War Department. NPS Collection.

The B&O Railroad made other improvements in the early 20th century that drastically redefined the look of the former armory grounds. In 1916 the B&O began establishing a park-like setting on the grounds of the old armory yard in the area between the 1892 railroad berm and the Potomac River. Debris was removed and the ground surface was groomed. Using whitewashed or painted stones, workmen constructed rectangular outlines in the approximate locations of some of the former armory buildings. Rectangular outlines marked the general

¹³ Gilbert, et al., "Cultural Landscape Report: Lower Town," 3-93.

vicinity of the armory's 1841 Warehouse and both wings of the 1845-1848 Smith and Forging Shop.¹⁴ It is not known if the railroad interpreted these armory buildings. A single sign, oriented towards the river, can be seen in photographs taken of the site during the 1930s.

In stark contrast to the industrial character of the armory, B&O landscape gardeners established flower beds and planted grass and shade trees on the site. Photographic evidence shows Lombardy poplar trees and ornamental shrubs growing along the Potomac river wall and the faux foundations set in the middle of a well-manicured lawn. According to NPS landscape architects, the overall effect of the B&O's grounds keeping was to create "*a distinctive gateway of monuments, history, and ornamental landscape*" for visitors to Harpers Ferry.¹⁵



Figure 59 Historic photograph showing a commemorative garden and the footprints of armory structures developed at the armory site by the Baltimore and Ohio Railroad. NPS Collection.

In 1930 the B&O began a second round of improvements to the main rail line at Harpers Ferry. On October 23, 1930, the B&O Railroad purchased most of the remainder of the former armory property from the Harpers Ferry Paper Company. Like the changes that were made in 1892, the railroad's 1930 improvements

¹⁴ *SoJ*, 5/16/1916, 2 col.4; HAFE Photograph Collection HF-0330 and HF-0723.

¹⁵ Gilbert, et. al., "Cultural Landscape Report: Lower Town," 3-101.

were meant to increase the efficiency of its operations. Plans called for a new Potomac River bridge, tunnel work, and realignment of the rails. This time, however, rather than build a brand new passenger station, the budget conscious B&O picked up the Harpers Ferry train station and moved it to its present location.



Figure 60 1931 photograph of the Harpers Ferry train station during the move to its new location. NPS Collection.

When the new railroad bridge was completed in 1931, it finally achieved the B&O's long-standing goal of ridding the railroad of its troublesome, curvy tack at Harpers Ferry. The new bridge was aligned on a tangent in relation to the Maryland Heights tunnel, once and for all eliminating the curvature on the Maryland shore. On the West Virginia side the new track alignment resulted in a wider, more sweeping curve (a 4° curve versus the previous 9°) that permitted nearly unrestricted train speeds.¹⁶

The new bridge met the West Virginia shore considerably upriver from the landing of the previous one, but still within the former armory grounds. Such an alignment required the railroad to make additional changes to the armory site. For instance, an abutment and short subway tunnel was constructed, set at an angle to the armory's river wall. In addition, the approach to the new bridge required another embankment on the former armory grounds. About 20 ft. of fill dirt was placed on the site, this time covering the site of the armory's Annealing Shop and nearly half of the neighboring Smith and Forging Shop.

¹⁶ Caplinger, 57.

During the enlargement of the railroad berm in 1930-1931, three temporary frame structures and an outhouse were erected on the armory site at the base of the new embankment. Bulldozers then prepared a roughly triangular-shaped platform that stretched all the way from the river wall across the armory grounds to Potomac Street. This flat area, which became the new home for the Harpers Ferry train station, was graded and used as a staging area for construction supplies. The newly enlarged berm now divided the armory site in half, creating a physical interruption between the east and west ends of the grounds.

National Park Service Acquisition

Though Harpers Ferry had long been recognized for its historical associations and scenic beauty, the federal government formally identified Harpers Ferry as a potential national historic site in 1935. In 1936, largely due to the tireless promotional efforts of Dr. Henry Temple McDonald, an avid amateur historian and President of Storer College, a tour of the town was scheduled for influential business leaders and politicians. Among the dignitaries scheduled to attend was West Virginia Congressman Jennings Randolph. Unfortunately, the tour was postponed because of the devastating flood of March 17, 1936.



Figure 61 1948 photograph of Dr. Henry Temple McDonald. NPS Collection.



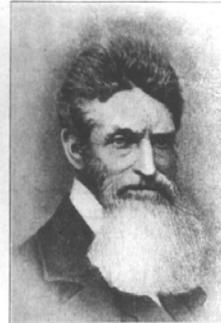
Figure 62 1936 photograph of the Armory site during the largest flood recorded in the town's history. NPS Collection.

In 1938 another meeting of politicians and citizens was held to encourage the commemoration of Harpers Ferry, made all the more urgent by the economic

decline and physical destruction wreaked by the record-setting 1936 flood. A representative of the B&O Railroad attended the 1938 meeting and remarked favorably on the prospect of a federal park, conscious of the dividends that increased tourism promised to bring.

Throughout the 1930s Dr. McDonald and Representative Randolph worked in partnership with state and federal officials to coordinate legislation, fundraising, financing, and the donations of land necessary to preserve the history and scenery at Harpers Ferry. After two unsuccessful attempts, Randolph introduced a bill that was passed on June 30, 1944 and signed into law creating Harpers Ferry National Monument. Even after this success, significant bureaucratic obstacles remained. Administrative delays and a lack of funds to acquire land for the newly created Monument prompted McDonald to continue his own public relations campaign. He published articles about the Monument, organized visits and tours, and gave public presentations to a variety of civic organizations.

JOHN BROWN AT HARPERS FERRY



Prof. Henry T. McDonald, President Storer College

Harpers Ferry, W. Va., will lecture at the

Town Hall, Fairmount Heights, Md.

Friday, April 25, 1913, 8 P. M.

ADMISSION - - 10 CENTS

H. B. WOLFE, Printer, 1014 Locust Street, Baltimore.

For the benefit of the Museum Fund of the Park, which is being offered on the Campus of Storer College, as a permanent Museum. It is the wish of the Faculty that every Alumnus and former student will interest himself in this worthy project, and insist the attendance of his friends at this Lecture. Each former student is requested to sell not less than ten tickets. Mrs. Clyde Frank in Cook will be present and introduce the Speaker.

—COMMITTEE—
W. H. Allison Richard Johnson Clarence B. King Mrs. A. A. A. Mrs. F. M. Allison

Take Street Car on N. V. Ave., get off at 1st St., N. E., W. Va., and walk 1000 ft. S. E.

Reservations at regular prices.

Figure 63 1913 handbill advertising one of Dr. McDonald's lectures. NPS Collection.

Determined in his efforts, McDonald enlisted the help of B&O executives to maintain the momentum created by the federal designation of the Monument. The B&O's advertising manager responded by offering to correct inaccuracies that McDonald pointed out in their "Historic Harpers Ferry" brochure. Four hundred copies of the brochure were then provided for distribution among visiting newspaper editors. McDonald also asked the B&O President to have railroad

company lobbyists to the West Virginia legislature put in a good word for the Monument.¹⁷ McDonald recognized that in order to achieve his vision for the Monument, a good relationship had to be forged and maintained with the B&O Railroad Company.

In 1950, when the establishment of a NPS administered site at Harpers Ferry seemed closer at hand, NPS Assistant Director Conrad Wirth wrote to B&O officials informing them that West Virginia was beginning to acquire land for the Monument. Noting that the railroad company had long promoted the area's natural scenery and history, Wirth suggested a partnership between the Park Service and railroad. He complimented the B&O for marking "*the site of the arsenal associated with John Brown*" and asked "*permission to direct visitors to the spot.*" He also requested that the company inform the NPS "*long in advance*" should it "*plan at some future date to dispose of or alter the site.*"¹⁸ The B&O agreed to co-operate with any NPS "*interpretive program*" including allowing public access to the site. The B&O also assured Wirth that no changes to its adjacent main line tracks were planned.¹⁹

Finally, in March 1951 the West Virginia State Legislature appropriated money to begin acquiring land for Harpers Ferry National Monument. Almost from the start, obtaining the original site of the U.S. Armory and John Brown's Fort became a top priority. In the meantime, initial efforts involved assessing newly acquired properties and formulating a framework for interpreting the site to visitors. It was decided to restore the town to the period encompassing two significant historical events in the development of Harpers Ferry: John Brown's Raid and the Civil War. Accordingly, the Park focused its energies on establishing an 1859-1865 setting throughout the Lower Town.

As part of its plans to restore Harpers Ferry to its 1859-1865 appearance, NPS planners and professionals conducted a tremendous amount of supporting research. Both the historical development of the town and the physical fabric of many of its buildings was thoroughly documented. As part of this effort, in 1955 NPS Chief Historian Herbert Kahler solicited comments from historian William Everhart on the Harpers Ferry brochure distributed by the B&O Railroad. After reviewing the brochure, Everhart came away with a low opinion of the information the railroad company provided prospective tourists. "*The narrative of events in the folder is highly inaccurate and would almost require re-writing, rather than correction.*"²⁰ Nevertheless, the NPS took great care to maintain good relations with the B&O Railroad in hopes that the company might eventually agree to cede the original site of John Brown's Fort.

¹⁷ Moyer, et al., " 'To Preserve the Evidences' . . .," 67.

¹⁸ Moyer, et al., " 'To Preserve the Evidences' . . .," 331; Asst. Director Conrad Wirth to Baltimore and Ohio Railroad Company, 9/6/1950, Folder "HFNHP 1938-1954," NPS HD Collection, HD/NPSDC as in Moyer et al., 331.

¹⁹ Asst. Director Conrad Wirth to B&O Director of Public Relations Robert M. Van Sant, 9/20/1950, Folder "H30," Admin. Coll., BH/HAFE.

²⁰ Moyer, et al., " 'To Preserve the Evidences' . . .," 129-130.

Archeological research constituted a part of the NPS effort to document and interpret the Harpers Ferry National Monument. In 1958 NPS Regional Archeologist John Cotter drew up a list of priorities for archeological studies at Harpers Ferry. The first priority concerned replacing the John Brown Fort on its original foundations. The project had to be deferred, however, because it required acquisition of the site from the B&O Railroad and removal of the 20 ft. of fill.²¹

Other archeological investigations of sites related to the Harpers Ferry Armory were eventually conducted, including excavation of the two Arsenal buildings beginning in the summer of 1959. Excavations there provided a dramatic window into the destruction of the armory, as archeologists unearthed a jumbled pile of melted metal and deformed musket parts atop the Arsenal floor. The dig, which also identified the 1859 street level and documented the arsenal's brick and iron fence, generated much excitement among the visiting public and soon became a central attraction of the Monument. Park Service planners and administrators, however, remained focused on acquiring the former armory property.



Figure 64 1960 archeological excavation at Arsenal Square.
NPS Collection.

²¹ Moyer, et al., “*To Preserve the Evidences’...*,” 139.

By 1957 NPS officials were considering a plan to acquire the former armory property through a land exchange. The B&O was receptive to this idea and asked for a survey of the requested land. A NPS civil engineer surveyed the site in November 1958 and plans were prepared in January 1959. These developments raised hopes that the site might be acquired in time for the 1959 Centennial. The B&O Railroad was interested in C&O Canal property near Cumberland, and these coincidental interests seemed to provide an opening for the NPS to acquire the fort site without having to request a special Congressional appropriation. These discussions stalled in May 1959 when NPS Associate Director E.T. Scoyen informed regional officers that he “*was reluctant to proceed at this time*” since the exchange might complicate the establishment of a C&O Canal National Historical Park which was then under Congressional consideration.²²



Figure 65 1955 aerial photograph of Harpers Ferry. NPS Collection.

The 1960 legislation that provided for inclusion of the Storer College property into the Harpers Ferry National Monument also authorized an exchange of NPS land for the John Brown Fort site. Subsequently, the Eastern Office of Design and Construction prepared estimates for removing the railroad fill from the site to the amount of \$87,800 and restoring the John Brown Fort on the original location for

²² Associate Director Scoyen to Region Five Regional Director, Memo, “John Brown Fort Site – HFNHM,” 5/19/1959 as in Moyer et al., 332.

\$62,500.²³ But again there was confusion over the status of the land to be exchanged and the negotiations were shelved.

In 1963, although approximately seventy-four acres near Cumberland was being offered for less than three acres at Harpers Ferry, the B&O refused to make the exchange. They objected on the grounds that the values of the tracts were unequal and asked for additional monetary payment or concessions such as allowing the company to replace the wooden trestle at Harpers Ferry with dirt fill.²⁴ Further complicating the proposed exchange, C&O Superintendent (and former HFNM Superintendent) Edwin M. "Mac" Dale objected to C&O property being "*raided*" for the benefit of Harpers Ferry.²⁵ And even though some were now urging the NPS Director to pursue legislation for an outright purchase, advising that Senator Randolph "*would be glad to do this,*" this alternative was apparently not pursued.²⁶ Two deeds were drafted in 1969 but were never executed.

After another decade of inaction, in 1982 the NPS lands office corresponded with the B&O's corporate successor, Chessie System Railroads, to make the swap but still without result. A breakthrough finally occurred in the late 1990s, as Harpers Ferry National Historical Park conducted a number of boundary studies while considering expansions to the park boundaries. Private and public advocacy during this time, which included the efforts of the influential West Virginia Senator Robert C. Byrd, resulted in renewed interest in acquiring the former armory property. In September 2001 an agreement based on the original 1959 exchange plan was finally reached between the NPS and CSX Corporation.

After nearly half a century of on-again off-again negotiations, Harpers Ferry N.H.P. finally acquired title to the six acres it had coveted for so long. The armory property, so central to the story of Harpers Ferry, is once again owned by the federal government. But now, instead of being favored as the location for an 18th-century industrial enterprise, it has assumed an entirely different value. Because of its numerous historical associations – both with famous people and important events – the armory site is now valued as part of our nation's rich cultural heritage. The National Park Service's commitment to preserving and interpreting the site ensures that it will continue to play an important role into the future.

²³ Regional Chief Program Coordination M.B. Christenson to Chief EODC, Memo, "Project Construction Proposals - Harpers Ferry," 10/29/1963, Folder "Harpers Ferry 1963," Box 63, RG 79-68-0636, NARA-MA-(PH), as in Moyer et al., 181-182.

²⁴ Regional Chief of Lands Thomas D. Anderson to Asst. Manager Properties Department, Baltimore and Ohio Railroad Company Robert D. Clark, 10/158/1963, Folder "HFNHP Land Exchange and B&O 1957-1967," Box 26, 413, RG 79-68-0636, NARA-MA (PH).

²⁵ Superintendent Edwin M. Dale to Northeast Region Regional Director, Memo, "Package Master Plan - Harpers Ferry," 5/12/1964, Item 3, Folder "HFNHP 1963," Box 63, RG 79-68-0636, NARA-MA (PH).

²⁶ Superintendent Joseph R. Prentice to Northeast Region Regional Director, Memo, "Status of Land Exchange with B&O Railroad Involving Original Site of John Brown Fort (Fire Engine House)," 10/26/1966; and Regional Director Lemuel A. Garrison to Director, "Status of Land Exchange with B&O Railroad Involving Original Site of John Brown Fort (Fire Engine House), Harpers Ferry," 11/4/1966, Folder "HFNHP Land Exchange and B&O 1957-1967, Box 26, 413, RG 79, NARA-MA (PH).

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