Sleepers Awake! The Industrial Revolution Comes to Antebellum St. Johnsbury

Several challenges confronted the E. & T. Fairbanks Company as it industrialized antebellum St. Johnsbury. Key among them were access to raw materials, transportation, labor, capital, and markets. The fact that the Fairbanks Company prospered and grew is testimony to its success at meeting these challenges.

By Allen Yale

St. Johnsbury was like many rural communities in the opening decades of the nineteenth century. At this time Vermont was in what Brook Hindle called "the wooden age," and what Jared van Wagenen referred to as "the golden age of homespun." At St. Johnsbury, two tributaries join the Passumpsic River: The Moose River joins the Passumpsic from the east about one and a half miles above where Sleepers River enters from the west. Rapids and falls punctuated the course of all three rivers. In this age of water power, these potential mill sites often developed into mill villages. In St. Johnsbury, several small mill villages contained gristmills, sawmills, potasheries, fulling and carding mills, blacksmith shops, coopers' shop, and tanneries, as commonly found in rural villages of the time. Sleepers River was the site of the growth of an industry that would make St. Johnsbury famous.[1]

An event of major significance to the future industrialization of St. Johnsbury happened in 1815, when Major Joseph Fairbanks and his family arrived and acquired a mill site on Sleepers River. Fairbanks did not waste time getting established. That summer he and his sons cleared the "mill grounds and by October had the saw mill and gristmill in suc-

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cessful operation, also a carriage shop over the gristmill" for his son, Thaddeus. The mills at what became known as Fairbanks Village continued to expand. Soon, a fulling mill and a clothier shop were set up near Major Fairbanks's gristmill. In 1818, his nephew, Huxham Paddock, set up an iron works nearby. In addition, Huxham and Thaddeus built a clover mill downstream from Major Fairbanks's complex to extract clover seeds from clover blossoms.[2]

In 1824, Huxham Paddock leased the iron works to Thaddeus. The E. & T. Fairbanks Company was born when Erastus Fairbanks joined his brother in the operation of the iron works. It produced all sorts of cast-iron hollowware along with cultivators, patented cast-iron plows, and stoves. A machine shop produced heavy screws for clothiers' screws and house jacks, as well as "all kinds of machinery turned and finished at short notice."[3] At this time E. & T. Fairbanks was no different from many small iron works, with a few workers using local materials to cater to a very limited regional market. Within a few decades, however, this company would become one of Vermont's largest manufacturers, and by the Civil War, it was the world's leading manufacturer of scales.

Several challenges confronted the firm as it industrialized antebellum St. Johnsbury. Key among these were access to raw materials, transportation, labor, capital, and markets. The fact that the Fairbanks Company prospered and grew is testimony to its success at meeting these challenges.

In 1829, an agricultural fad swept Vermont that would have a lasting effect on the Fairbanks brothers. In March, the St. Johnsbury *Farmer's Herald* carried articles on the cultivation and processing of hemp. Soon Erastus and Thaddeus were involved in the new Passumpsick Company, a hemp-dressing facility. Thaddeus Fairbanks was named head of the hemp works and E. & T. Fairbanks Company was contracted to make the hemp-dressing machines. In conjunction with this project Thaddeus constructed a platform scale to weigh wagon loads of hemp. The fad wilted as quickly as it blossomed. In 1835, the other partners sold the property to E. & T. Fairbanks. Despite the failure of the hemp works, the Fairbanks involvement in the venture was a key factor in their future, for it initiated the company's manufacture of platform scales. On the eve of the introduction of the platform scale, nothing particular differentiated St. Johnsbury from many other rural villages throughout Vermont. Little could anyone have guessed that scales would cause the modest Fairbanks enterprise to experience explosive growth and that by the end of the century this place would become renowned throughout the world.[4]

In the 1830s, the buildings of E. & T. Fairbanks Company straddled Sleepers River, near the site of Major Fairbanks's dam. The company consisted of three buildings—the foundry, the gristmill-sawmill, and

the "red shop"—and employed about thirty artisans. The Fairbanks iron works was a one-story building twenty-five feet by sixty feet, smaller than a typical hay barn of the time. As befits "the wooden age," most of the components of the large platform scales were fabricated out of wood provided by the customer at the site of construction. Only the iron parts of the larger scales were manufactured in the shops in St. Johnsbury. These could be carried in a saddlebag.[5]

One challenge for any manufacturing process is access to raw materials. While E. & T. Fairbanks was at some disadvantage for acquiring certain raw materials, St. Johnsbury was fairly well located for the production of scales. Pig iron, the material of greatest bulk and weight, was available within a twenty- to fifty-mile radius. Franconia, New Hampshire, was Fairbanks's major supplier of pig iron in the early years. Between April 1838 and March 1839, the town supplied Fairbanks with over 107 tons of pig iron and 3 tons of bar iron. At about the same time, cousin Horace Paddock forwarded 18 tons of pig iron from Troy, Vermont. The Tyson Furnace of Plymouth, Vermont, was another iron supplier. Scrap iron from broken plows and stoves, procured locally, provided additional cast iron. Other bulky items—wood, charcoal, and limestone—were available even closer to the works. Most of the materials that had to be hauled long distances, such as cast steel and copper, were used in relatively small quantities.[6]

Greatly increasing demand for platform scales to weigh commodities as diverse as cotton, coal, iron, and freight shipped over the expanding network of canals and railroads dramatically increased Fairbanks's need for raw materials and widened its market. As scale design evolved from the age of wood to the age of iron, the acquisition of pig iron became the company's most critical challenge, both because of its weight and the quantity needed. By 1840, local sources were not able to provide all of the company's needs, and it had to rely on more distant sources of pig iron. By the late 1840s, Fairbanks purchased pig iron from the Adirondacks and beyond; by 1848 the company was buying twenty to thirty tons of Scottish pig iron a month. This made the company's distance from the sea a problem. Advances in transportation were necessary if the company was going to grow.[7]

Fortunately for Fairbanks, the growth of the company coincided with a revolution in transportation in America. The Champlain Canal opened in 1823, linking Lake Champlain to the Hudson River. It gave Burlington access to New York City via the Hudson and, after 1825, access to the West through the Erie Canal. Materials imported for Fairbanks at New York were shipped up the Hudson, through the Champlain Canal, and down Lake Champlain to Burlington. Unfortunately, from there

they still had to be drawn by team across the Green Mountains to St. Johnsbury. For the company's first twenty-five years, teamsters driving heavy wagons pulled by up to eight horses hauled freight to and from St. Johnsbury. These wagons rumbled along dirt roads to and from the ports of Burlington, Portland, and Boston. Depending on distance, the teamsters were on the road for several days, stopping at inns for meals and lodging for themselves and their horses.

Ever sensitive to transportation, the Fairbanks partners were not content to leave the availability of improved forms of transportation to chance. Soon after the railroad was introduced to America, the company recognized it as a way to solve its transportation problems and became involved in the Connecticut and Passumpsic Rivers Railroad. Eventually Erastus Fairbanks became president of this railroad. Meanwhile, the 1840s saw other railroads slowly moving north from Boston. The journey by team from St. Johnsbury to the nearest railhead grew shorter and shorter. In 1845, construction began on the Connecticut and Passumpsic Rivers Railroad up from White River Junction toward the Canadian border. With great celebration, the first train steamed into St. Johnsbury on November 23, 1850. Now E. & T. Fairbanks had a year-round, rapid freight connection with much of the northeastern United States. The immediate economic importance of the railroad to St. Johnsbury was dramatic. During the first full month of the railroad's operation, over 868 tons of freight was shipped into or out of St. Johnsbury.[8]

The growth of Fairbanks also depended on the availability of labor. The company began in 1824 with only a dozen or so workers. Over the next two decades, however, the company's rapid expansion required a dramatic increase in its work force. By 1850 the firm employed 225 workers, and by 1900 over eight hundred. Many of the jobs in the scale works required highly skilled workers: pattern makers, foundry workers, machinists, and sealers. To attract and maintain this skilled work force, Fairbanks was required to provide good wages and working conditions, for the attractions of cities and the West were constantly luring workers from St. Johnsbury.[9]

The ethnic composition of the labor force changed over time. Available evidence suggests that initially Fairbanks workers were all born in the New England states of Vermont, New Hampshire, or Massachusetts. By the end of the 1830s a few Canadians with English or Irish surnames joined the New Englanders who made up most of the work force. By 1858, while 78 percent were native-born Americans and 60 percent were native Vermonters, there were 25 foreign-born workers, of whom twelve were Irish and ten were Canadian. Eight of the ten Canadians had French surnames. This trend toward a diverse work force continued

until 1900 when almost 49 percent of Fairbanks workers were immigrants or the sons of immigrants.[10]

Access to capital was another challenge facing the Fairbanks brothers during the opening decades of the company. Capital investment was reflected first and foremost in the physical plant. The St. Johnsbury Grand List for 1855 indicates that Fairbanks had grown from 3 buildings in 1824 to 32 in 1855. The value of the company's capital assets had grown from $4,000 in 1824 to $100,000 in 1850, $1 million dollars in 1870, and over $2.6 million in 1880. In addition to the investment in the physical plant, Fairbanks needed working capital to pay for raw materials, shipping, and wages. In 1860 the company's annual payroll was approximately $90,000. As Fairbanks was selling its scales on credit and had considerable inventory with its salesmen, it took careful management to maintain sufficient working capital to meet its financial obligations. An analysis of the Fairbanks records suggests that much of this capital growth was the result of reinvestment of profits by the partners and borrowing from employees.[11]

In addition to challenges on the production side of the business, the firm had to pay attention to the growth of markets for scales. The increase in demand described earlier stimulated a commensurate and rapid growth in the scale industry generally. Between 1850 and 1900 the number of scale manufacturers in the United States grew from slightly more than twenty to approximately ninety. In 1876, Benson Lossing wrote "In 1870, there were forty-nine establishments in our country engaged in the manufacture of scales and balances, employing 1,000 men, and yielding an annual product of nearly $3,000,000 . . . [T]he establishment of Messrs. Fairbanks represents more than one-half of the entire business of the scale and balance making in the United States." Despite a dramatic increase in competition, Fairbanks was able to maintain its market share and greatly expand its market territory.[12]

Initially, E. & T. Fairbanks and Company catered to a regional market restricted to what is now referred to as the Northeast Kingdom of Vermont—west of the Connecticut River Valley, north of Bradford, and east of Craftsbury—one of the most rural sections of Vermont. In the forty years that followed, the company's market exploded even more dramatically than its production. By 1833, E. & T. Fairbanks had granted sales territories throughout the northeast and the Atlantic seaboard and had licensed manufacturing and sales of its scales west of the Appalachians as far as the Mississippi River. By 1850, Fairbanks scales could be bought in San Francisco.[13]

The dramatic growth of the domestic market was surpassed by the expansion of the foreign market. As early as 1833 Fairbanks scales

were being sold in the settled portions of British North America. Two years later Fairbanks issued a license to Henry Pooley of Liverpool, England to manufacture Fairbanks scales in the British Isles; 1836 saw the company's first sales to Latin America. Fairbanks correspondence documents sales in China in 1845, Honolulu in 1846, Calcutta in 1850, and Java in 1851. An 1861 Brazilian advertisement claimed that Fairbanks's market included almost all the states of Europe, eight Latin American countries, and China. After the Meiji Restoration, Fairbanks scales were adopted for the Japanese postal system.[14]

The growth of E. & T. Fairbanks was reflected in the growth of St. Johnsbury as the premiere town in Caledonia County. This was formally recognized when the county seat was moved there from Danville in 1856. By then, Fairbanks scales and St. Johnsbury, Vermont, were known throughout the nation, and, in fact, throughout most of the world.

With the arrival of the Fairbanks family in 1815, Sleepers River had begun to awaken. By the Civil War, one of the company's partners, Erastus Fairbanks, was governor of Vermont, the Fairbanks scale company was the world's leading manufacturer of scales, and Sleepers River was a beehive of industrial activity.

NOTES

[1] Brooks Hindle, ed., *America's Wooden Age: Aspects of Its Early Technology* (Tarrytown, N.Y.: Sleepy Hollow Restorations, 1975); Jared van Wagenen, Jr., *The Golden Age of Homespun* (New York: Hill and Wang, 1953).

[2] Edward T. Fairbanks, *The Town of St. Johnsbury Vt.: A Review of One Hundred Twenty-Five Years to the Anniversary Pageant 1912* (St. Johnsbury, Vt.: The Cowles Press, 1914), 353, 151, 145.

[3] Office of Town Clerk, St. Johnsbury, Vermont. Land Records, book 5 page 244, Lease Huxham Paddock to T. Fairbanks, dated 1 October 1824; (St. Johnsbury) *Farmers Herald* (23 September 1828), 3 (hereafter *FH*).

[4] *FH*, 12 March 1829, 1; *FH,* 18 March 1829, 3; Fairbanks, *Town of St. Johnsbury Vt.,* 155, 412–413.

[5] Fairbanks Weighing Division, Colt Industries, *Fairbanks Standard 150 Years 1830–1980* (St. Johnsbury, 1980), 12.

[6] Fairbanks Papers, Vermont Historical Society, 6037, 6277; Fairbanks, *Town of St. Johnsbury Vt.,* 147.

[7] Fairbanks Papers, 5889, 1403, 1207.

[8] *St. Johnsbury Caledonian,* 1 December 1850 (hereafter *SJC*); *SJC,* 1 February 1851, 2.

[9] *State of Vermont. 1850 Industrial Census,* Microcopy, Public Records Commission, 1959. The 1900 figure was derived from the number of people who self identified as Fairbanks workers in the 1900 Population Census and the 1901 directory of St. Johnsbury.

[10] Allen Rice Yale, Jr. *Ingenious and Enterprising Mechanics: A Case Study of Industrialization in Rural Vermont, 1815–1900* (Ann Arbor, Mich.: UMI Dissertation Services, 1995), 72–75.

[11] Ibid., 88–95, 99–108.

[12] House of Representatives, *Miscellaneous Documents of the House of Representatives Thirty-Eighth Congress, First Session, Manufactures of the United States in 1860: Compiled from the original returns of the Eighth Census under the direction of the Secretary of the Interior* (Washington, D.C., 1865), cxcvi; House of Representatives, *The Statistics of the Wealth and Industry of the United States . . . Compiled from the original returns of the Ninth Census (June 1, 1870)* (Washington, D.C., 1872), 473; *Census Report Volume VIII Twelfth Census of the United States Taken in the Year 1900 Manufactures* (Washington, D.C., 1902) 14; Benson Lossing. *The American Centenary: A History of the Progress of the Republic of the United States during the First One Hundred Years of Its Existence,* (Philadelphia, 1876), 254.

[13] *FH* 031229, 3; Yale, *Ingenious and Enterprising Mechanics,* 135–143.

[14] Ibid., 147–152.