IRON FROM "THE BEND": THE GREAT WESTERN AND BRADY'S BEND IRON COMPANIES

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About seventy miles northeast of Pittsburgh, the Allegheny River meanders through a string of high hills and ridges that curve the waters around a sweeping two-and-a-half-mile horseshoe known for the past two centuries as Brady's Bend. On the northwestern side of the Bend, across from the village of East Brady, a small tributary, Sugar Creek, empties into the main stream. Here lie the ruins — a few dilapidated houses crumbling away, immense piles of slag slowly disappearing beneath the brush, and two huge stone blast furnaces falling into decay. Of course, it was not always this way. But these artifacts, vestiges, and perhaps even symbols of the past are all that remain today of a great ironworks that flourished here during the middle years of the nineteenth century.

Mystery still shrouds the early years of the Brady's Bend enterprise, in some respects comprising what we might call a "lost time." But one thing is certain — the catalyst that brought the ironworks at Brady's Bend into being was that great technological innovation of the early nineteenth century, the railroad. The American railroad industry sprang to life in the late 1820s as sharp-eyed entrepreneurs in Boston, New York, Baltimore, and countless other cities seized upon the iron horse as the best means of resolving the many problems of land transportation. But to build railroads these people had to have thousands of tons of iron rails, at first imported from Great Britain, whose iron manufacturers held first rank in the world. Yet Britain was an ocean away. Americans saw good business opportunities in rolling rails much closer to the locales of railway construction, and this was the primary impetus that brought an integrated rail manufacturer to "the Bend."

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The iron industry in America was hardly new by the time the entrepreneurs began building at Brady's Bend. Its origins stretched back to the colonial era, but in the early national period shortly after 1800, the heart of the industry had become concentrated in eastern Pennsylvania largely because of the extensive deposits of anthracite coal for fuel. During the 1830s, iron production shifted to the western part of the state under the dual stimuli of the protective tariff, which restricted the importation of British iron products, and the innovative discovery that bituminous coal from the region could be made into coke for reducing local ores. The Brady's Bend site was especially attractive to potential investors. Coal, timber, water, and ore were plentiful in Armstrong, Butler, and Clarion counties, and the Allegheny River provided ready access to Pittsburgh and markets to the west. Furthermore, large acreages in the Brady's Bend vicinity were unsettled or not suitable for farming and could be bought at nominal expense.¹

Those who organized the company at Brady's Bend anticipated a burgeoning market for iron in the west and recognized the benefits that might accrue from a locational advantage over eastern competitors for the potentially lucrative western rail business. Moreover, there was an emerging consensus in the late 1820s among entrepreneurs that integration — that is, combining the ownership of raw materials with ore processing and the manufacture of finished products — enhanced a company's chances of success in the marketplace. This was an important shift in the organization of the industry, which hitherto had been characterized by small, isolated furnaces supplying numerous forges and mills scattered around the state.² Thus a welter of circumstances, including the railroad, new fuel technology, the westward movement of people and goods, and changing concepts of industrial organization, came together to initiate a new enterprise at Brady's Bend.

Philander C. Raymond, an ironmaster from Geauga County, Ohio, carried out preliminary surveys of the Brady's Bend site in the late 1830s and reported favorably on the location to wealthy interests in New York. In February 1839, Raymond made the first purchases


of property—totalling more than two hundred acres—on Sugar Creek. Seven months later, Knowles Taylor headed a group of investors in New York who incorporated the Great Western Iron Company to hold the Sugar Creek tract and erect facilities there for the production of pig iron. Capitalized at $500,000, the firm included Taylor as president, Jonathan Little of New York as treasurer, and John P. Owen of Philadelphia as secretary. Raymond, because of his familiarity with the area and previous experience in iron production, was appointed superintendent.¹

It befell Raymond as superintendent to organize the labor force and assemble the necessary equipment at Brady's Bend to get the operation started. Considered "a real gentleman" by a visitor several years later, Raymond was energetic and efficient and had a clear perception of a truly integrated facility at "the Bend." By the summer of 1839, work was under way on the furnace, located on a hillside several hundred yards above the creek about a mile upstream from its confluence with the Allegheny. Fashioned of cut stone and costing $65,000, the furnace was an impressive structure fifty-two feet high with a 250-horsepower steam engine providing the blast. Farther up the hill were the coke ovens to fuel the furnace, and nearby were a sawmill, shops, and a warehouse. A small merchant mill was built to work the metal into bar iron for sale in Pittsburgh. Delays in procuring coal and bringing in skilled workers from Wales and Cornwall meant that the furnace could not be blown in until December 1840.²

Technology and the market largely dictated the course of the Great Western Iron Company in the early 1840s. The diminutive merchant mill initially produced bar iron for Pittsburgh foundries. Although historians have repeated that the Pittsburgh market never materialized due to customer resistance to iron smelted from coke, the bar iron production at Brady's Bend more than likely was always intended as an interim step to dispose of surplus pig iron before committing capital to rail-rolling machinery. For whatever reason, Raymond pushed ahead with construction of a large rolling mill on level land next to the Allegheny River not far from the mouth of

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Sugar Creek. When it was in full operation in January 1842, the $35,000 mill could roll thirty tons of strap rails a day, or 6,000 tons yearly.\(^5\)

The production of railroad iron opened new vistas for the Great Western enterprise and seemed to herald prosperity at Brady's Bend. Planning went ahead for expansion. Construction started in 1842 on a second blast furnace and preparations were made to put up a third, while additional land purchases brought the company's holdings to more than two thousand acres. Because housing in the small village near the ironworks was inadequate, the company encouraged newcomers to settle across the river in Clarion County. The little town that sprang up there became known as East Brady. One observer, identified only as "C," writing in the *National Intelligencer* in 1842, described the works at night: "the fierce blaze of the furnace, the lurid glare of the cokeyards, the reflected light upon the hills and forest, the roar of the blast, the quiet dwellings scattered along the banks of the stream — altogether present to the eye of a stranger a scene most strikingly unique, sublime, and pleasing." Even more encouraging to the New York investors than this typical description of an American business in the early stages of the industrial revolution was the visitor's prediction that the company "will ultimately reward the enterprising proprietors munificently." \(^6\)

Such optimistic visions of the company's future, however, clashed with financial reality. The Great Western firm consistently undersold its competitors — such as the Mount Savage Rolling Mill near Cumberland, Maryland — in the rail market and lost money on nearly every shipment. In January 1842, for example, the company had 200 tons of railroad iron ready for shipment to Cincinnati at $50 per ton. This was perhaps as much as $10 per ton less than production costs. Apparently Raymond's expectation was to realize economies of scale at Brady's Bend that would bring costs down and allow the firm to outbid other western manufacturers, but the heavy capital investment and meager returns by the beginning of 1843 forced the company to seek additional financing. On January 21, Taylor and Raymond negotiated a mortgage valued at $125,000 with three Boston merchants, Isaac C. Pray, Matthias P. Sawyer, and Samuel May.

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Pray was also a newspaper editor who was well known for his essays on the advantages of a protective tariff and he may have thought of the Great Western works as a laboratory where his theories could be translated into cash.  

If Pray was thinking along those lines, he must have been sorely disappointed in 1843, for not long after the loan was consummated, the Great Western ironworks slid into bankruptcy. With the furnaces cold and the mills along Sugar Creek and the Allegheny River quiet, Pray and the Boston partners faced the grim specter of losing their entire investment. Rather than risk such a loss, Pray and Sawyer raised sufficient capital to buy the ironworks on March 18, 1844, and reorganized it a short while later as the Brady's Bend Iron Company. Many of the original Great Western stockholders retained shares in the new company, but Pray and Sawyer probably held the majority interest and made all the decisions regarding the concern's direction for the next decade.

An influx of new capital through the Boston interests, coupled with a boom in the rail business, brought a modicum of stability to Brady's Bend in the 1840s and 1850s. By the beginning of 1845, the company had added several thousand acres to its already extensive coal and ore properties, and had blown in the second blast furnace, thereby doubling the total pig iron capacity at Brady's Bend. A third furnace, slightly smaller than the other two, was also completed. Expansion of the rolling mill and the puddling furnaces along the river increased the potential annual output of rails to 8,500 tons. New houses, a school, and a church lent a prosperous appearance to the communities on both sides of the Allegheny and helped to attract new workers to the area.

Up to 1846 Brady's Bend had manufactured only strap rails — simple flat strips of wrought iron that were spiked to wooden beams to form the completed rail. In 1844, the Mount Savage works had revolutionized the American rail business when it began rolling rails with a wide flange at the top, known as T rails for their distinctive cross sections. Other firms adopted the superior design within the next
two years, Brady's Bend among them. The company rolled its first T rails in 1846 and began shipments in June 1847. By the fall of that year, Brady's Bend had a capacity of 250 tons of T rail weekly, and in one month — October — shipped rails worth nearly $11,000.10

Just when the company seemed to have its affairs in order, it and other iron manufacturers were hit hard by declining prices and stiffer competition from Britain in the American rail market. The tariff of 1846 opened the door to British pig iron, which by 1848 was entering the country in sufficient quantities to drive a number of producers out of business. Brady's Bend survived, but not without undergoing changes. From the fall of 1848 to the fall of 1849, the company banked its furnaces. In the meantime, Philander Raymond left the firm, and first Richard Jennings, and later, in 1849, J. B. Curtis assumed responsibility for superintending the works.11

When the furnaces and rolling mill at Brady's Bend started up again in 1849, the company actually found itself in a stronger position in the industry than it had been previously. A number of marginal producers were no longer in operation, while the firm still enjoyed a geographical advantage over eastern mills in competition for sales to western railroads. In 1850, the company filled rail orders for the Chartiers Coal Company Railroad and for an unidentified railroad in Ohio. Orders reached $500,000 the following year, and by 1852 the company reported production of 15,000 to 20,000 tons of pig iron annually. With a fourth blast furnace augmenting the ones already reducing ore, employment at the ironworks went above five hundred.12

Despite still another reorganization, the Brady's Bend Iron Company was generally prosperous from 1855 to 1858, largely due to steady demands from western railroads for iron. Pray sold his interest in the concern to Sawyer, who in March 1855 organized a new firm. The entire transaction, which ultimately involved the ironworks and all property, amounted to nearly a half million dollars, and was regarded by the *Daily Pittsburgh Gazette* as something of a bargain. By 1857, the rolling mill at Brady's Bend had been doubled in size, and its output was up to 12,000 tons of rails annually. Total employment at the company's furnaces, mill, and mines, was 1,400. Railroads

10 Temin, *Iron and Steel*, 48; James M. Swank, *Introduction to a History of Ironmaking and Coal Mining in Pennsylvania* (Philadelphia, 1878), 90; H. L. Kendall to M. P. Sawyer, Oct. 15, 16, 1847, file 1, box 1, BBIC Records, HSWP.
11 Temin, *Iron and Steel*, 20-21; E. B. Gray to M. P. Sawyer, Feb. 16, 1848, file 2, box 1, BBIC Records, HSWP.
in Missouri absorbed 9,000 tons of iron worth $585,000 in the first half of the year.11

Factors largely beyond the control of the company and its owners caused insurmountable problems in 1858. The Panic of 1857 and the subsequent depression brought railroad construction to a virtual halt, cut iron production in the Allegheny Valley in half, and created hardships for such integrated companies as Brady's Bend that had large furnaces and extensive fixed capital investments. Compounding this was the death of Sawyer in 1858. That year the company shut down its furnaces and let most of its workers go, pending a turnaround in the market and a determination of Sawyer's estate.14 For the employees at Brady's Bend, the quiet in the valley portended nearly four years of hard times.

But the furnaces at Brady's Bend were not to remain out of blast forever; the settlement of the Sawyer estate and the outbreak of civil war changed the entire outlook. Still, it took years of litigation to resolve the legal questions involved with Sawyer's death, and only after the contending factions had finally determined an equitable division of his property did the executors put the facilities at "the Bend" on the market. How many people took a serious interest in acquiring the town and ironworks is something that will always remain unknown, but it matters little, for early in 1861, everything passed into the hands of William B. Ogden, who would control the firm for the next few years. How he had learned that the property was for sale and exactly what he paid for it are also matters of conjecture, but once the papers had been signed, he took possession just about the time the guns of Fort Sumter fired the first angry fusillades of the American Civil War.15

Ogden may have been a newcomer to rail manufacturing, but he was no novice in the business world. In fact, he may well have been the best-known businessman in the midwest, for this adopted son of Chicago had made a fortune in real estate there and had also served as the town's first mayor in 1837. But in the course of time Ogden had shifted his energies from land and politics to railroads, notably those building east and west of the windy city. He served as a director, officer, or receiver of many lines, among them the Pittsburgh, Fort Wayne and Chicago Railroad and the Chicago, St. Paul and Fond du

14 Ibid., May 7, 1858.
Lac Railroad, a forerunner of the Chicago and North Western system. These ventures are notable here for they were soon to play a key role in the affairs of the Brady’s Bend works — all of which suggests that Ogden had bought the company to provide a controllable source of rails for his more extensive enterprises. Regardless of his motives, on the eve of his purchase of Brady’s Bend Ogden was not quite fifty-five years of age, and he had accumulated a fortune estimated at $2,400,000, an enormous sum in that day.\(^{16}\)

Despite his wealth, Ogden had no intention of pursuing this venture alone, and neither did he wish to incur the unlimited liability that would fall squarely on his shoulders if the enterprise should prove to be unprofitable. He must have decided early on that he would bring new men and new capital into the business, but that he would also retain the old management to operate the plant itself. Therefore, he approached H. A. S. D. Dudley, John H. Haines, W. D. Slack, and Joseph Winslow, and they accepted his offer to stay at “the Bend.” Then Ogden began to look for new investors. Henry R. Payson and Edwin H. Sheldon, business associates in Chicago, George W. Cass, president of the Pittsburgh, Fort Wayne and Chicago Railroad, and Samuel J. Tilden, lawyer and Democratic politician from New York, agreed to join the venture. These men, nine in number, then organized themselves into “a body politic and corporate,” and on April 7, 1861, secured from the Pennsylvania legislature “an act to incorporate the Brady’s Bend Iron Company,” a measure quickly signed into law by Governor Andrew G. Curtin.\(^{17}\)

This statute defined the scope and limits of both the corporation and its personnel. The firm itself would have a lifespan of only twenty-five years, although this of course could be modified at any time. The company would also have a nominal capitalization of $500,000 divided into 5,000 shares worth $100 each. Subscriptions to the stock could be paid in cash, real estate, or personal property — an important stipulation that reflected the positions of the incorporators, notably Ogden. These were all conditions of any incorporation, but the organizers being prudent men wrote special provisions into the charter to guard against financial legerdemain. The directors, for instance, were to be held individually liable “for all debts due mechanics


\(^{17}\) Record Book, 1-7, Series II, box 3, BBIC Records, HSWP.
workmen and labor employed . . . and for country produce furnished. . . .” And if the directors should pay a dividend greater than the company’s profits, then they should be held individually liable. The firm could also borrow money, but the articles declared that the enterprise could pay no more than 7 percent interest on the principle.18

If Ogden or anyone else expected the works to resume operations right away, they were soon to be disappointed. The furnaces and rolling mill continued to stand idle even after the Battle of Bull Run proclaimed a long and bloody conflict. Even though the company shipped no rails down the Allegheny to Pittsburgh, the “body politic and corporate” still remained hard at work. On May 4, Dudley completed his inventory of the firm’s property by concluding that it was worth a total of $572,783.87. And letters traveled back and forth from New York, Chicago, and Brady’s Bend as Ogden and his fellow organizers prepared to bring in additional investors, appoint officers and directors, and define managerial responsibilities.19

This work came to a head on September 25 when Ogden and his colleagues gathered in Brady’s Bend to open the stock books for subscription, although this was no more than a formality needed to finalize what had already been decided. Nonetheless, that day Ogden officially transferred his property and buildings at “the Bend” to the company in return for 2,500 shares of stock. By comparison, Slack took only five shares, and Dudley and Winslow just ten apiece. Tilden and other financiers bought intermediate numbers. Then new investors acquired theirs — 100 shares went to Edmund M. Ferguson, 400 to John Ferguson, and 500 to the firm of William Bailey Lang and Company. This concern, operating out of Boston and New York, was the American sales agent for several large British iron manufacturers, and it may have been brought in to provide a ready distribution network for Brady’s Bend rails. In any case, William Bailey Lang was important for it brought into the ironworks George M. Wheeler, who was to play a major role in the firm’s destiny.20

The next day the stockholders met again, this time to decide upon the firm’s internal structure. The first order of business was to choose a board of directors, and seats went to Ogden, both Fergusons, Wheeler, Tilden, Winslow, and Dudley. Then came the selection of

18 Ibid.
19 Ibid., 10-19.
officers; Ogden became president, John Ferguson vice-president, Wheeler treasurer, and Slack secretary. The firm selected Dudley as general superintendent, with Edmund Ferguson engineer and assistant superintendent, although his work would also "extend to mining and construction engineering." Richard Jennings returned to take over as mining engineer and furnace manager; Winslow assumed responsibilities for the rolling mill; and Haines became store manager. The officers would receive no salaries, but the men in charge at Brady's Bend would: Dudley, $2,500; E. M. Ferguson, $1,000; Jennings, $2,000; Winslow, $2,000; Haines, $1,500; and Slack, $1,000.21

But still another twelve months passed before Ogden and his colleagues were ready to put the works back in operation, and this year was a portentous time. The war that most antagonists thought would soon be over with victory to their side droned on, and the casualty lists grew in the wake of the battles of Second Bull Run, Fredericksburg, Chancellorsville, and scores of lesser engagements no less deadly. And as the Union mobilized its industrial strength to support its expanding armies, prices rose and inflation added to the increase. Swept along in the upward spiral went the price of rails, which of course could only redound to the benefit of the manufacturers.

It was under these circumstances that Ogden and his associates finally got down to the serious business of reopening the plant. They met again at Brady’s Bend in the last days of September 1862, and there they finalized their plans for putting the works back in operation. But to do this, they needed money for working capital — a great deal of it — and so they voted a 40 percent call on the stockholders. This would net the firm about $140,000, two-thirds of which would come from Ogden himself since he owned about that much of the outstanding stock. Simultaneously, the firm authorized Dudley to spend $10,000 to make repairs and to pay certain bills, and he was to draw other money as needed to get the plant ready for mining, smelting, and rolling. John Ferguson was to find insurance.22

Dudley and the local managers then went to work in earnest, but several months were still to pass before the facility was ready. And this delay — if it can be called such — finally created anxiety among the major stockholders, for at a meeting on December 12, the directors "specially requested" Dudley to start as many furnaces as he could so

21 Record Book, 10-19, Series II, box 3, BBIC Records, HSWP; for duties of personnel, see also Smith, History of Armstrong County, 570.
22 Record Book, 26-27, Series II, box 3, BBIC Records, HSWP.
that the firm might sell its rails "during the continuance of the present high prices. . . ." Thus the enterprise began operations more than eighteen months after Ogden and his associates had obtained their corporate charter from the commonwealth.23

Once manufacturing was under way, the firm still found itself in dire need of money. Running the business required large sums of working capital, and the enterprise had to pay for the construction of new facilities such as the stone flouring mill that the directors authorized in December. Thus that month they agreed to sell $45,000 worth of stock deposited in the firm's treasury, and of this George Wheeler bought $25,000, O. D. Ashley — soon to be an important figure in the venture — $10,000, and others the remainder. Yet this new money fell short of what the company required, and the directors soon voted to make another call on the stockholders, this time for 20 percent, one-half of which would be due on February 1, 1863, and the other half whenever the treasurer, Wheeler, should need it.24

Ogden, however, was dissatisfied with these decisions, although he went along with them at the time. He wanted the enterprise to borrow at least some of the money it needed from the Exchange Bank of Pittsburgh because of the "uncertain condition" of American currency, a reference to the soaring inflation created by the war and the monetary policies of the Lincoln administration. And perhaps, too, he wanted to invest more of his wealth in the new Union Pacific Railroad, of which he was president.25

Despite this shortage of funds, the business at "the Bend" thrived during the war years. Demand for rails grew steadily, and Ogden and his colleagues negotiated contracts with many lines or their construction companies. One of the first went to the Cincinnati and Indianapolis Railroad, which bought 2,500 tons at a rate of $65 per ton. This agreement alone brought in $162,500 and used a fifth of the plant's annual rolling capacity — 12,000 tons in 1863. The Brady's Bend firm also entered into contracts with ventures in which Ogden held a substantial interest — notably the Pittsburgh, Fort Wayne and Chicago and the Chicago and North Western railroads. As these sales came later, the iron fetched higher prices, at least $85 per ton in one case.26

23 Ibid.
24 Ibid., 26-29.
26 Record Book, 27-29, 31-43, Series II, box 3, BBIC Records, HSWP; J. C. Blickenderfer, Jr., to Dudley, Mar. 21, 1864, file 4, box 1, ibid.; John W. Jerviss to Dudley, Mar. 1, 1864, ibid.
In light of the good sales and high prices, Ogden and his associates finally saw solid profits flow into the corporate treasury. R. G. Dun and Company, a credit agency in New York, reported to its clients that the business was "lucrative — and the company's activities reflect this." And well it did, for on August 19, 1863, the directors voted the shareholders a 10 percent dividend. This must have been refreshing news to everyone — particularly Ogden — in view of the heavy assessments that they all had had to pay over the past twelve months. Less than a year later, the directors decided to grant a 25 percent stock dividend, a move nearly always interpreted as a sign of financial prosperity.27

But despite the profits and dividends, Ogden and other company officers still recognized the need to expand and improve the operation at Brady's Bend. For one, they decided to retain some earnings to finance a small, narrow-gauge railroad to provide transportation at the plant. For another, they authorized Dudley to build a total of seventy houses — fifty log and twenty frame — for workers and their families. This was important, for the company owned just about everything at "the Bend," and new employees had to have places to live. And since Ogden and his colleagues were also concerned about the spiritual well-being of those who lived in the company town, they also voted to provide lots for the construction of both a Presbyterian and an "English Catholic Church." 28

These were important additions to the firm's property, but by far the most important came at the rolling mill. At a meeting held in Brady's Bend in October 1863, the directors appointed a committee comprised of Ogden, Winslow, and Dudley, who would go to Bethlehem, Pennsylvania, where they would try to persuade the celebrated John Fritz to build for them what was known as a three-high mill. John Fritz was an engineer by inclination, education, and experience, who in 1857, while working at the Cambria Iron Works in Johnstown, had invented a device known from its construction as a three-high roll or roll train. Even though this machine had caused a fire that had burned down the plant, it had soon proved itself of great utility because it both lowered the cost and increased the capacity of mills that rolled rails out of bar iron — mills such as the one owned by the Brady's Bend company. Fritz's invention was coming into general use throughout the industry at this time, and it was no wonder that Ogden and his associates wished to install the new technology.

28 Ibid., 32-37, 40-43.
Whether they actually persuaded Fritz himself to come to "the Bend" to supervise construction remains unknown, but the enterprise none-theless acquired its three-high roll train. 29

Despite their success in rolling rails, Ogden and the managers at Brady's Bend had to contend with vexatious problems, one of which was a persistent shortage of labor. The Civil War made tremendous demands upon manpower as all such conflicts do, and when General Ulysses S. Grant took command of all Union forces in the east in late 1863, the army's needs for soldiers increased as the war entered its most protracted and deadly phase. This only exacerbated the labor situation, which had become critical for the expanding enterprise. The Brady's Bend managers were cognizant of the situation and did what little they could. In October 1863, Dudley and Jennings received authorization to engage all the coal and iron miners they could find in the vicinity of "the Bend," and Dudley was to furnish these workers with houses as soon as they could be built. 30

Yet no one expected Dudley and Jennings to find so many able-bodied workmen in the labor-scarce environs of Armstrong County, so the company's board took another step. It authorized George M. Wheeler, the treasurer, to go to Castle Garden in New York, the point of entry for immigrants bound for a new life in the United States. There he was to identify miners as they arrived from Europe and send a hundred of them to Brady's Bend, along with fifty Irish laborers. To assist Wheeler, Tilden volunteered a letter of introduction to one Mr. Cassidy, presumably an authority at Castle Garden. Ogden and company still had their doubts about Wheeler's chances of success, so they also instructed him, if need be, to send a "suitable person" to Wales or Scotland to recruit a combination of 125 coal and ore miners. 31 This might well bring better results, but it would of course do nothing to alleviate the pressing labor shortage that existed at "the Bend" at that time.

The scarcity of workers that continued through the remaining war years circumscribed the firm's operations at Brady's Bend. At one point in October 1863, the board cautioned the officers against selling rails too hurriedly "until some clear indication of a change in the present state of . . . the labor market shall appear." Dudley tried to find

30 Record Book, 33-37, Series II, box 3, BBIC Records, HSWP.
31 Ibid.
workmen, particularly puddlers, in Pittsburgh, but he had little success.\textsuperscript{12}

A labor shortage was one thing, but even more serious in both the short run and the long was a dearth of iron ore, the one natural resource that the plant had to have in steady supply. In the course of working, Dudley found to everyone's chagrin that the firm's mines could not supply enough of the mineral to meet the demand of the rolling mills, and the lack of miners only made a bad situation worse. Dudley and Slack managed to buy small quantities of ore from merchants and manufacturers in Pittsburgh, Philadelphia, and Kittanning. These shipments brought some relief, but they were not enough. So Dudley reached farther afield, and by 1864 was obtaining substantial amounts of iron ore from mines on Lake Superior. This, of course, created a monumental transportation problem, for tons of bulky mineral had to be shipped across the Great Lakes to Cleveland, brought by rail to Pittsburgh, and then put aboard steamboats for the journey upriver to Brady's Bend. It was an expensive trip under any circumstances, and one made more costly still by low water conditions on the Allegheny and ice in the winter months. It is little wonder that Ogden and his associates wanted direct rail connections to Pittsburgh as operations expanded in 1864.\textsuperscript{13}

\textsuperscript{12} Ibid.; Dudley to Slack, Mar. 30, 1864, file 4, box 1, \textit{ibid}.

\textsuperscript{13} Haines to Dudley, Mar. 22, 1864, file 4, box 1, \textit{ibid}.; Thomas McCulloch to Dudley, Feb. 3, 1864, \textit{ibid.}; A. R. Davis to Slack, Feb. 26, 1864, \textit{ibid}. 

The Brady's Bend Iron Company as it appeared in the middle of the 1860s. Taken from a stock certificate issued by the firm, BBIC Records, HSWP.
By the time the guns of war fell silent in April 1865, Ogden and the other directors of the company had made significant additions to their plant and town at Brady’s Bend. They had built 150 new houses, put in a short-line, narrow-gauge railroad to the ore banks and limestone quarry, acquired what rolling stock they needed, and increased the supply of merchandise carried at the company store that was now supporting a town of 4,000 people. The firm employed 1,200 men who could manufacture 12,000 tons of iron rails annually. Yet such a program of expansion had cost money, a good deal of it, and this meant that the $250,000 once used as working capital had now been converted into fixed capital — or so the company claimed later that year.34

These improvements notwithstanding, Ogden and his colleagues now found themselves in need of additional funds to enhance the firm’s operations. The Allegheny Valley Railroad building north from Pittsburgh needed construction money just as badly as Ogden’s enterprise needed the last sixteen miles of track that would connect the works to Pittsburgh. This segment would not only facilitate all-weather shipments to and from “the Bend,” but would also permit the firm to tap New York and the “Western lakes” country, where Ogden expected to get rails to be rerolled at his mill. This was a profitable business denied the company because of the expensive and inadequate transportation system serving the plant. New capital, everyone realized, would also permit the enterprise to roll rails over a longer period of time, if need be, and it would make the venture more independent of short-term fluctuations in the rail market.35

In the aftermath of the Civil War, however, the firm’s position began to shift — for the worse. The price of rails fell from the inflated figures of 1863 and 1864 to more moderate averages and would continue to drift downward over the next few years. The firm’s debt arrangements changed as well, subtly to be sure, but perhaps a harbinger of hard times. At a directors’ meeting on November 11, 1864, the board had authorized Ogden and Wheeler to execute “judgement notes” from time to time and to deposit them with the Exchange Bank of Pittsburgh to be used as collateral for loans or advances needed in carrying on the business. But “notes” apparently proved too insecure an instrument for the Exchange Bank, and early in 1865 the

34 Wheeler to Sir, Nov. 17, 1865, Record Book, 49, Series II, box 3, ibid. For the number of workers in the 1860s, see Smith, History of Armstrong County, 569.
35 Wheeler to Sir, Nov. 17, 1865, Record Book, 49, Series II, box 3, BBIC Records, HSWP.
board had to change its terminology and call these devices "judgement bonds." This may have seemed insignificant, but in reality it gave the bank — or whoever might hold the bonds — a stronger claim on the company's property if the firm should ever encounter financial disaster.

Raising additional capital to continue business was now becoming imperative. The directors, officers, and major stockholders discussed this issue throughout the spring, summer, and fall of 1865. These talks finally culminated on November 17, 1865, when the directors agreed to sell $500,000 in bonds that would bear 7 percent interest — the maximum allowed by the corporation's charter — and which would be secured by a mortgage on the company property. The firm would redeem half of these securities in ten years; the other half would be convertible into common stock within five years. As the Brady's Bend enterprise was a closed corporation, the directors intended to market these bonds largely to the stockholders, offering each a participation in proportion to their holdings. These convertible securities would be sold for only 12.5 percent cash with the remainder due at a later date, but only on condition that all the stockholders would take their share. George Wheeler as treasurer sent out a circular letter asking them to comply with the directors' program.36

But Wheeler failed to receive a unanimous response, or anything scarcely approaching it, and so the directors had to adopt new tactics. On January 30, 1866, they met at Wheeler's offices in New York. First, they accepted Ogden's resignation as president and chose Wheeler himself to fill the office. As for the business of raising money, Wheeler and his associates now decided to offer the stockholders the convertible bonds at 80 percent of their par value, a move that would net the company $200,000. Selling these securities so far below par provided a lucrative inducement, but it was bad financial practice, perhaps even a desperate move under the circumstances. To back this issue, the firm then obtained a deed of trust on its property and had it executed in favor of Samuel G. Wheeler and J. D. Ferguson, who were still major stockholders.37

These sales did not go at all well. By December George Wheeler had secured commitments to buy only about $150,000 worth of the $500,000 offered. And now the directors took a more desperate step as the firm's affairs kept slipping. At a meeting held in late December,

36 Ibid.
they voted to sell half the company's property subject to the shareholders' approval. This expedient, they thought, might bring in both new capital and new shareowners, but, like the bond sales, this effort also came to nothing.38

Wheeler and his associates adopted another course of action. On January 30, 1867, they met at Ogden's offices in New York, and there Ferguson suggested that the enterprise try to sell its $250,000 worth of nonconvertible bonds in England. He also proposed that the firm ask for only 60 percent of par value, although the enterprise should demand gold in payment. It would then redeem the bonds at either 60 percent in gold or 100 percent in currency. This offer may sound peculiar, but it reflected the chaotic financial conditions left in the aftermath of the Civil War in which paper money was worth far less than gold. But as was the case with previous attempts to raise capital, the effort to sell bonds in England was unsuccessful.39

By this time the enterprise was in serious financial straits. The furnaces and mills worked steadily at Brady's Bend. In the fall of 1865, for instance, the works produced and shipped 2,000 tons of rails for the Nashville and Chattanooga Railroad, but the costs and prices were such that profits were out of the question. Losses continued to mount. By mid-1867, Wheeler and his associates had sold only $185,000 in bonds which had netted the firm far less than this. Even worse, the management was now running up a huge floating debt by borrowing money to pay wages, salaries, and bills. By the latter part of the year this sum approached $350,000, and for the first time some creditors noted that the company was becoming slow in payment, the first outward sign of internal trouble, although no one outside the management had any inkling of how precarious the firm's condition had become.40

Desperate measures were needed to avert the impending crisis in the company. At a meeting on August 15, the board authorized the officers to execute a mortgage of $1,250,000 on the firm's real estate and to sell bonds in $500 and $1,000 denominations. These would all pay 7 percent interest and would all be convertible into stock on six months' notice. But, in contrast to earlier offerings, only 45 percent of the purchase cost had to be paid; the remainder could be paid in the company's stock valued at par, $100 per share. Wheeler and his associates set September 9 as the date by which the stockholders should

38 Record Book, 52, Series II, box 3, BBIC Records, HSWP.
39 Ibid., 55-56.
40 Swank, "Manufacture of Iron and Steel Rails," 5; Record Book, 64, Series II, box 3, BBIC Records, HSWP.
buy their shares, but few if any availed themselves of the offer, and so Wheeler and his colleagues extended the "privilege" of subscribing until early October. Still, there were few takers.41

Now badly in need of cash, the board appointed O. D. Ashley and Samuel G. Wheeler a committee of two charged with devising another financial program that might "possibly meet the views of all and speedily bring the required aid." They recommended in mid-October that the company should try to sell the $315,000 remaining in first mortgage bonds at 80 percent of par, which would net the firm $252,000 in cash, and that the directors authorize another $500,000 in bonds secured by a second mortgage. These securities would then be sold to the subscribers of the first mortgage bonds for 20 percent in cash and the remainder in the venture's shares assessed at par value — $100 each. This would bring another $100,000 in cash. Thus, if all went well, the firm would raise a total of $352,000, which would relieve the "present embarrassment" and provide for "future well working," at least George Wheeler so claimed in a circular letter to the Brady's Bend stockholders.42

As the company's situation deteriorated that fall, changes took place in the ranks of management as the most perceptive sought to escape what they took to be a sinking ship. On October 31, Ogden resigned his seat on the board of directors and severed his association with the enterprise. This removed the firm's wealthiest and most influential figure. Then on November 1, Samuel G. Wheeler took over as chairman of the board and Ashley replaced George M. Wheeler as president. As its first order of business the new management moved that both officers and directors should visit Brady's Bend to see what could be done about reducing expenditures, and later that month the board approved S. B. Wheeler, Frederick Mead, and Henry R. Payson a committee to examine the overall management and look into the question of salaries. Following this investigation, the board later agreed to reduce the number of men engaged in mining and to cut the remuneration of the officers and clerks "as advisable." 43

Despite the growing financial crisis, the firm continued to proceed as if everything was normal, and minor land sales at Brady's Bend reflected this attitude. Early in 1867 the company sold small parcels of real estate to St. Stephen's Episcopal Church, the Evangelical Lutheran Church, and the Old School Presbyterian Church. Then a

41 Record Book, 60, Series II, box 3, BBIC Records, HSWP.
42 Wheeler circular letters, Oct. 4, 10, 1867, ibid., 65.
43 Ibid., 69-71.
few months later it sold other plots to one Philip Garner on behalf of the German Reform Church and to a Michael Dominic on behalf of two Catholic parishes, St. Patrick’s and St. Mary’s. Haines bought land for a schoolhouse and Slack for the Alpine Lodge of the Independent Order of Odd Fellows.44

Almost miraculously the Brady’s Bend Iron Company weathered the storm of falling rail prices and management reorganization immediately after the Civil War. Improvement of the firm’s financial position came with the upturn of the American economy and the increased demand for rails in the late 1860s. As well, the company benefited from the sale of iron to the Allegheny Valley Railroad in 1867. After that line reached Oil City in 1868, Brady’s Bend had access to the rich oil fields to the north and gained a connecting link to Pittsburgh and the rail markets to the west.45 The isolation from raw materials and markets that had plagued the company earlier in the decade appeared to have been overcome, and none too soon. It now seemed possible at last to get on with the important business of making money.

Confident that profitability was to return for good to “the Bend,” Slack assumed responsibility for managing the ironworks in 1869. His optimism seemed well founded, for in October of that year, the East Brady Independent painted a glowing picture of prosperity. Demand in the Pittsburgh iron market, the paper said, was “fully up to supply,” and “orders continue to flow in freely from all directions . . . all the mills have as many as they can attend to.” With Slack in charge, the company built ten new buildings, enlarged older facilities, and was shipping five carloads of rails per day. Some of the structural iron manufactured by the firm went into a new bridge across the Illinois River near Pittsfield.46

Apparent prosperity carried over into the early 1870s. In 1871 estimates of the total value of the ironworks at Brady’s Bend ranged as high as $1.3 million. The following year the firm garnered major orders for rails from the Buffalo, Corry and Pittsburgh Railroad and its parent Allegheny Valley Railroad, then seeking to establish a through route from Pittsburgh to Buffalo. In September 1872 William Bailey Lang and Company assessed the total value of the Brady’s

44 Ibid., 55, 61.
45 For the Allegheny Valley Railroad, see George H. Burgess and Miles C. Kennedy, Centennial History of the Pennsylvania Railroad Company, 1846-1946 (Philadelphia, 1949), 164.
46 Smith, History of Armstrong County, 570; East Brady Independent, Oct. 29, 1869.
Bend Iron Company at $7,575,900, indicating continued capital investments in major plant improvements and the acquisition of more land in Armstrong and adjacent counties.47

Beneath the veneer of good times, though, Brady’s Bend still faced serious problems. Costs mounted in the early 1870s as rail prices continued to fall off. There were delays in deliveries of raw materials from the company’s coal and ore mines, and the dual management with Slack in Pennsylvania and Wheeler in New York was cumbersome at best. Slack despaired of reducing costs further and held out little hope of “trying to make money the way we are running.” Moreover, payrolls were being met only infrequently, causing grumbling among many of the Brady’s Bend workers. An additional economy measure was instituted when two of the company’s blast furnaces were shut down.48

Slack grew increasingly defensive as Brady’s Bend teetered on the brink of insolvency in 1873. Pointing out to Wheeler that while some costs could be cut in the reheating of built-up iron rails, the real root of the firm’s problems lay in inadequate financing for such a large operation. He noted that Brady’s Bend had superior facilities and argued that they could not be used efficiently due to lack of money. At the time, however, Wheeler was facing a financial crisis of his own in New York, and he was unwilling or unable to pour additional funds into an ironworks that to him presented more of a liability than an asset.49

In the spring of 1873, the labor situation at Brady’s Bend grew steadily worse. Some of the heaters at the rolling mill, having missed their pay for the past two months, threatened to walk out. Slack spoke to them, and they agreed to roll 600 more tons of rails. The miners and puddlers, however, were less willing to listen to Slack’s pleas and struck at the beginning of March. Slack implored Wheeler to borrow the necessary funds to issue back pay to the laborers, but this he could not or would not do at the time, suggesting that Slack should seek advances on rails to be delivered at a future date from Colonel William Phillips, president of the Allegheny Valley Railroad. Phillips rejected the idea.50

48 Slack to Wheeler, Feb. 6, 1873, W. D. Slack Letterbook, box 2, BBIC Records, HSWP.
49 Slack to Wheeler, Feb. 8, 1873, ibid.
50 Slack to Wheeler, Mar. 4, 5, 1873, ibid.
Negotiations with the workers continued through the second week of March, but Slack, unable to make promises on back pay, could not persuade the men to return to their jobs. Finally, the strikers met and agreed to go back to work after receiving assurances that pay would be forthcoming. Evidently the specter of no jobs outweighed the slim possibility of remuneration offered by continued work. For the manager of the ironworks the two-week work stoppage was “the ugliest strike ever...” 51

The scene brightened somewhat in late March, as more rail orders came in from the Allegheny Valley Railroad and the two furnaces still operating at Brady’s Bend came up to peak output. Wheeler finally managed to meet the long-delayed December payroll, but the long-term prospects for the company were still bleak, especially after a flood in April shut down the rail mill for a week. 52

Through the remainder of the spring and into the summer, Brady’s Bend limped along amid falling rail prices, a rail market that showed signs of drying up completely, mounting labor unrest, and payroll difficulties. The rolling mill’s production continued with few breaks in April and May, encouraging Phillips to make advances on rails that allowed the company to meet its payrolls for those months. But in June the mill was forced to shut down for a week when quarter-century-old machinery finally gave out. Then in July a district-wide miners’ strike reached “the Bend,” again threatening to close the works. Irritated by tardy rail deliveries, Phillips handed out advances on Allegheny Valley Railroad paper to meet Brady’s Bend payrolls in July and August only after much cajoling by Slack and Wheeler. 53

While such advances served the company’s short-term financial requirements, they did not remotely come close to resolving its long-range problems. In fact, Phillips’s loans tied Brady’s Bend closer to a railroad that was badly managed and itself was fast approaching insolvency. When the Allegheny Valley Railroad began to default on interest payments to its creditors, the paper it had disbursed to Brady’s Bend became worthless, dealing a lethal blow to the already staggering ironworks. 54

Having barely met September pay and narrowly averting another

51 Slack to Wheeler, Mar. 13, 1873, ibid.
52 Slack to Wheeler, Mar. 31, 1873, ibid.; telegram, Slack to Wheeler, Apr. 8, 1873, ibid.
53 Slack to Wheeler, June 14, July 14, July 26, Aug. 23, 1873, ibid.; The Pittsburgh Commercial, July 16, 1873.
54 For the financial problems of the Allegheny Valley Railroad, see Burgess and Kennedy, Centennial History, 167.
strike, the company struggled to keep its furnaces in blast and delivered its last 308 tons of rails on September 22. Meanwhile, the company store had run low on provisions and no money was available to buy blasting powder for the miners. Local and state taxes had not been paid for months. Finally, with no hope for continuing, and reeling from the shock of the financial panic in New York, Wheeler determined it was useless to carry on with the doomed ironworks at Brady’s Bend. Slack reluctantly ordered the two furnaces blown out on October 13, 1873. An eerie silence settled over the valley where the pioneer iron company had begun operations with such high hopes thirty-four years before. Slack remarked simply, “It is a sad town this morning....”

Closing the ironworks caused widespread unemployment and suffering among the residents of the region, who had come to depend heavily on the company for their livelihoods. Delegations of workers pleaded with Slack for assistance, but all he could do was lamely suggest that they seek other work in an area already deeply depressed. Later the ironworks’ manager was confronted by a woman “fairly begging for something to eat for her children which she can’t get though we owe her husband some $60.” He added harshly, “I can’t drive her away.” In December a petition circulated at Brady’s Bend “to devise means of relief for the poor,” but little was done for the stricken community as it fell into the grip of winter. Some even blamed the workers themselves for causing the firm’s downfall, but Slack, closer to the reality of the situation, attested, “that as a class there were [sic] never a better set of men.... Three fourths of them would have worked to eternity” just to have food on the table. Disastrous as the company’s collapse was for its owners, managers, and creditors, the real catastrophe befell those who had sweated long hours for low wages, and now had nothing to show for it but cold and privation.

The long struggle to create an industry on the banks of Sugar Creek ended in failure. The iron companies at Brady’s Bend suffered initially from insufficient capital and cutthroat competition in the western rail market that could not be overcome by locational advantages over eastern producers. Integration promised economies of scale but it also brought large fixed capital investments that made it hard for the firms to adjust rapidly to shifting demands in the late

55 Slack to Wheeler, Sept. 22, Oct. 13, 1873, W. D. Slack Letterbook (small), box 2, BBIC Records, HSWP.
1850s. Later, as the markets moved farther west and local ore supplies petered out, the relative isolation of Sugar Creek became a liability. Even completion of the Allegheny Valley Railroad in 1868 seemed only to bring short-term benefits. And with isolation came also the removal from the major labor markets of Pittsburgh; had Brady’s Bend somehow survived the crisis of 1873, it is unlikely the company could have tapped a manpower pool large enough to guarantee its competitive position against the burgeoning metals industries of the Pittsburgh area.

Yet the founders of the Great Western and Brady’s Bend Iron companies were pioneers in bringing a large-scale integrated enterprise to an industry that had been principally dominated up to the 1830s by limited capital, small furnaces, and removal from the most lucrative potential markets. Bringing together ownership of the furnaces, rolling mills, raw materials, and transportation associated with the production and distribution of iron products was a vital break with the past. It anticipated the giant vertically and horizontally integrated iron and steel firms of the latter part of the nineteenth century. And that, more than the financial vicissitudes of the enterprises on Sugar Creek, was the lasting legacy of iron from “the Bend.”

57 A recent study illustrating this is Paskoff, Industrial Evolution, esp. 127-28.