



Society for Industrial Archeology · New England Chapters

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CONTENTS

EDITORIAL	1
PRESIDENTS' REPORTS	
SNEC	2
NNEC	3
CURRENT RESEARCH IN NEW ENGLAND	
Massachusetts	3
Vermont	4
MEETINGS AND ANNOUNCEMENTS	4
EXHIBITS	6
ARTICLES	
The Green Mountain Iron Company, Forestdale, Vermont	7
A Note on the Shoe Industry in Smaller New England Centers	11
RECENT PUBLICATIONS	18
Book Review	
CONTRIBUTORS TO THIS ISSUE	
Richard Greenwood, Dennis Howe, Vic Rolando, David Simmons, Woodard D. Openo, William L. Taylor	
EDITOR David Starbuck	
<i>Southern Chapter Officers</i>	
Peter Stott, President	
Jeff Howery, Program Coordinator	
Maureen Cavanaugh, Treasurer	
Ann Tait, Secretary	
<i>Northern Chapter Officers</i>	
Dennis Howe, President	
Walt Ryan, 1st Vice President	
James Dolph, 2nd Vice President	
Vic Rolando, Sec./Treasurer	

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IA CONFERENCE

The second annual Conference on New England Industrial Archeology will be held on February 4, 1989, at Old Sturbridge Village, Massachusetts. The conference is jointly sponsored by the Northern and Southern New England Chapters of the Society for Industrial Archeology, and will feature an address by, and discussions with, national SIA President, Emory Kemp.

In the paper sessions, one focus will be the developments in the emerging Blackstone Valley Heritage Corridor, an amalgam of state parks in Massachusetts and Rhode Island with a National Park Service component. Patrick Malone, with Gregory Galer, Beth Parkhurst and others, will describe the inventory of the corridor. Larry Gross will offer the results of a team investigation of the Dudley Shuttle Company of Wilkinsonville, a site included in the area, along with Carolyn Cooper, who will describe her work on the machinery inventory, and Paul Hudon, who will present material on the history of the company. Michael Roberts will discuss efforts to create an interpretive plan for the corridor.

A second focus will be on a parallel region with overlapping themes, when a group from Old Sturbridge Village will describe their current research. Proto-industrial development in the Quinebaug Valley will be presented by David Simmons (blacksmithing), John Worrell (pottery), Martha Lance (mills)

and Myron Stachiw (neighborhood economy).

The conference is scheduled to begin with registration at 9:00 AM and will continue until 4:00 PM, with appropriate breaks for lunch and conversation.

Editorial

All of our members are encouraged to attend the upcoming Second Annual Conference on New England Industrial Archeology, to be held at Old Sturbridge Village on February 4.

Also, the Northern New England Chapter is preparing for a recording project to be held at an ironworks site in Vermont next May or June. This is the site of the Forestdale iron furnace, located just east of Brandon (and south of Middlebury). Vic Rolando, who has spent many years researching iron and charcoal sites in Vermont, has prepared a special article on Forestdale for this issue of the Newsletter. The Forestdale site is on property administered by the Vermont Division for Historic Preservation, and they are especially excited at the prospect of our members coming to help clear, record, and interpret the site. All interested NNEC and SNEC members who would like to participate are urged to stay in touch with either me or Vic Rolando for additional details. Further information will appear in the spring issue of this Newsletter.

David Starbuck
Rensselaer Polytechnic Institute

SNEC President's Report

It has been traditional practice for the Chapter President to use this report to provide an account of chapter doings over the past six months. While I have no desire to break with this time-honored custom, I was regrettably unable to attend the Annual Spring Meeting in Fitchburg or any of the other SIA/SNEC-sponsored functions of the past spring and summer. Still, I can report that by all the accounts I have received, the events lived up to the traditionally high SNEC standards. Rather than provide a loyal readership with hearsay evidence, I have opted instead to take this opportunity to assemble some thoughts, opinions and impressions on SNEC and the present and future course of IA in New England.

It seems to be an inescapable part of assuming the presidency or a similar representative position in any organization, that you must have at the ready a clear and concise definition of your organization, its character and its goals. During my tenure as president I have done my share of explaining to the world at large who we are and what we do; and in a number of prospectives.

On one level, SNEC can be straightforwardly described as a group of professional and avocational industrial archaeologists, people involved in the study of the history and material culture of our industrial past. Yet such an account does little to convey the staggering amount of technical knowledge and technical expertise that a gathering of SNEC members represents. Nor does a flat description give any indication of the voracious curiosity possessed by the group as a whole. There is perhaps nothing as

alternately terrifying and enlightening as to serve as an SNEC tour guide; while at any minute you may have to field a question that reveals your vast reservoirs of ignorance, you can generally rest assured that somebody in the audience will be able to answer the question for you or at least provide an interesting theory.

Which brings me to another salient characteristic of the chapter which cannot be described but must be experienced, the famous SNEC esprit de corps. To put it as graphically as possible, even our business meetings are entertaining and not just for the SNEC interpretation of Robert's Rules of Order.

As SNEC members know, these are impressions of the chapter from within, based on personal participation in chapter affairs over the years. More recently, I have begun to see SNEC in a somewhat different way, not just as a congenial and fascinating group of people who share interests, but as a resource of tremendous value.

This point of view has been stimulated, I think, by two factors. The first is my own professional role as a cultural resource manager, someone who is daily put in the position of deciding "what kinds of historic resources do we fight to save?" and "how do we save them?"

The second factor or formative event was the New England Chapters' Winter Conference last February. What became strikingly apparent to me at that conference was the wide breadth of IA activities in which our members are involved throughout the region. There seems to be no area in the realms of the preservation, interpretation or restoration of New England's industrial heritage in which an SIA member is

not playing a prominent part.

Viewed collectively, the New England Chapters constitute a great reservoir of knowledge, skill and enthusiasm. At a time when our historic resources are increasingly endangered, the availability of this kind of expertise often means the difference between the successful preservation and irretrievable loss of our historic industrial monuments.

The two conclusions that I drew from the winter conference were: first, that as individuals, the New England members are making great strides in the interest of IA; and second, that the New England Chapters, by continuing to sponsor events like the Winter Conference, can serve to collect and focus that experience and skill on specific problems and opportunities and thus perform a valuable service to the region as a whole.

On a less grand scale, the annual conference also offers the chance to share current research and to discuss topics of special interest, activities which can rarely be fit into our busy semi-annual meetings.

In conclusion, while I would hate to burden the concept of the annual conference with the trappings of an IA revival meeting where we save bridges and factories just as Billy Sunday saved souls, I do think that the conference represents a valuable asset for New England's IA community and should be supported as a healthy product of the New England Chapters' maturing enterprise.

Rick Greenwood
Barrington, RI

NNEC President's Report

The recent annual meeting held in Kittery, Maine, was attended by approximately 50 members and guests. Jim Dolf, Historian at the Portsmouth Naval Shipyard, was elected Second Vice President, replacing Stu Read. Re-elected were Vic Rolando, of General Electric (and highly-regarded researcher of early industrial sites in Vermont), as Secretary/Treasurer, and Walt Ryan, of New Hampshire Voc/Tech (Claremont, N.H.), as First Vice President. I appreciate the members' confidence in re-electing me to still another term as President. I will strive to do a good job.

Under the leadership of our new President, Emory Kemp, the Society for Industrial Archeology is presently going through a process of self-examination and long-range planning. The Board of Directors has met for several sessions on these subjects and met again December 16-17 to continue the process of establishing direction for the organization's future. One change I anticipate is greater emphasis on Chapters' roles within the national structure. During the coming year, our Chapter will be preparing for such a change, and becoming more business-like in its own operations which will include establishing correct IRS status, program planning and budgeting.

Membership in our Chapter is growing. We have had a twenty-five percent increase in the past year. We should expect increases to continue in the coming years. Larger membership and larger numbers to participate in tours will present problems which we must begin to prepare for. With larger numbers of people, process tours will become increasingly difficult to arrange. Groups may have to be divided such as was done for the Navy Yard tour. At the rate which I anticipate that

we will increase participation in our chapter activities, in just a couple of years our chapter tours will involve as many people as the National Fall Tours presently do!

Have we done a good job? There are times when we wonder if our chapter activities really do contribute to the cause of historic preservation as we watch sites being destroyed or decaying through neglect. There is at least one site where we can claim that we have done some good. Energy North Corp., the firm which now owns the Concord Gas Holder (c. 1888) has made repairs to the building, replacing all of the windows, installing flood lights to help protect against vandalism, provided public access, and a promise to continue to preserve the building in recognition of its national historic importance. It should be noted that it is not adaptive reuse of the building, but rather the preservation of an intact, essentially unchanged facility. Many of our members will recall that the recording of this structure to HAER specifications was an early activity of the Chapter. SIA recognition has been a factor in the company's decision to use some of its resources for historic preservation. The chapter congratulates Energy North Corp.

It is exciting to know that the chapter will once again be involved in an important recording project at the Forestdale ironworks in Vermont during the coming year. We look forward to it and anticipate that the results of our work will contribute to the cause of IA and historic site preservation.

Dennis Howe
Concord, NH

Current Research in New England

Massachusetts

The Old Sturbridge Village Research and Curatorial Departments have begun an extensive study of the life and work of James Clark, a cabinetmaker who, for at least 20 years during the early 19th century (1819-1839), practiced his craft in the busy commercial and artisanal center of West Brookfield, Massachusetts. The Clark assemblage is particularly rich: an account book (1824-1836) which survives in the collections of the Society for the Preservation of New England Antiquities; several pieces of marked furniture in the OSV collections; the Clark house, moved from its foundations to an adjacent lot in the late 19th century, as well as several other extant structures constructed by Clark; and a homelot and shop site well preserved under late-19th-century terrace fill. Complementing this material is a wealth of early-19th-century West Brookfield public records and surviving architecture, as well as a study of the development of the town's center village from 1760 to 1860 by OSV Chief Historian, Jack Larkin.

During the summer of 1988, the OSV Archaeological Field School, under the direction of David Simmons and John Worrell, with assistance from Martha Lance, completed the first season of excavations at the Clark site. Major block excavations in the vicinity of the house and shop provided considerable information on the development of the Clark parcel as a homelot. Evidence was discovered for the clearing of the lot by burning, the building of the Clark home and a probable well house; and for the construction, expan-

sion, and renovation of the cabinetmaking shop. A large number of wood-working tools and period furniture hardware recovered from stratified deposits under the shop floor help elucidate some of the technical details of Clark's production. Excavations also documented the removal of the Clark house and shop and their replacement with a Victorian home and furniture show room. An impressive earthen terrace and several garden beds ornamented the yard of the later structures.

Initial computer-aided research of the Clark trading network undertaken by a University of Connecticut graduate intern, Loretta Rivers, has documented a broad spectrum of trade with over 400 partners across a 24-town area centered upon the Brookfields. An intensive study of the Clark accounts, now underway, investigates the composition and cyclicity of Clark's woodworking output and the nature of his exchange economy. Of particular interest are his customers' patterns of furniture acquisition correlated with household size and composition, position in the family cycle, wealth-holding, occupation, and location. Much of that research is the focus of an M.A. thesis by Martha Holland of the University of Massachusetts/Boston.

Data from a second season of major excavations by the OSV Field School in 1989 will be integrated with the study of Clark's accounts, with the ongoing reconstruction of his neighborhood, and with a major architectural study of the Clark home and those he built, also to be undertaken in 1989 by the first OSV Field School in Architectural History. Selective examination and analysis of the written records and material remains of the work of several Worcester County, Massachusetts, woodworkers will provide the necessary comparative framework

within which to place the Clark study.

David Simmons
Old Sturbridge Village

Vermont

Locating, researching, and recording IA ruins and sites in Vermont continued with 11 sites reported (or in process) to the State Archeological Inventory. Work included recording lime kiln ruins/remains (three at Plymouth, one each at Cavendish and Weathersfield); sawmill remains at Pownal; a brick-type charcoal kiln at Winhall; mound-type charcoal kiln sites and an iron mine in Chittenden; foundry remains at Bristol and Highgate. Still under investigation but unrecorded due to uncertain location are a blast furnace site at Weybridge, a lime kiln in Highgate, a (copper?) furnace at Thetford, and a furnace (foundry?) at Woodstock.

The mound-type charcoal kiln sites in Chittenden were initially found by US Forest Service personnel during a tract survey preliminary to contract logging activity, 2200 feet up the west slope of Bloodroot Mountain. The location of a cellarhole led to the discovery of charcoal on the ground in the vicinity. Further inspection of the area in April, May, and June by Dave Lacy, Forest Service Archeologist, Bob West, and myself led to locating and recording 20 mound-type sites in an area about 300 by 500 feet, one of the highest concentrations of charcoal-making sites encountered in the state. The area includes a maze of trails and dugways, all probably contemporary with the charcoal kilns, plus the cellarhole and an iron mine (pit). The individual kiln sites are generally located 10 to 30 feet off the trails and from 50 to 100 feet apart on various levels of the mountainside. Some sites are quite vague, but most are obvious and well defined, either on flat ground or cut slightly into

uphill grades. Charcoal made here was most likely carted to Pittsford, about 5 miles south, where blast furnaces and forges operated from 1793 to about 1880. Other charcoal-making areas have been found in the vicinity, of the brick- and stone-type, and many more mound-type kilns will probably be found on the slopes of Bloodroot Mountain when field work resumes there as soon as the snow melts in early 1989. To protect existing sites, the Forest Service will allow logging in the sensitive areas only in winter on snow-covered ground.

Vic Rolando
Pittsfield, MA

MEETINGS AND CONFERENCES

January 5-9, 1989

First Joint Archaeological Congress in Baltimore, Maryland. Co-sponsored by the American Philological Association, the American Schools of Oriental Research, the Archaeological Institute of America, and the Society for Historical Archaeology.

February 4, 1989

Second Annual Conference on New England Industrial Archeology to be held at Old Sturbridge Village, Massachusetts.

April 15-16, 1989

Fiftieth Anniversary Meeting of the Massachusetts Archaeological Society, to be held at Bridgewater State College.

June 1-4, 1989

Annual Meeting of the Society for Industrial Archeology, to be held in Quebec City, Quebec.

Meetings and Announcements

LOWELL CONFERENCE ON INDUSTRIAL HISTORY

The Tenth Lowell Conference on Industrial History, "After Hours: Life Outside of the Work Place," to be held October 26-28, 1989 at Lowell, MA, solicits papers, whole sessions, and media presentations which address the theme of leisure time and time away from the work place in industrial society. Proposed topics might include:

- company sponsorship of leisure time and social activities;
- fraternal organizations, social clubs, and mutual assistance organizations;
- consumerism and leisure time;
- media and sports related issues.

The conference encourages proposals on these and other topics related to the main theme. Especially encouraged are presentations or group discussions involving media, oral history, museum interpretation, local history, and artifact analysis. Workshops and sessions highlighting educational issues, especially the teaching of history of leisure time in elementary and secondary social studies, will receive special consideration and assistance from the Tsongas Industrial History Center. The conference actively solicits recommendations for films and videos which might be suitable for evening presentations.

Proposals should be sent to:

Dr. Edward Jay Pershey
Tsongas Industrial History Center
Boott Mill -8, Foot of John Street
Lowell, MA 01852

Proposals must be received by April 30, 1989 to be considered.

Selections from the annual conference each year are considered for publication in a series of anthologies which are published by the conference through the Museum of American Textile History and the American Association for State and Local History.

The Lowell Conference is sponsored by the Tsongas Center, the Lowell National Historical Park, the Museum of American Textile History, the Lowell Historic Preservation Commission, and the University of Lowell. For information on the Lowell Conference write to the address above, or call (508) 459-2237.

OLD STURBRIDGE VILLAGE FIELD SCHOOL IN ARCHITECTURAL HISTORY

Old Sturbridge Village will hold its first annual Summer Field School in Architectural History from June 26 to August 11, 1989. The program, focusing on buildings of the late eighteenth and early nineteenth centuries in rural Central Massachusetts, will feature intensive instruction and expertise in architectural documentation techniques: measuring and drawing buildings; architectural photography; and a thorough introduction to documentary research. Guest lecturers from numerous disciplines will make presentations on current methods in the study of architecture and New England history.

The Field School in Architectural History will be held in conjunction with the eleventh annual Old Sturbridge Village Summer Field School in Historical Archaeology. The second season of archeological excavation at the house and shop site of the early nineteenth-century cabinet-maker/housewright James Clark of West Brookfield, Massachusetts, will

be complemented by the documentation of buildings in West Brookfield and the surrounding towns, several of which were erected by Clark. Students in both field schools will be given many opportunities to interact with their counterparts and will be encouraged to explore and integrate the methods and findings of the other group.

Negotiations are currently underway with Clark University of Worcester, Massachusetts, to grant both undergraduate and graduate course credit to field school participants. Applications to the Old Sturbridge Village Field School in Architectural History must be returned by May 1, 1989.

Enrollment is limited to twenty students. For further information and an application contact:

Myron O. Stachiw or
Nora Pat Small
Research Department
Old Sturbridge Village
1 Old Sturbridge Village Road
Sturbridge, MA 01566
(508) 347-3362

OLD STURBRIDGE VILLAGE FIELD SCHOOL IN HISTORICAL ARCHAEOLOGY

The eleventh annual Old Sturbridge Village Field School in Historical Archaeology will be conducted from June 26 - August 11, 1989, at Old Sturbridge Village and at the home and workplace of James Clark, an early-19th-century cabinetmaker of West Brookfield, Massachusetts. The focus of the 1989 fieldwork will be the continued excavation of Clark's shop and house sites. This will be the second season of a three-year project in which excavation is being combined with extensive documentary and architectural study of the sites and neighborhood to provide the basis for a new interpretive exhibit at Old Sturbridge Village.

Following an intensive orientation to the historical and material culture of the early-19th-century rural New England, students will spend six weeks learning the methods and techniques of field archeology, working at the Clark site. The Field School will involve students in excavation, survey, measured drawing, conservation, computer, and other field, lab, and recording activities. Lectures, workshops, seminars and field trips will complement the work in field and lab, and there will be many opportunities for both formal and informal interaction with students and staff of the concurrent OSV Field School in Architectural History.

The Field School is designed as the equivalent of two full courses at either the graduate or undergraduate level. Eight semester hours of credit are available through Clark University in Worcester, Mass., for an additional fee of \$100. The basic program fee of \$600 covers all materials and fees and includes complimentary admission to Old Sturbridge Village during the program. Housing at Clark during the Field School is also available for an additional fee. Participation is limited to 20 students. Applications will be processed as received. For further information and application forms, please contact: David Simmons, Archaeological Field School, Old Sturbridge Village, 1 Old Sturbridge Village Road, Sturbridge, MA 01566. Telephone: (508) 347-3362.

Exhibits

Grand Opening for the New Charles River Museum of Industry

A new museum that records the Industrial Revolution opened on Saturday, October first, in Waltham, Massachusetts.

The new Charles River Museum of Industry is located in the former powerhouse of the old Boston Manufacturing Company textile mill on the bank of the Charles River in the center of Waltham. The museum features exhibits detailing nationally significant manufacturing innovations that were introduced or advanced along the river.

Developments are illustrated in a number of industries, among them textiles, steam power, watch manufacturing, precision metalwork, electronics, and bicycle and automotive production.

Curator Gail Fowler Mohanty observed that the nation's first integrated textile manufacturing, with all the processing steps occurring under one roof, took place on the museum site in 1814. "This," she noted, "was a significant advance in industrial production efficiency. By the middle of the last century another local industry, the Waltham Watch Company, was the first to mass produce time pieces with interchangeable parts, and the industrial revolution was underway."

As the area drew more innovators and skilled artisans there were advances in precision metalworking which spawned the bicycle industry. The Orient bicycle begat the Metz automobile which, along with the Stanley Steamer, were manufactured locally.

The Charles River area also was home to the infant radio tube and electronics industry. The principle of microwave cooking was discovered in Waltham, and the first Radarange microwave ovens were built here.

"Although we have assembled an interesting and significant array of informative exhibits," Curator Mohanty explained, "We want a visit to the museum to be a learning experience. There will be opportunities for the individual or family visitor to share the experience of the inventors, operators, managers, assemblers, and investors. Incidentally, we have a little-known link to the school community in that blackboard chalk was invented and manufactured in Waltham. We have developed programs for school groups to supplement the classroom with a new learning dimension designed to help students relate to the forces of innovation and labor that created this, the nation's first industrial state, and shaped the modern world."

Planning for the museum started in 1980. Fred C. Bailey, president of the museum trustees, credited the dedication of the staff and volunteers along with the many companies and individuals who donated important machinery, products, artifacts, and documentation and assembled them for display. Mr. Bailey praised the industrial and business community and interested individuals for their financial assistance. While acknowledging the aid in federal and state grants that helped to restore the building, he noted that 90 percent of the pre-opening budget came from individual and corporate gifts. Major corporate gifts came from the Randolph Beaver Corp., Honeywell Bull, the W.H. Nichols Company (Parker Hannifin), Polaroid, Raytheon, and Teledyne.

Admission is \$2.50 for adults and \$1.50 for children under 12. The museum will be open Thursday through

Sunday, 10 am to 5 pm.

The museum is on the north bank of the Charles River one block from Central Square in Waltham. A foot bridge connects the museum with the municipal parking lot off Pine Street.

For further information on group rates or special school programs, call (617) 893-5410.

Article

The Green Mountain Iron Company

[Editor's Note: The Northern New England Chapter will be holding a week-long recording project at this site next May or June.]

At a town meeting in 1778 at Brandon, Vermont, it was voted that should sufficient iron ore be discovered in the town, an ironworks would be built. The next year, there was a request by the town to lease an ironworks site and its water power. It is unknown exactly where in the town the ironworks activity was planned since the next few years saw works operating in the village and also two miles to the east, at what today is called "Forestdale."

By 1790, a forge built in Brandon village by Blake had been bought by Avery, Curtis, and Sawyer (Curtis was associated with a furnace in Dorset; Sawyer with a forge in Salisbury). A few years later it was reported that Brandon had iron foundries and forges where good bar iron was being made. The forge changed hands a number of times; at one time it manufactured shovels from ore mined at Forestdale. From the Forge at Brandon village, the shovels found markets as far away as Boston, MA.

In 1796, soon after arriving from Auburnham, MA, John Conant purchased half of the mills and water

power in Brandon. He and his father-in-law, Wait Broughton, worked together for a number of years building mills along the Neshobe River in the village. At the same time, John Smith was making bar iron at his forge at Forestdale. But in 1810, a major iron discovery occurred at Forestdale that started a series of industrial events in the town, including the construction of blast furnaces at Brandon village and at Forestdale.

These furnaces were but two of nearly three dozen blast furnaces that are known to have operated in Vermont. As part of a state-wide IA survey of Vermont by the author (now in its tenth year), the sites or ruins of 15 blast furnaces have been located. The sites of another 18 blast furnaces known to exist through archival research or inconclusive field evidence have yet to be precisely located, although locations of most have slowly been narrowed to relatively small geographic areas of probability. There are additional vague archival hints of a few more blast furnaces in Vermont, but it will take more archival and field work to decide where to look.

The known blast furnace sites are generally in the valleys east of the Green Mountain range. Dates of operation of these blast furnaces range from 1788 (Orwell) to about 1883 (Pittsford), and locations are as shown in Table 1.

John Smith's forge made iron at Forestdale in 1810 with ore that came from beds dug locally at Leicester Hollow. Around 1823 a blast furnace went into operation at Forestdale, smelting ore from beds a half mile away. The major output of the furnace was pig iron, but a variety of ornamental iron such as vases, statues, and chairs were also cast. In 1845 the output of the furnace reached 1200 tons, not including 800 stove castings.

Some names connected with the Forestdale furnace operations during this time were Stephen Smith of Leicester and Samuel Buell of Brandon in 1824; Royale Blake and Brazillai Davenport in 1827; and Royal Blake and (___?) Hammond in 1836. Hammond might have been Charles Hammond, who a few years earlier was part owner of the Bennington Iron Company; or possibly Charles F. Ham-

Table 1. Locations of Blast Furnaces in Vermont.

<i>Bennington</i>	4 + 1*	<i>Wallingford</i>	1*
<i>Bristol</i>	1*	<i>Woodford</i>	1*
<i>Pittsford</i>	1	<i>Weybridge</i>	1*
<i>Shaftsbury</i>	1*	<i>Brandon</i>	1*
<i>Vergennes</i>	2*	<i>Manchester</i>	1*
<i>Forestdale</i>	1	<i>Waitsfield</i>	1*
<i>East Dorset</i>	1	<i>West Haven</i>	1
<i>St. Johnsbury</i>	1*	<i>North Dorset</i>	1
<i>Orwell</i>	1	<i>Highgate</i>	1
<i>Tinmouth</i>	2 + 2*	<i>Plymouth</i>	1*
<i>Sheldon</i>	2*	<i>Clarendon</i>	1
<i>New Haven</i>	1*	<i>Troy</i>	1

* Not precisely located.

mond who operated ironworks at Crown Point, N.Y., in the 1840 period (or both?). An 1827 record mentioned the ore bed, furnace, and a coal house with 5000 bushels of charcoal. A diary of DeWitt Clinton Clarke (a relative of J.A. Conant and a partner in the Brandon village works) mentioned an "Upper Furnace," called the "Hammond and Blake Furnace," which was most likely the furnace at Forestdale.

Brown hematite ore was mined at the foot of a sandy hill to the east of the furnace, near the base of higher mountains. Some 1849 costs were:

Iron ore . . . \$1.75 per ton,
at the mine
Iron ore . . . \$2.50 per ton,
after washing
Charcoal . . . \$5.00 per 100
bushels.

Before charging it into the furnace, the ore was washed to remove clay, stones, and dirt, allowing for a more efficient smelting process. The yield of the furnace was 5½ to 6 tons of iron a day; the annual capacity was about 1200 tons.

From papers at the Vermont Historical Society Library, Alvin B. Jones was found to have hauled the tonnage shown in Table 2 "to the lake" (Lake Champlain) for Royal Blake. The record also showed that Jones hauled 201 loads of flux for the furnace from April 1844 through January 1845.

Kettles, tools, wagon equipment, fireplace furnishings, stoves, and even small cannon were cast and sold throughout the Northeast and as far away as Ohio. One shipment to Chipman Point Landing on Lake Champlain included a number of stoves, 59 axes, 12 draft chains weighing 2400 pounds, and 5 two-horse wagons, plus an

Table 2. Tonnage hauled by Alvin B. Jones.

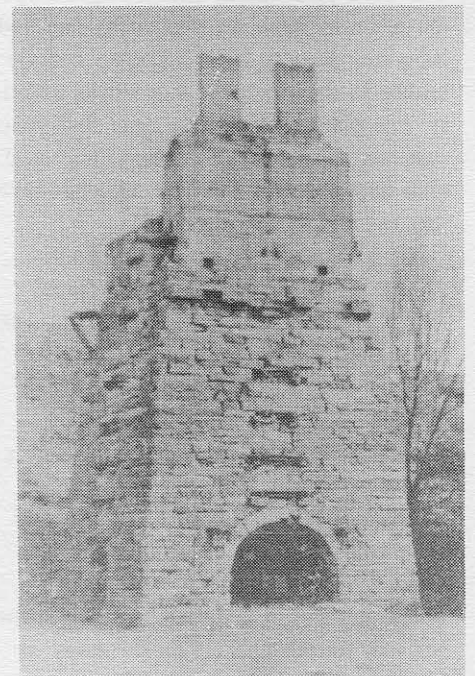
DATE	LONG TONS SHIPPED
Sept. 1844 to Jan. 1845	9.93
May 1845 to June 1845	6.99
Oct. 1845	2.31
Oct. 1846 to Nov. 1846	2.43
Sept. 1847	0.98

assortment of kettles, skillets, five dogs (heavy iron rods), spiders (cast iron frying pans with legs), and flat irons, for a total value of over \$1000. This was at a time when beef cost five cents a pound and butter about 15 cents a pound!

By 1854 the Green Mountain Iron Company had been organized, and the Forestdale furnace works had been acquired. Parlor stoves were the mainstay of production, and many such stoves with their raised "G.M. Iron Co" lettering still grace homes in Vermont (including one that is part of the author's collection of cast iron Vermont stoves). The Company enlarged the stack's inside to fuel it with anthracite coal instead of charcoal, but the experiment was apparently unsuccessful because the furnace shut down the same year. Anthracite gave the iron different characteristics than charcoal; for example, a higher sulfur iron. Ironworks throughout the country were attempting

to convert to coal at this time and finding it difficult. More successful were those who razed and completely rebuilt their stack, redesigning it specifically to burn coal. The Company's failure, however, could have been for economic as well as technical reasons. The 1850s were difficult economic times, and many ironworks throughout the country were being abandoned.

Insofar as known archival material indicates, dimensions and operating characteristics of the original blast furnace are unknown. When enlarged in 1854 by the Green Mountain Iron Company, the stack stood 42 feet high with bosh walls 9 feet in diameter. Blast was preheated to 600 degrees F by means of heating ovens and conveyed into the hearth by three 4-inch diameter tuyeres. A pair of blowing cylinders measured 30 inches in



Circa 1900 view of the stack's north wall before it collapsed. Note the blast heating oven at the top.

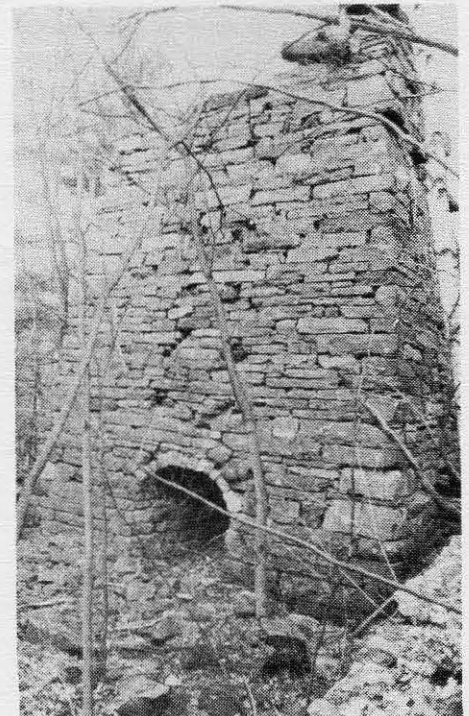
diameter with a five-foot stroke. They were waterwheel driven. Ambient air from the cylinders was pumped into a damping cylinder connected atop the blowing cylinders to reduce pulsations in the blast, and through a pipe to the top of the stack to the heating ovens (which drew hot exhaust gases to heat the incoming cold air). The heated air was conveyed down to the tuyeres through pipes that were run between the walls of the stack for insulation.

When the Brandon Iron Works took over operation about 1864, the bosh was widened to ten feet and the tuyeres to 4 inches in diameter. The waterwheel, which was probably overshot, measured 12 feet wide by 36 feet in diameter at this time.

Three bloomery forges and a 1500-pound trip hammer were also built at Forestdale in 1864 by the Brandon Iron company. They were located about 400 feet east of the furnace. The forges, working ore beds that were located a half mile away, produced 85

tons of bar iron during their brief two months of life in the spring of 1865. The blast furnace, also fired up for the first time since 1854, made 784 tons of cast iron. By year's end, however, the forges and furnace were quiet, never again to operate. These, as well as other buildings of the Brandon Iron Company (not to be confused with the Brandon Iron & Car Wheel Co. of Brandon village) are shown on the Beer's 1869 map. The map also shows the shafts of the iron mines a half mile south, where ore was at that time being processed into paint pigment.

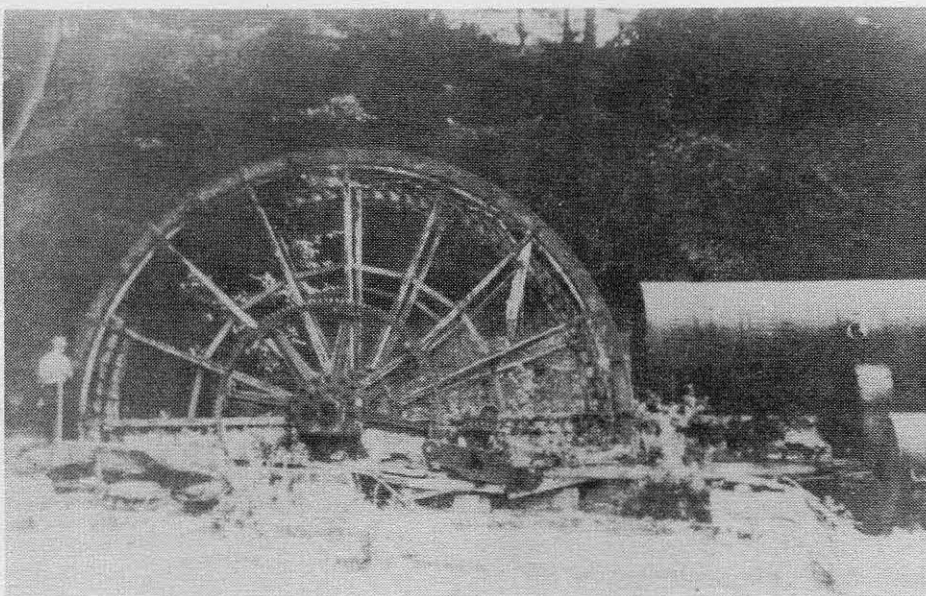
The blast furnace today stands at Forestdale, however precariously, in the midst of growing underbrush. From dimensions taken in December of 1983, the stack measures very close to 31-1/2 feet square. The north wall, which contained the casting arch, is collapsed, revealing the in-wall and bosh wall. Arches in the west, south, and east wall measure 7'8", 7'11", and 7'11", respectively, at ground level. The nar-



West wall of the furnace stack in the fall of 1983.

rower west arch is probably the result of shifting and settling of the walls, which are laid-up rough stonework. This west archway extends 10 feet into the base of the furnace to an iron ring in the ceiling. Open stonework at the interior end of the archway allows partial visibility diagonally to the right, across the inside corner into the end of the south archway. It is unknown if this was an original design feature. In 1983 the tuyere holes were visible inside the three archways, and by means of a hand-held mirror, the interior bosh and hearth linings could be inspected. Collapse of some brickwork since then hides the tuyere holes, although a new opening inside the east archway allows the unsqueemish to crawl into and stand up inside the stack.

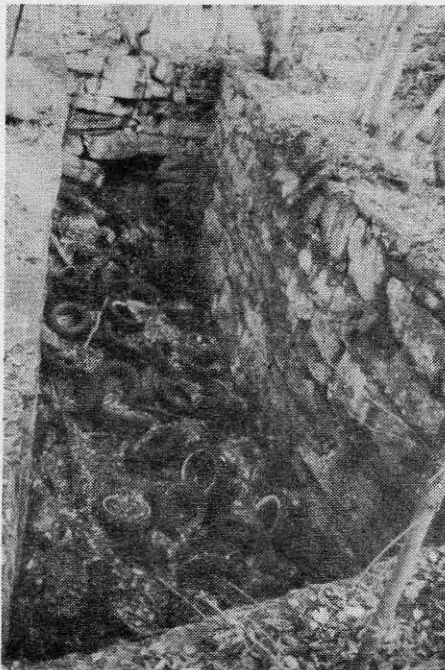
Except for the in-wall, bosh, hearth walls, and possibly the top ovens, no



Circa 1900 view of the waterwheel and blast machinery (furnace is off photo to right). For idea of scale, note man standing at left of wheel.

brick was used in stack construction. Various makes of firebrick are found about the base of the stack, including one made in Troy, N.Y.

Immediately east of the stack are the large stone mounts of the blowing tubs, and beyond is the deep, stone-lined waterwheel pit. The dozens of old auto and truck tires that lie discarded at the bottom give "wheel pit" a new meaning! (A state highway shed stands just uphill from the stack and the wheel pit.) The head race can be followed east to the dam site by means of iron hoops that probably held an approximately 18-inch diameter wood pipe. And all around the area and across Route 73 are the remains of cellarholes, vestiges of the community that once thrived about the works. South across Route 73 from the works stands the stone block house built by Royale Blake, where hinges in the rear,

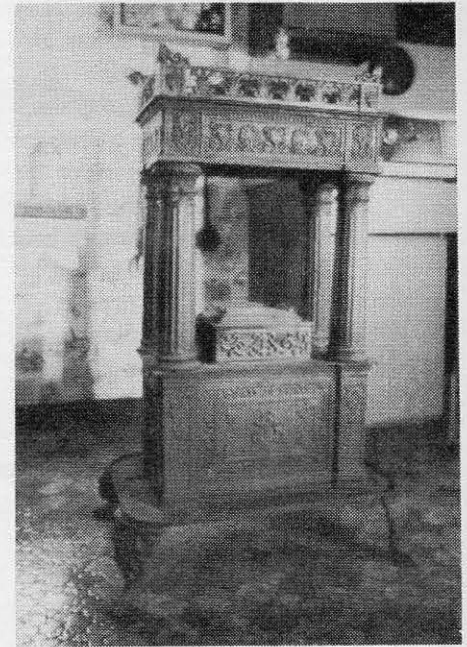


Waterwheel pit at Forestdale; the state highway department shed is directly uphill (right).

wooden part of the house, were made at the ironworks. On the north side of Route 73, just uphill from the state highway shed, remains of what local residents claim to have been a "cup" or a casting furnace lie under roadside fill. It has also been described as once having a stone tower similar to that of the blast furnace, but much shorter. Could have been part of the stonework associated with the charging bridge? Whatever it was, it hopefully remains protectively buried for future study. John Smith's circa 1800 forge was probably located about 100 yards northwest of the furnace stack, near where the present-day dirt road leads into the furnace property from the village.

The furnace and approximately 10 acres of furnace grounds were donated to the Vermont Division for Historic Preservation (DHP) by Mr. and Mrs. Welland Horn; and in 1974 the blast furnace property was placed on the National Register of Historic Places through the efforts of Chester Liebs (with some assistance by the author). The stack was fenced off following continued deterioration of its north wall. Since then, DHP has been unable to do much toward stabilizing the ruin due to budget constraints. Trash along the stream reflects the numbers of campers who annually use the grounds at will; in the cellarhole of one of the works' tenements is a plastic sheet "tent." But renewed interest in the furnace and property by DHP could lead to significant activity there in 1989.

Under the direction of Audrey Porsche, recently assigned by DHP to administrate the Forestdale furnace site, and the leadership of our own David Starbuck, a major volunteer effort by NNEC/SNEC-SIA membership is being looked for early next spring by the DHP in the form of a thorough week or weekend recording session. On



Ornate parlor stove cast at the Green Mountain Iron co. furnace at Forestdale (c. 1850); part of the author's collection of cast iron Vermont stoves.

October 29 of this year, an inspection party consisting of Audrey, Dave, Dennis Howe (NNEC President), Bill Murphy (VAS President), Bob West, and the author spent some chilly hours in drizzle and flurries hiking over the entire furnace area. The current plan is to cut back the foliage in advance, followed closely by the recording week/weekend. Results of the session should go a long way toward providing DHP with what it needs to interpret the site, and hopefully they will soon be able to stabilize the furnace stack.

Vic Rolando
Pittsfield, MA

Article

A Note on the Shoe Industry In Smaller New England Centers

Research on the building known as Queensbury Mill in Somersworth, New Hampshire, for a Tax Act project in 1985 led to the discovery of some forgotten facts about the shoe industry in late-nineteenth century New England.

By the middle of the century, Lynn, Massachusetts, had become the great center of the shoe industry in New England. However, the industry had long had an association with the smaller centers in the region, beginning with its being carried on as a cottage industry in places such as Beverly, Massachusetts, where men might fish in the summer and make shoes in the winter. This craft became centered in "ten-footers" — small sheds built especially for the purpose. By the 1930s and 40s, however, larger

establishments were springing up in these outlying communities. (See "Life and Times in Shoe City: the Shoe Workers of Lynn", published in 1979 as Vol. 115, No. 4 of Essex Institute Historical Collections for a summary of the shoe industry in Lynn.)

One of the pioneers of the shoe industry in New Hampshire was Martin Luther Hayes, born in Farmington on March 28, 1812. He was apprenticed to a shoemaker named Stevens in nearby Alton but bought out his apprenticeship, when almost twenty-one, and went to Natick, Massachusetts, to work. This would have been about 1833. Having learned the business, he returned to Farmington in 1837 or 1838 and began manufacturing shoes. During his career of over forty years in Farmington (he died in 1879), Hayes

manufactured shoes for a variety of outside firms, all of them probably headquartered in Boston, Lynn or New York: Forbush & Townsend; William Burrage & Co.; Joseph Whitney & Co.; Allen, Harris & Potter; Potter Nute, White & Bayley; Potter, Hitchcock & Co.; and Chase, Merritt & Blanchard.

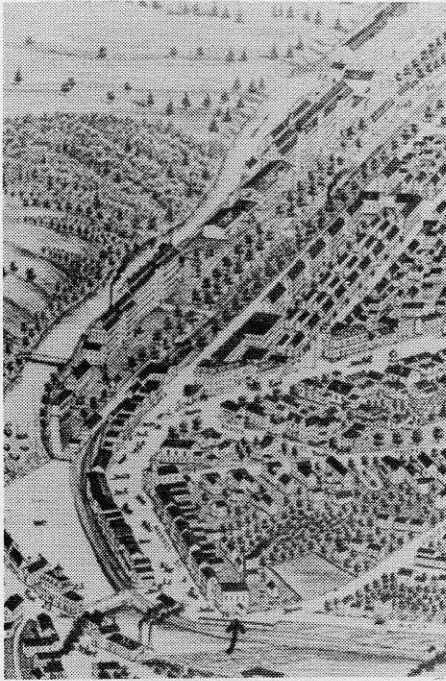
Thus, the manufacturing of shoes by firms acting as subcontractors for outside firms was a feature of the Farmington shoe industry. The business relationships ultimately became very complicated, the local men sometimes constructing their own buildings and selling them to these outside companies, as did John F. Cloutman. In 1877 he built the original part of the building which became known as the Twin Factories; in 1884, he built the second part. He sold the factories to Wallace, Elliott & Co. of New York in 1890.

The 1877 *Birdseye View of the Village of Farmington* identifies nine shoe factories and one last factory, demonstrating that it was already a major center of the shoe industry in New Hampshire. This fact undoubtedly figured in the selection of Isaac Fellows of Farmington to build a shoe factory in Great Falls, N.H., some ten miles distant, for the Somersworth Building Company in 1884.

In the 1880s, serious labor problems broke out in Lynn, Massachusetts, after relative peace for a period of two decades. Shoe companies sought to protect themselves and gain leverage in their dealings with workers by setting up branch operations in smaller New England towns and cities, with the clear implication that they could close down their Lynn operations entirely, if necessary. *The Shoe and Leather Reporter*, organ of the industry, is full of stories about the labor problems in the early to mid-1880s, as well as



C. 1900 postcard view of Salmon Falls River with Somersworth, N.H., to the left and Berwick, Me., to the right. The chimney and tower of the Somersworth Building Co. shoe factory are at the top-center of the photo. The tower was subsequently shortened. Photographer was facing west.



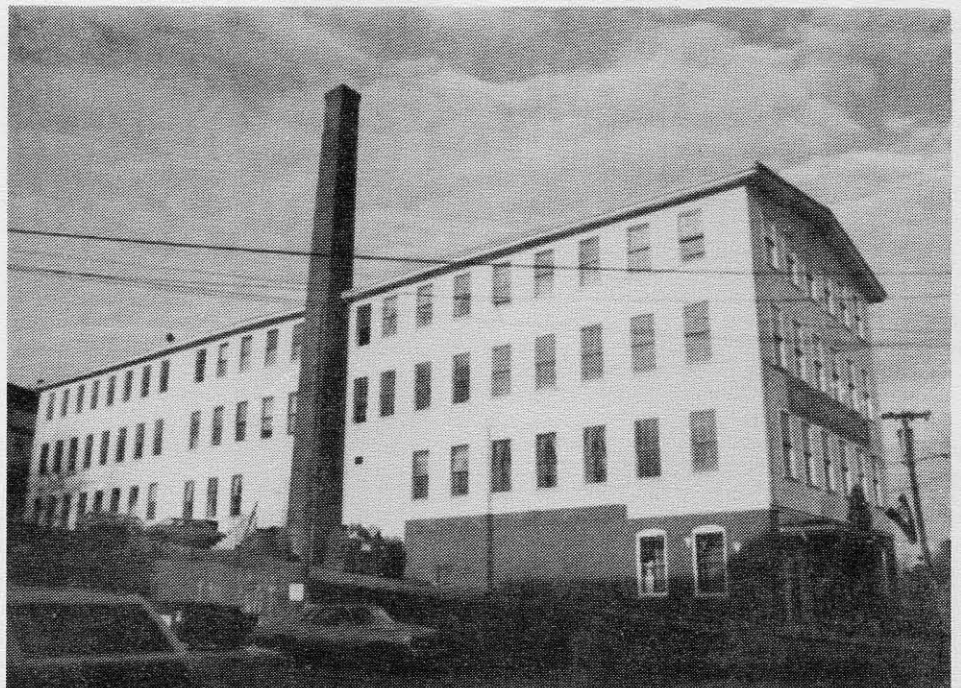
Detail: 1877 Birdseye View of Great Falls, N.H. Union Planning Mill on later site of Somersworth Building Co. structure. The largest buildings belonged to the Great Falls Manufacturing Co., a cotton mill. View taken facing east.

occasional features on the much better conditions (for management, anyway) in the rural establishments. One of these, entitled "A New Hampshire Factory," appeared in the September 17, 1883, issue of the paper. The town is identified only as: "...a New Hampshire town, about 100 miles from Boston, and located upon a branch road. Its landscape features combined hills, woods and boulders, dominating everything, almost to the exclusion of the required plat for the baseball ground, so necessary to communities in this region. The soil is sterile, and rarely pays for expense of cultivation beyond home needs. Berries grow profusely, and may be had by gathering. Many of the village lads and lassies,

and, indeed, many mature persons, gather quite an income from the sale of berries, which contributes largely to their subsistence. Still, it was an impecunious colony, practicing economy in order to live. It will be obvious that the advent of a shoe factory, with its stir and bustle, and the possibilities connected with indoor employment and remuneration, operated as a God-send to these people, and caused an excitement only equaled by the visit of Barnum's show." The author goes on to describe interviews with owner and foreman, clearly laying out the pecuniary and personnel advantages of locating a shoe factory in a rural setting (p. 475).

The following year (June 12, 1884), *The Shoe and Leather Reporter* commented further on the labor situation in Lynn: "The shoe manufacturers of Lynn are passing through a series of labor difficulties which threaten to prove exceedingly detrimental to the interests of

that city. On Wednesday, June 4, the Lasters' Union 'struck' the shop C.S. Sweetser & Co., and the lasters all left work. Mr. Sweetser, the head of the firm, is a man whose reputation for honest dealing is second to none, and it is not improbable that he may follow in the footsteps of a great many Lynn manufacturers and carry his business out of Lynn, where he will not be subject to the dictation to which an effort is being made to subject him. John Shaw, 2nd. & Bro. are having similar experience, and it is intimated they may seek accommodations in some country factory. At the factory of B.F. Doak & Co. two hundred employees are out on a strike. The complications which are continually arising on account of these labor troubles are already telling against Lynn. In various sections of the country, Maine and New Hampshire, the authorities are holding out inducements for Lynn manufacturers to settle there, and



Somersworth Building Co. shoe factory. The photographer was facing west.

already numbers of the most prominent manufacturers are sending their work out of the city."

One of the communities which sought to attract the shoe industry in the 1880s was Great Falls, New Hampshire, shortly to be renamed Somersworth when it became a city in 1893. Separated from Berwick, Maine, by the Salmon Falls River, it was the site of the Great Falls Manufacturing Company, one of New England's earliest large cotton mills. The following recounts in some detail the history of the building in Somersworth, New Hampshire (originally Great Falls), now known as the Queensbury Mill.

The Queensbury Mill

On September 2, 1884, the heirs of David H. Buffum sold a parcel of land fronting on Market Street (and bounded by Linden Street on the north) to the Somersworth Building Company. On the lot stood the 1831 Free Will Baptist Church building, later called the Union Planing Mill and in 1884 known as the Hubbard and Canney steam mill. According to the *Great Falls Free Press and Journal*¹, the buildings were bought at auction by Freeman Chick who, in turn, sold part of the former church to L.R. Hersom of Berwick, Maine, across the Salmon Falls River from the Buffum land. This building fragment later became part of the Prime Tanning Company complex in Berwick.² Included in the conveyance were the "Steam Engine, Boiler, Chimney and Steam Mill. . . ."³ By September 12, 1884, plans and specifications for a new building were being drawn up, and a committee had been appointed to see about building materials.⁴

By September 19, the old building had been removed, and excavation had been done "on the site of the proposed

shoe firm"⁵

On October 24, the *Free Press* could report that "The new building for the shoe firm who propose to come to Great Falls, is raising rapidly, the basement being finished and the upper stories well under way. Mr. Isaac Fellows of Farmington has the contract." By November 14, the shoe factory was "rapidly approaching completion. . . ." with the furnace, boiler and engine in place and a large elevator located on the north side to be run by steam power.⁶ On November 21, "the work of piping" was about to begin, according to the *Free Press*, and on December 5, the paper reported that "A very short time will place the new shoe factory in a state of completion. The machinery is rapidly being brought in and put in place and the building is receiving a coat of paint. It is to be painted a dark green with dark red

trimmings. Mr. George W. Johnson is doing the painting and is putting the work right along in good shape. The building will be ready for occupancy in a very short time."

Workers were being hired by January 2, 1885, when the *Free Press* reported that Miss Ella O. Ricker was to be in charge of the stitching room. The shoe factory must have been in operation by February 5, 1885, because on that date, the paper reported that the engineer, Charles LeClaire, had an accident, catching his finger in the crimper. Also on that ill-starred day, the machinist fell from a staging, brusing his legs, suggesting that the building was still being completed.

The C.D. Pecker Shoe Company evidently did well, because in 1892, the Somersworth building was increased in size by roughly one-third by an addition to its west end, also carried out by



Detail of floor supports of the Somersworth Building Co. shoe factory. Probably for reasons of economy, the builders did not employ "slow-burn" construction. Photo taken in addition (structurally similar to original part).

the Somersworth Building Company. The *Free Press* of May 13, 1892, reported at length on the decision to build the addition. A separate notice of that date invited members of the public to take gravel which would be made available by the "considerable excavation" required by the addition.

The May 20 edition of the paper reported that the work of excavation had begun under the supervision of Hiram Horne, that Horace B. Tibbetts was to have charge of the carpenter work, and that the excavated loam would be saved for use on the slopes. The July 1, 1892, edition reported that "good progress" was being made on the addition and that it would be ready for the pipers by the tenth of the month; by July 8, Daniel Hodsdon had "secured the contract to tin the roof of the addition," and by July 29, the *Free Press* could report that "The addition to Pecker's shoe factory will be completed this week and the machines are to be put in at once, and employment given to about 125 more hands. It was entirely unexpected that the work would be done in such short order."

It is likely that the C.D. Pecker Company went out of business or was sold in 1892 or 1893. Apparently organized as a partnership, the company is not recorded as a corporation in the Commonwealth of Massachusetts. The company is listed in the 1892 *Lynn Directory*, but not in the editions following. In any case, sometime between 1895 and 1898, it was replaced by another Lynn, Massachusetts, shoe concern, the George M. Coburn Company; however, this remained only until 1902, when it moved its operations to Roxbury, Massachusetts, a part of Boston. At that time, the mortgage of the Somersworth Building Company was foreclosed and the building sold at

auction to Haggas Hodgson and Fred Hodgson, both of Worcester, Massachusetts; the building was then occupied by Queensbury Mills (manufacturers, based in Worcester, of worsted, mohair, alpaca and lustral yarns, according to the 1924 *Dover, Somersworth and Rochester Directory*) to which it was sold in 1911. Hence, for many years, the building was popularly known as "the alpaca mill."

In 1924 the officers of Queensbury Mills, Inc. were A.H. Stone, Treasurer; Walter Holdsworth, Superintendent; and Fred Hodgson, General Manager. In 1928 the Somersworth building was sold, again, to Walter Holdsworth of Somersworth (treasurer, clerk and general manager of Queensbury Mills at that time); and to R.E. Hodgson (who became president and treasurer of the new company), J.H. Hodgson (who became the vice-president) and F.N. Hodgson (the secretary).

The *Worcester Telegram* of January 3, 1930, published a notice of a mortgagee's sale of Queensbury Mills property in that city, so it appears that the parent company went out of business at that time; therefore, the 1928 sale of the Somersworth branch must have been part of an unsuccessful attempt to rescue the company, pruning its operations to raise cash. The new business, the Somersworth Textile Company, manufactured Bradford spun yarns (i.e., it continued in much the same product line as previously). Its peak employment is believed by John Ballentine to have been 200-300 people during World War II; this has not been confirmed. By 1951 it employed 55; in the late 1950s and early 1960s, it was operated by Randolph E. Hodgson, son of the original owner, and Stanley Whittemore, his brother-in-law. As the result of bankruptcy proceedings, it

was sold to Jacob Cohen of Somersworth, whereupon it stood vacant for several years.⁷

In 1964 the building was acquired by SOMCO (Somersworth Company), a modern equivalent of the Somersworth Building Company and the Somersworth Improvement Association, as Ballentine points out, with local businessmen buying shares in the enterprise. According to him, "Tenants in the building from 1964 (when SOMCO acquired it) included the Somersworth Free Press, a tool and die operation, General Electric Co., a cabinet maker, a manufacturer of house shingles, and for a short time the branch operation of a shoe firm." Problems developed when SOMCO was unable to keep the old automatic sprinkler system in repair; it flooded the building several times; and, ultimately, the building became uninsurable in the late 1960s because of this. It was subsequently sold and occupied by the Queensbury Restaurant and several other businesses, using the first floor only.

The efforts of Somersworth businessmen to attract a shoe company to their town were a common phenomenon of the 1880s and 1890s in New England. The region suffered from the decline of agriculture after the Civil War, and sought to replace it with industry and tourism. Typical of these efforts was "Somersworth and its Business Advantages: Souvenir Supplement to the Great Falls Free Press," published in August, 1981. It noted the pool of skilled and docile shoe workers which by then existed in Somersworth, going on to say that "In addition to the reasons already stated the Somersworth Business Men's Association is ready to supplement all the other advantages of the town by building substantial factories for manufacturers desiring to locate here, and leasing the same to

them upon very favorable terms. The town will also exempt from taxation for a period of ten years all manufacturers locating here. There are many desirable locations for manufacturing plants along the line of the railroads in the town, some of which are bonded by our business men for that purpose."

In 1884 Somersworth was one of many northern New England towns which sought to attract the shoe industry, seeing it as a potential stimulus to local business as well as a way to cushion the vicissitudes of the major local industry, textile manufacturing. Two circumstances favored the shoe industry promotion at that time — an economic slowdown in the textile business, and continuing labor unrest in Lynn, Massachusetts, the great center of the New England shoe industry. Lynn manufacturers sought to dampen the enthusiasm of strikers by threatening to move elsewhere, and many moved all or part of their operations to country towns, as revealed by numerous articles in the *Shoe and Leather Reporter*. The Somersworth Building Company was formed by local business leaders in August 1884, when their ad attracted the interest of the C.D. Pecker Company of Lynn in locating in Great Falls.

At the time, there was talk of another shoe company moving to the town.⁸ This did not actually happen until 1892, when another stock company, the Somersworth Improvement Association, built a factory for Houghton, Hebard and Warren near Indigo Hill Road, between Main Street and the B&M Railroad tracks, a site which corresponds to the abovementioned descriptions in the "Special Supplement . . . to the Free Press."⁹ The new company seems also to have been based in Lynn, where the 1896 *Lynn Directory* lists James Houghton & Sons as pro-

ducers of shoe manufacturers' supplies and cut soles. Both of these shoe factory buildings were foreclosed before World War I (one building in 1903, the other in 1913; see Strafford Co. Deeds 331-198 and 367-327); nevertheless, the primary purpose of their builders seems to have been to promote local business (which they did), rather than to make money on the real estate.¹⁰

As reported in the *Great Falls Free Press* for August 29, 1884, "The subscribers to stock for building a shoe manufactory met last Friday evening and chose a committee of twenty-five to organize a stock company under the statute. The committee completed an organization last Tuesday evening, to be called the Somersworth Building Company, having a capitol stock of \$17,000. The temporary officers of the Company are: President. (sic) William D. Knapp. Clerk. Albert H. Watson. Treasurer. Henry C. Gilpatrick. Directors. William D. Knapp, Jesse R. Horne, Henry C. Gilpatrick, Hiram Horne, James A. Edgerly, John N. Haines, Ebenezer A. Tibbetts, Joseph A. Stickney, Lorenzo R. Hersom, Charles Sanborn, Edward Hargraves, John O. Lord, John W. Bates, Charles W. Wright, Nathan Wimpfheimer, George Moore, George E. Beacham, George W. Stevens, William D. Clark, S. Augustus Seavey, John F. Robinson, Edgar S. Buffum, Elijah M. Shaw, Orin H. Butler.

"The annual meeting of the stockholders will be held the second Tuesday of September next at 6 o'clock P.M. In the meantime, all subscribers for stock are requested to pay their subscriptions to the Treasurer at his office in the Somersworth National Bank, and receive their certificates of stock, and so qualify themselves to act at the annual meeting. The directors are making all possible progress in matters of

plans and contracts for the judicious use of the capital, as soon as it is paid in, to the end that a manufactory of shoes may be in operation within a few months."

The officers and directors of the Somersworth Building Company encompassed a variety of professions including banking and law, and tradesmen of every description including some who would benefit directly from a local building campaign.¹¹ William D. Knapp, the president, was a prominent local attorney, judge of the police court and (in 1894) author of a short history of Somersworth;¹² H.C. Gilpatrick, the treasurer, was cashier of the Somersworth National Bank for many years; and Christopher H. Wells, the chairman of the 1892 Building Committee, was a lawyer who became

1885

CLOUTMAN & BINGHAM,
No. 60 South Street, BOSTON, Mass.

OUR FACTORIES
We Manufacture
A FULL LINE OF
Women's,
Men's
& Children's

BOOTS, SHOES & SLIPPERS,
OF ALL GRADES.

The Entire Product of Our Factories Sold
Direct to the Retail Trade.

We make a specialty of a full line of goods made by the
Moore Welt Process. Equal to Hand-Sewed, and sold at Ma-
chine-Sewed prices. We make a specialty of the Celebrated
Plate & Vandy Milwaukee Oil Grain and Flesh Splite in the
Manufacture of our goods.

1885

We are the Sole Manufacturers
of the above Made in the
United States.

Advertisement in the *Shoe and Leather Reporter*, December 31, 1885, illustrating geographical dispersal of a shoe manufacturer which was typical of the industry in New England at that time.

the owner and editor of the *Great Falls Free Press* in 1883 and would serve three terms as Mayor of Somersworth (1894-1897). Thus, the building put up by the Somersworth Building Company for a shoe factory represents a unique physical reminder of a cross section of Somersworth business and civic leaders cooperating in the last two decades of the nineteenth century to attract a new industry to Somersworth.

Men such as Knapp and Wells were instrumental in the movement which led to Somersworth incorporating as a city in 1893, and, undoubtedly, in the town's offer of tax abatements to new industry, published in the above-mentioned *Great Falls Free Press* Souvenir Supplement. The formation of stock companies to construct mills, along with the offer of tax abatements to new industries by local governments, was a northern New England phenomenon of the 1880s and 1890s, outlined in an 1885 story in the *Shoe and Leather Reporter*, "A New Hampshire Factory" (Vol. 40; Sept. 17, 1885, p.475).

As noted, Christopher H. Wells was active in the community, being a trustee of the Somersworth Savings Bank, a director of the library, and a director of the two building associations. In 1897 he had just completed his third term as mayor of Somersworth. He was born in 1853, whereas Knapp was born in 1830; it is notable that the older man wrote the biographical sketch of his (which originally appeared in the *Granite Monthly* for January 1895).¹³ Incidentally, early in his legal career, Knapp was associated with Christopher Wells' father, Nathaniel Wells, in the local law firm of Wells and Eastman. In the Dover, Great Falls and Rochester Directory for 1878-1879, Charles P. Andrews is listed as a carpenter,

George W. Johnson as a painter (recall that he would paint the shoe factory in 1884) and Hodsdon Bros. (Daniel and Cyrus H. Hodsdon) as dealers in stoves, furnaces, tin and hardware, located at 29 Market Street. Daniel Hodsdon would be the roofer of the addition.¹⁴ He was also a plumber, as evidenced by a notice in the *Free Press* for November 14, 1884: "The Somersworth Machine Company are putting in a large elevator for the new shoe factory at Milton. Daniel Hodsdon is doing the plumbing for the same company." Henry C. Gilpatrick, listed in 1895 as treasurer of the Building Company, was cashier of the Somersworth National Bank from 1881 until his death in 1897.¹⁵

Other area towns, some already in shoe manufacturing, attracted shoe companies in this period, among them Farmington, Milton, Rochester, Strafford, and Portsmouth; Sanford, Maine, was one of those towns where businessmen offered to put up buildings for incoming shoe companies (as noticed in *Shoe and Leather Facts*.¹⁶ F.W. Breed, a prominent shoe manufacturer from Lynn, established a shoe factory in Rochester in 1885.¹⁷ Thus, Lynn manufacturers were well-acquainted with the business advantages offered by northern New England towns, and the article, "A New Hampshire Factory," in the *Shoe and Leather Reporter* only reinforced the popular image of small town manufacturing which Great Falls businessmen sought to exploit.

To summarize, the Somersworth Building Company structure (Queensbury Mill) is the earliest building in Somersworth constructed specifically for the shoe industry and the only one which remains essentially intact. The Somersworth Improvement Association building constructed for the Houghton, Hebard and Warren com-

pany on S. Main Street in 1892 still exists (and was in business as the Dover Shoe Company until ca. 1980), but has recently been completely denatured by the removal of its top stories and the covering of its window openings. The Somersworth Shoe Company closed down on July 20, 1984, thereby putting some 250 employees out of work. The company was housed in buildings originally constructed for the Great Falls Manufacturing Company (see "Shoe factory closes its doors," the lead story in *Foster's Daily Democrat*; July 21, 1984).

The Somersworth Building Company structure (Queensbury Mill) is unique in its combination of economic significance (financing and construction by local stock company); industrial significance (the earliest building constructed to bring the shoe industry to Somersworth); association with local business and civic leaders representing their efforts to use regional economic conditions to local advantage; and preservation of architectural features unusual in mill buildings of its day and thereby showing the particular circumstances of its construction (the closing-in of the attic and the use of closely-spaced floor joists — features not found in modern mills of the period). Moreover, the Queensbury Mill is virtually intact and therefore unusual in southeastern New Hampshire as a wooden mill building of the last two decades of the nineteenth century, a period not noted for wooden industrial construction.

The building has regional economic significance as a rare survival of northern New England's response to upheaval and change in the shoe industry in the 1880s — part of its attempt to compensate for the decline of New England agriculture after the Civil War and the cyclical nature of the tex-

tile industry. The long history of shoe manufacturing in New England may be drawing to a close, as evidenced by the struggle of local factories to compete in the face of increasing foreign competition (see "Protectionist wave may help the shoe industry," in *Maine Sunday Telegram*; April 7, 1985; p.3c).

NOTES

1. Sept. 5, 1884; hereafter, the *Free Press*.
2. John Ballentine: Typescript historical sketch of the building provided for Phil Crosier, Nov. 1984.
3. Strafford County Deeds, Bk. 278, p. 347 (Rec'd Sept. 2, 1884).
4. *Free Press*; Sept. 12, 1884.
5. *Ibid.*; Sept. 19, 1884.
6. *Free Press*; Nov. 14, 1884.
7. Information provided by John Ballentine of Somersworth; November, 1984, principally from the *Free Press*, of which he was the editor in the 1960s.
8. *Free Press*; Oct. 3, 1884.
9. *Free Press*; "Souvenir Supplement: Somersworth and its Business Advantages" (August 1891).
10. Strafford Co. Deeds; Bk. 308, p. 115.
11. *Dover, Great Falls and Rochester Directory* for 1878 - 1879; Boston; Dean Dudley & Co., 1878.
12. *Biographical Review*, Vol. XXI: *Leading Citizens of Strafford and Belknap Counties* (Boston: Biographical Review Pub. Co., 1897), 265f.
13. *Ibid.*, 265f. and 320 - 324.
14. *Free Press*; July 8, 1892.
15. John Scales, *History of Strafford County, New Hampshire and Representative Citizens* (Chicago: Richmond-Arnold Pub. Co., 1914), 247.
16. *Shoe and Leather Facts* I, No. 5 (1889), p. 102. See also, I, No. 2,

p. 30, and I, No. 3, p. 52, concerning the Saco, Maine, Building Co. The latter also mentions Farmington, N.H., shoe output.

17. Franklin McDuffee, *History of the Town of Rochester* (Manchester, N.H.: John B. Clarke Co., 1892), 473 f.: "A company of citizens built a shop . . . which they leased to F.W. Breed of Lynn, Mass., for five years from January, 1885, with the privilege of renewing the lease for another five years." Thomas C. Quinn, ed., *Massachusetts of To-day*. . . (Boston: Columbia Pub. Co., 1892), 541; F.W. Breed, *The Shoe and Leather Reporter* 40 (July 1885 - Jan. 1886), p. 347 (under "Lynn"): "F.W. Breed, in whose shoe factory there was a strike last week, complied with the demands of Knights of Labor, and his men returned to work on the 24th. He was constrained to adopt this course on account of the pressure upon him of orders for shoes. He intimates that it is his purpose to transfer his business to New Hampshire. He has already removed a portion of it thither. . . ." *Idem.*, p. 476: "Twenty-eight Lynn shoe manufacturing firms now have factories in New Hampshire and Maine. The number of skilled workmen in the country increases of course all the while. Many manufacturers only cut out the shoes in Lynn, sending them away to be made. Six thousand hands are employed in outside towns working for Lynn men."

In addition, William D. Wallace, Executive Director of the Worcester Historical Museum, generously provided Worcester newspaper and city directory references to Queensbury Mills. See also: Richard M. Candee and others, *Cultural Resources Inventory: Downtown Somersworth*. Fall 1982. Survey No. 24; *Great Falls, Somersworth, N.H.* Map by J.B.

Bachelor; N.Y.: Endicott & Co., 1856; Edward O. Lord, "How the Parish Grew to a City . . .," *Granite Monthly* XVIII (1895), 6-32. Ill., p. 30: The New Shoe Factory; *New Hampshire Atlas*. Boston: D.H. Hurd, 1892. Pl. 250; R.G. Dun Collection, Baker Library Manuscripts and Archives; Harvard University; Cambridge, Mass.: Charles D. Pecker & Co. is outlined in Vol. 27 (Mass.), pp. 450, 544, 590 of these credit reports; Sanborn Insurance Maps for Great Falls/Somersworth, N.H. 1887, 1898, 1893, 1905, 1925 (with later revisions). Pub. under various titles, the company continues as Sanborn Map Co. of Pelham, N.Y.; George A. Rich, "Manufacture of Boots and Shoes," *Popular Science Monthly* (May-Oct. 1892), 496-515. Processes, ills. of machines, factory interiors.

Woodard D. Openo
Somersworth, N.H.

Recent Publications

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The Sarah Mildred Long Bridge, A History of the Maine-New Hampshire Interstate Bridge from Portsmouth, New Hampshire to Kittery, Maine, by Woodard D. Openo (NNEC member). ISBN 0-915819-12-0. 160 pp., 90 illustrations, cloth bound. Available for \$30.00 from Portsmouth Marine Society, Box 147, Portsmouth, NH 03801.

The New Hampshire Historical Society has published the first systematic history of travel in northern New England. *On the Road North of Boston: New Hampshire Taverns and Turnpikes, 1700-1900* was written by SIA members Donna-Belle Garvin, museum cataloger at the Society, and James L. Garvin, New Hampshire state architectural historian.

Funded by grants from the National Endowment for the Humanities, the book is an interdisciplinary study on the road from the days of early settlement to the advent of the automobile.

Of particular interest to SIA members is the book's treatment of highway engineering in the age of animal power. The book discusses improvements to highway routes (especially during the turnpike era, 1800-1830), road surfaces, road machinery (both horse-drawn and steam-powered), and bridge technology.

In addition to its discussion of aspects of civil engineering, the book traces the influence of the national Good Roads movement as a means of reviving New Hampshire's moribund rural economy in the late nineteenth century. Well before the development of the automobile, planners saw highway improvement in northern New England as critical to the renewal of the dairy and lumber industries, to tourism, and to strengthening of the tax base.

More than 200 pages long, the book is richly illustrated with historic photographs and artwork. Ordering information may be obtained from the New Hampshire Historical Society, 30 Park Street, Concord, N.H. 03301 ([603] 335-3381).

Book Review

A History of Canton Junction by Edward D. Galvin, Brunswick, Maine: Sculpin Publications, 1987. 99 pp., illustrated, \$16.95.

Reviewed by William L. Taylor

[Editor's note: Edward D. Galvin is a NNEC member living in Maine. William L. Taylor is a Professor of History at Plymouth State College (NH), and a past president of the NNEC.]

As one rides the rails of America through the countless junctions along the main lines, seldom can the complex history of one junction point be understood in the all too brief glimpse from the train window. One such junction has been chronicled by Edward D. Galvin.

Canton Junction still carries heavy traffic between Boston and New York as well as many commuter trains to Boston. What Galvin has compiled is the story of a locale that has seen many changes, but a site that still serves its original function as a junction point on the Boston-New York mainline. The many excellent illustrations provide the reader with a clear understanding of how the junction and its environs have changed and been altered by both the railroads who owned the facilities and the economic and technological changes in the community surrounding it.

First served by rail in September 1834 when the Boston and Providence Railroad completed construction to the town, Canton began a long and fascinating association with the railroad that has included evolution from owner-

ship by small, local roads, to consolidation under the management of the New York, New Haven & Hartford, to bankruptcy of both the New Haven and Penn Central, to public ownership and operation by the Massachusetts Bay Transportation Authority (MBTA) and Amtrak. Also part of the history of the area is the locally famous Canton Viaduct, a large stone structure constructed by the Boston and Providence and still used by MBTA and Amtrak trains—testimony to how well the Boston and Providence engineers designed the structure.

Not only does the Canton Junction area reflect the changing railroad scene in New England, but it also makes a good case study of the changing economy of the region. Once it boasted two large manufacturing facilities: Revere Copper Company and Kinsley Iron and Machinery Company. Both proved unable to cope with the pressures of a changing national economy. New management, as a result of a merger, decided to close the Canton facility in 1900 so as to consolidate operations in Taunton and New Bedford. Kinsley ceased operations in 1907, no doubt partly due to the difficulties of competing in an industry where it was far from the sources of fuel and iron. Both closures had a severe impact on the local economy and forced major adjustments.

For Edward Galvin this book has certainly been one of great personal interest. His family has intimate connections with the community of Canton and with the railroad which is the focus of the story. His great-great grandfather

worked on the construction of the viaduct, and later family members worked in the industries served by the railroad. Galvin grew up in Canton alongside the Stoughton branch which is what creates the junction. As one who had a similar experience in Maine, I can understand how much of an impact such an environment can have.

Unfortunately the book is not as much a history as a detailed chronology of the railroads of Canton, Massachusetts. The approach is strictly chronological with little use of general topical and/or thematic discussion which could serve to tie together the overall relationship of Canton's railroads to the community. What Galvin has achieved is almost an encyclopedic overview of the area that was and is served by the railroads operating through Canton. The numerous and excellent illustrations and maps convey, better than the text, a sense of how the world of railroading and industry has changed. Also, this reviewer felt that Galvin overused excerpts from local newspapers to describe events of note. Sometimes the quotations fill almost a whole page. In my opinion, good historical writing avoids excessive use of long quotations in the text.

Local history can reveal much about how a town or community coped with the changing world around it. Galvin could have done much more to help us understand the ways in which Canton was changed by and adjusted to outside forces between 1834 and the late 1980s. What he has presented is an in-

teresting chronicle of Canton Junction with illustrations that railroad historians and buffs and industrial archeologists will find fascinating. Unfortunately an interesting chronology does not make good history. Lacking are broader historical themes and any clear historical evaluation of the topics covered so that readers can get a better sense of the scope of change and the relation of those changes to one another.

For those seeking a good overview of railroad development in and around Canton, Massachusetts, *A History of Canton Junction* will be of much interest. For those seeking a history of an important rail junction on the New York-Boston mainline, this book will not fulfill the need. That interpretive story awaits a future historian.

William L. Taylor
Plymouth State College

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