Society for Industrial Archeology · New England Chapters

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NNEC-SIA President's Report

The chapter now has a website that can be accessed through the national SIA website, www.sia-web.org. Once into the national website, click on Chapters and then Northern New England. Over time this website can be improved, but this is a start for now. It would be preferable to have a website independent of the national one but it would be accessible both ways. If any members are interested in becoming more involved in the process, please let me know, as we can use the help to improve our website.

The winter conference in Plymouth had a large turnout despite the snowy morning. Where else can you hear presentations on portable charcoal kilns, glassworks, weather instruments, and a WW2 bomber crash site? And that's only half of the topics presented that day. More than one attendee commented on how interesting and varied the presentations were, so all chapter members should take advantage of this benefit of membership and join us in Plymouth in 2012.

The spring meeting and tour has been arranged by David Dunning, our 2nd vice-president, and will be held in Franklin and Laconia, N.H., on May 22nd. The morning will be spent on a tour of Franklin mills, which were shown and discussed at last year's winter conference. The afternoon will have a presentation on the Laconia Car Company which made rail and trolley cars, followed by a visit to its former site. After lunch an important chapter meeting will take place to discuss options to reverse our yearly running in the red of $500 or so. This needs to change and we'll discuss ways to do it, from increasing membership rates, to a tour fee, to a membership drive and other possibilities. A successful membership drive may not require any fee increases but those who prefer that option should be willing to help out with it. Bring your ideas and togeth-

er we'll find a solution to get the chapter back into the black.

From September 16-19, 2010, members will have the opportunity to attend the national fall tour in Vermont. The focus will be industrial heritage sites in Montpelier, Barre, Springfield, and nearby towns. National tours are open to all members regardless of being national members or not, although registration may be a little higher. Information will be available on the website www.sia-web.org. See you at the spring meeting and tour on Saturday, May 22nd in Franklin, N.H.

David Coughlin
President, Northern New England Chapter

Memorial Bridge, Kittery, ME, and Portsmouth, NH

While the Most Endangered 1923 Memorial Bridge between Maine and NH went unfunded in the first TIGER round, Sec. of Transportation Ray LaHood testified before the Senate Appropriation Committee that he would soon give strong consideration to funding the Memorial Bridge project. See www.KitteryBridges.com for a video of Maine Senator Susan Collins' exchange with Secretary LaHood.

However, the second round of funding for TIGER grants will be only $600 Million (first round was $1.5 Billion for $56 Billion sought in project requests). It was a long shot for funding in the first round, and remains so in the second round.

NH DOT is currently working on updating the proposal for this round of funding. US DOT has pledged to provide feedback on how to improve the proposal, but it will still need agreement by both states. It will be equally hard to gain consensus and financial support from Maine this second time.

ME and NH DOT Consultant Engineers, HNTB, have outlined three remaining options for the Memorial Bridge and as many for the Sarah Mildred Long Bridge. All three options would require operating bridges. One option includes downgrading the Memorial Bridge to a pedestrian and bicycle only bridge. Restricting the Memorial Bridge to pedestrian/bike traffic will redirect vehicle access to and from Portsmouth and Kittery.

The fight goes on.

Richard Candee
Kittery, ME

Lake Champlain Bridge Demolition

The Lake Champlain Bridge between Crown Point, NY, and Addison, VT, was imploded and dropped into Lake Champlain on December 28, 2009. Because I once lived at the Vermont end of the bridge—literally no more than 100 feet from the bridge—it is hard to resist commenting that New York State and Vermont should have done much more to maintain the bridge over the past 80 years. This wonderfully-historic bridge really should not have been allowed to deteriorate to the point that 800 pounds of explosives were required to drop it into the lake, subsequently resulting in months of inconvenience for the thousands of local residents who relied upon the bridge for their daily commutes to work. Erosion within its concrete piers was the official reason for replacing the bridge, but for those of us who lived nearby, this represented the loss of one of our region's greatest landmarks. With His Majesty's Fort at Crown Point at one end of the bridge, and Chimney Point State Historic Site at the other end, the Lake Champlain Bridge was the centerpiece of a great deal of history.

Chris Carola, writing for the Associated Press, noted "Opened on Aug. 26, 1929, with a ceremony attended by then-Gov. Franklin D. Roosevelt, the Lake Champlain Bridge was the nation's first long-span continuous truss bridge for highway traffic, and its steel girder arch design was used on numerous other spans built afterward. Adding to the bridge's allure for so many in this area are its historic surroundings and scenic vistas. Bracketed by New York's Adirondack Mountains to the west and the Green Mountains to the east, the 2,184-foot span arches nearly 100 feet over the lake's southern end where it narrows between two points of land steeped in history."

David Starbuck
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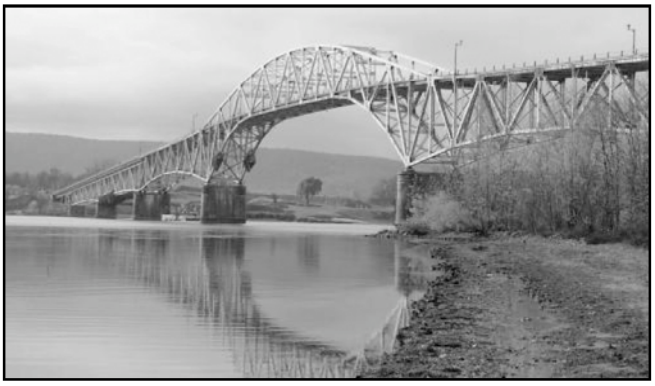

The Lake Champlain Bridge

Block Out This Date: Saturday, May 22nd!

The Northern New England Chapter Spring Tour

Franklin and Laconia, NH, beginning at 9:30 am

Franklin, NH 9:30 – 12:00 AM

Birthplace of Daniel Webster and home of the famous Aiken family of industrial inventors. This flywheel is from the Stevens textile mill, which we will learn about (not to be confused with the Stevens mill in MA that the SNEC is touring). We will also visit the remains of several lumber mills as we walk the Winnipesauke River Trail. There, we will also see the noted upside down bridge. In Trestle-View Park, we will see and learn the history of this flywheel, then walk under and study the overhead railroad trestle. (*Rain or Shine)*

We then will visit Franklin Falls Hydro Electric Station; all of this within walking distance of our cars. We thank Alan Larter, advisor of Franklin Falls Hydro and Gerald Demuro of Northern Heritage Mills, Inc. for arranging this educational opportunity.

Schedule

We will gather at the Franklin Public Library (upstairs conference room) where coffee and donuts will be awaiting your arrival. The Franklin Historical Society will have pictures and information for us to view and discus from 9:30 to 10:00, before their presentation begins. At 10:30 we will walk (3 blocks) to Trestle View Park for the on-sight presentation. Then we will walk (a graded, level) historic trail to see the lumber mill sites and the upside-down bridge. (*Bug Dope!)*

11 Ton, 14' Diameter Flywheel

By 11:30 we will be back at the park. Then we will walk down Main Street to Franklin Falls Hydro, 0.3 miles. That presentation will begin at 11:45 and be completed by about 12:15. Then we will all drive about 30 minutes to the Laconia City Library for the afternoon program There are plenty of places to eat along the way. *NNEC Chapter meeting 1:30-2:00 at the library*

Laconia, NH 2:00 – 4:30

Here we will see a video presentation of the **Laconia Car Company**. They first built freigh cars for the railroad, then many different passenger cars. They employing about 500 people working in many many buildings over 7 acres o land. See pictures and information on the web. Google "Laconia Car Company" and click on winnipesaukee.com and/or other links. Afte that, we will walk about 300 yards to the **Belknap Mill,** the oldest unaltered brick textile mill building in the US. There we will see the complete **Aiken** display!

Directions

From Exit 20 of I-93 (NH), Franklin is about 7 miles west and Laconia is about the same east, both on routes 3 and 11 (together). Entering Franklin from the east, when you see the flywheel, take your next right onto Smith Street. Park in behind there anywhere; it's all free. Then walk back out to Main St. and continue walking down hill another block; you can't miss the beige brick library on the right.

From the west on 3 and 11, after you cross the Pemigewasset River and go by the high school on the right, you will cross over the mill pond. You'll see the library across the water on the left. It's a beige brick building. Turn left onto Smith St.; park and walk back down to the library. We'll have maps available to the Laconia library; or just Google it.

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Figure 1

Minterburn Mill, Rockville, Connecticut

The former Minterburn Mill complex, most recently occupied by Roosevelt Mills, sits adjacent to the Hockanum River in the village of Rockville, in the Town of Vernon, Connecticut. East Main Street flanks its southern façade, and Snipsic Lake lies to the north. The complex is on the National Register of Historic Places (NR) because of its importance in the textile industry and in the history of manufacturing in Vernon (National Register Form, 1984).

The first definitive mill in Vernon was built at Valley Falls in 1740. Another sawmill was built four years later, one of the owners being Peter Dobson. Dobson went on to become the founder of the first cotton mill in Vernon, and one of the first in America (Smith 1908).

When the reinforced concrete Minterburn Mill buildings were constructed in 1906, they incorporated an older structure into the complex; a ca.1834 stone mill seen at the left on Figure 1 and in Figure 2. Historians report that the earliest manufacturing in Rockville can be traced to the site of the stone mill, as it was built in the location of the first mill privilege granted on the Hockanum River. The earliest mill on the site served as a gin distillery, blast furnace and iron foundry where cannon balls were made during the American Revolution (Smith 1908; NR Nomination Form 1984). It later functioned as a gristmill, then sawmill, under the name of Payne's Mill. Before the end of the eighteenth century, George Hall began fulling cloth at this location, eventually selling his interest to Simon Cooley in 1803 (Cogswell 1872). He ran a clothier's mill for carding and dressing wool-finish cloth (Ibid.).

Twenty years later, the first textile mill, the Rock Mill, was constructed downstream of the Minterburn Mill site. The Rock Manufacturing Company eventually purchased Payne and Cooley's privilege on the Hockanum River and erected a new stone dam and stone mill in 1834 at the site of Minterburn Mill (NR Nomination Form 1984). In 1837 the property was conveyed to a new corporation, the Stone Mill Company. The company manufactured cotton warps for satinet. Through the end of the nineteenth century, the mill went through several owners, including Panola Mills, Adams Manufacturing Company, and the Rockville Warp Mills. It continued to be used for the production of cotton warps and yarn until it was purchased by the Minterburn Mill Company in 1906.

The Minterburn Company razed all buildings in the complex except for the stone mill (Figure 2) and built a four-story with basement reinforced concrete plant. The building was cited as one of the most important examples of reinforced concrete mill construction in the textile industry (Mueller 1907). The publication The Cement Age extolled the virtues of the building's construction, citing its lower cost to insure due its fireproof nature, and the durability of materials (Ibid.).

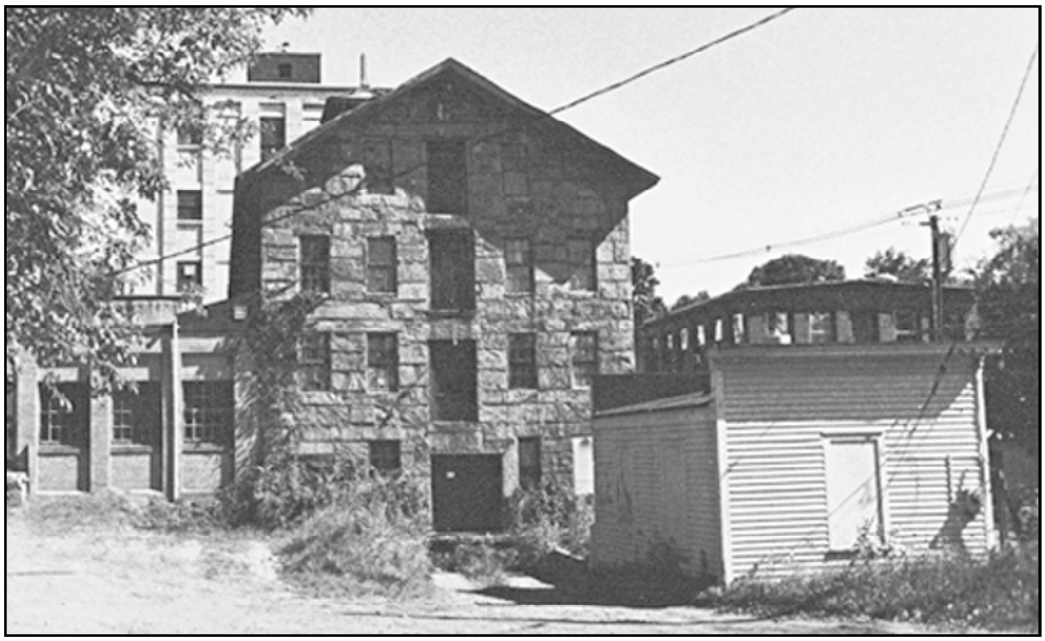

Figure 2. *Stone mill at western end of Minterburn Mill complex, constructed in 1834. (NR Inventory Form, 1984)*

The plant consisted of:

> *A main building 58x294 feet, five stories in height with a dye house 39x66 feet, as well. In addition to this there is a boiler and engine house, 50x77 feet and a pump house, 13x23 feet. All floors were designed for a live load of 150 pounds per square foot. Throughout the buildings are of reinforced concrete, including girders, columns, walls, beams, floors, roofs, stairways, etc.* (Ibid.)

Another article published in 1907 described additional aspects of the complex:

> *The power plant is fitted with a fine 150 H. P. Flemming high-speed slide valve engine direct connected to a Westinghouse 100 K. W. generator, and a Morgan-Smith 125 H. P. generator. Both generators distribute through one switchboard to the mill. All machines are operated electrically. The power is transmitted by Westinghouse motors, belted in some cases to the shafting and in other cases to machines. The whole plant is lighted by electricity…The engine and boiler room building is 78 by 50 feet, built of concrete construction throughout. The beams in the boiler room are of concrete, 50 feet span, 48 inches deep…The dye house is 66 by 39 feet extension, almost entirely of concrete construction, with concrete monitor. The other buildings comprising the plant consist of one four-story stone building and one three-story brick building. There is a concrete chimney, 163 feet high, 6 feet inside, 8 1-3 feet outside, in diameter. The mill is equipped throughout with the latest modern American and English machinery.* (*The Textile American,* September 1907).

Originally, the lowest level of the main mill was devoted to wet finishing, the first floor to dry finishing, the second to weaving, the third to carding, and the fourth to spinning.

> *The equipment of the mill consists of four sets of 60-inch cards fitted with Bramwell feeders, eight Whiteley mules, 60 Crompton & Knowles broad fancy 92-inch looms; Sargent and Fearnaught pickers, McNaught wool washers, C.G. Sargent's Sons Corporation wool dryers, and Broadbent hydro-extractors. The fulling machines are made by the James Hunter Machine Co., North Adams, Mass., the shears and brushes by Parks and Woolson Machine Co., Springfield, VT, screw presses by John Dennis and yarn-dyeing machinery, etc., by Klauder & Weldon Dyeing Machine Co. (The Textile American,* September 1907*).*

Minterburn occupied the mill complex throughout the first half of the twentieth century, until it was purchased by Roosevelt Mills, Inc. in 1952 and was converted for the manufacture of knitwear. Roosevelt Mills was founded by Joseph S. Carter, who came to Vernon in 1951. He named the business after Franklin Delano

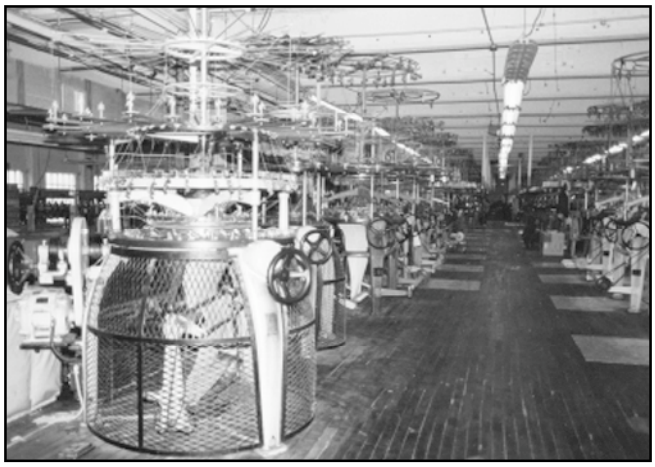

Figure 3. *Circular knitting machines as they appeared on the second floor of Roosevelt Mills in 1983. (NR Inventory Form, 1984.)*

Roosevelt because he thought so highly of the president and the way he pulled the country through the Great Depression (Roosevelt Mills: An Oral History). Mr. Carter rented the building before purchasing it in 1952. The company gained a nationwide reputation for its sweaters, producing for companies such as J.C. Penny's, Sears, and Montgomery Ward. But with textile production moving overseas to take advantage of cheaper labor, Roosevelt Mills closed its doors and ceased production in 1988. Since that time, the main mill building has been rented out to a number of smaller private enterprises, but it is currently vacant. The ca. 1834 stone mill burned down in the early 21st century. Signs of the textile industry are strewn throughout the complex. A rusted circular knitting machine and a loom are now in the Boiler House. Documents, punch patterns, paper advertisements and other remains from Roosevelt Mills are still visible in the extant main mill. Looms, yarn, knitted remnants, zippers, cardboard cones, thread, and other notions are found on the third and fourth floors (Figure 4).

Currently, proposed plans for the mill complex include the adaptation of the main mill building for a mix of residential and commercial uses. Three smaller support buildings situated to the north and west of the main building, the pump house, the boiler house, and the ca. 1907 Marks Metal Building, will be demolished as part of the proposed renovation. The dominant smokestack, on the north side of the boiler house, will be preserved as a distinctive industrial element of the local viewscape.

Figure 4: *Some of the thousands of button blanks found on the third floor of the main mill building. The Connecticut Commission on Culture and Tourism and the Town of Vernon are actively seeking artists who specialize in recy - cled mediums to use these blanks.*

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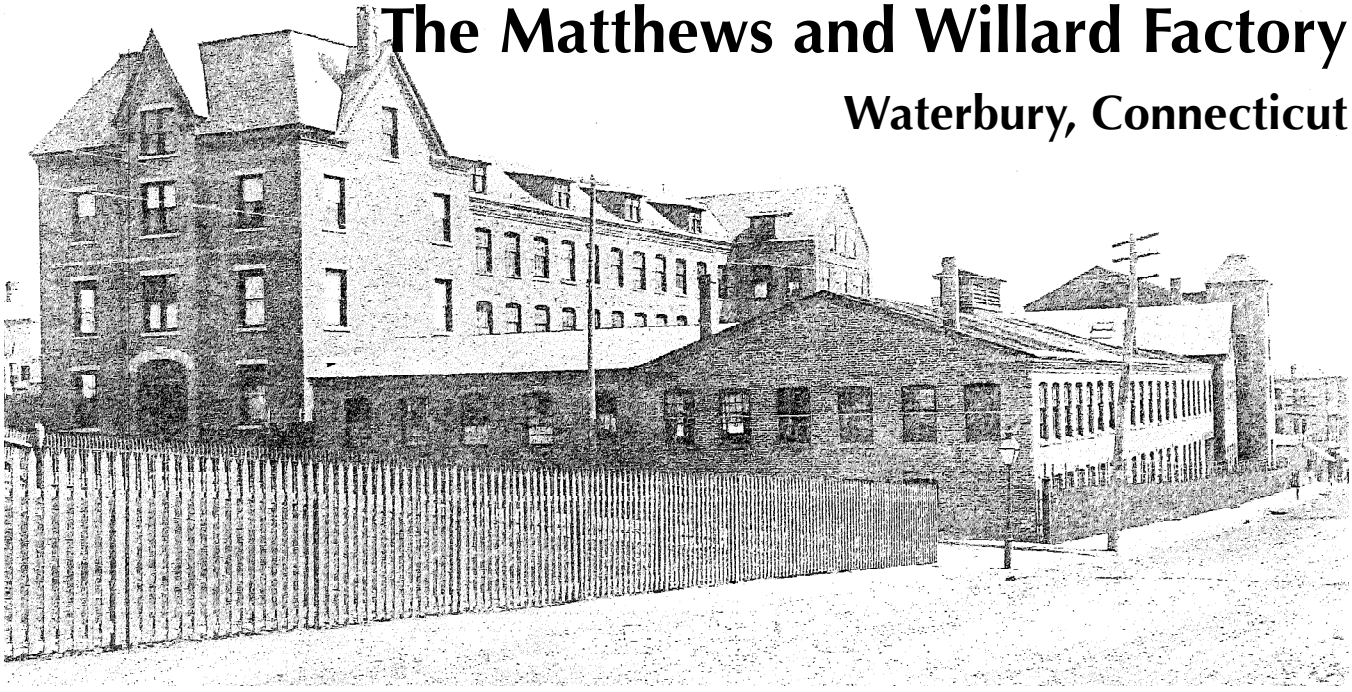
The Matthews and Willard Factory

Waterbury, Connecticut



The former Matthews and Willard Factory is a complex of interconnected brick mill buildings, built mostly between 1874 and 1887, in Waterbury, Connecticut. Listed on the National Register of Historic Places in 1988, the complex was once a fine example of industrial architecture and production at the height of its operations in the late 1800's. Sadly, with the changing market demands and technologies of the 20th century, and the decline of industry and the ravages of time, it currently stands in a state of disrepair, with floors and ceilings in collapse, and daylight visible from all accessible interior spaces. A structural assessment conducted by BL Companies (Meriden, Connecticut) in 2009 revealed that the complex is structurally unsound, and that rehabilitating the complex—although a remote possibility from a hopeful preservationist's standpoint—would be an extremely costly, prohibitive venture.

The NRHP Nomination contains a detailed description of the complex. Excerpts are contained in this article.

The complex currently occupies most of the north half of its block. The first part of the complex was built in 1874. Circa 1880, extensions were built that included a 2-story plating and soldering shop whose low gable roof with a short monitor-ventilator is concealed by a later parapet, a gabled-roofed, 3-1/2-story factory, and a 4-story hip-roofed tower.

Between 1884 and 1887 a number of enlargements were made. A 3-1/2-story Mansard-roofed factory and an office were built. The office features a central projecting bay surmounted by a steep gabled dormer, with a complex decorative cornice featuring multiple moldings, corbelling, and sawtooth courses. The office's main entrance has panel-and-glass double doors recessed within a shallow-arched opening outlined in granite with prominent keystone blocks.
Circa 1885 a foundry was built and later was enlarged ca.1895 and ca.1910.

Subsequent changes were few: the smoke stack and a single-story boiler house were added ca. 1900, and ca. 1910 a large tower was appended to the rear. There is a large multi-wythe smoke stack located off the boiler room area, but a portion of its base has partially collapsed on one side.

The M&W Factory embodies the distinctive characteristics of late 19th-century mill architecture. Derived from the experience of textile mills, the demands of fire insurance companies, and requirements for light and the efficient transmission of power for belt-driven machinery, a standard type of construction emerged which was adaptable to a wide variety of industrial processes. Key characteristics include brick construction, heavy post-and-beam interior framing, long and narrow proportions for individual buildings, multi-story height (except for special processes such as casting), and "slow-burn" plank floors. The complex also has the standard small-pane windows, stone sills, and segmental-arched brick window heads which had become standard mill features.

Unlike the factories of a generation later, when flat roofs became practical, most of the M&W Factory has a gable roof of normal pitch or, as was briefly fashionable before insurance companies objected to the amount of roof framing needed, a Mansard roof. Also indicative of the complex's origin in the 1870's and 1880's is the use of beam anchors that pass through the walls rather than the later practice of simply laying the beam ends on lintels in the brickwork mortises.

In terms of decorative embellishment, the M&W Factory falls in the mainstream of late 19th-century industrial architecture. The factory buildings themselves are utilitarian, with only the cornice dentils relieving the plainness of the exterior, but the office part, which also contained sample rooms for customers, is considerably more impressive, with its more detailed cornice, steep dormers, and finely cut stone arch over the entry.

Historical Context

Waterbury, Connecticut, located in the Nagatuck River Valley in the central western portion of the state, was like many of its New England counterparts, strongly influenced in its industrial development by physical and topographical determinants. Abundant water power and steep slope gradients offered numerous potential industrial sites. In 1802 the development of the metal button business provided the stimulus for the first experiments in the production of cast brass, a versatile metal unavailable domestically at that time. In 1806, the first casting of brass in the United States was undertaken in Waterbury, opening an era which, by 1896, would earn Waterbury international prominence as "The Brass City" (Giancarli, Dennis and John Iannelli 1978).

As detailed in the NRHP Nomination, the M&W Factory is significant for its association with the development of the brass industry, the economic base of Waterbury from the early 19th to the middle 20th century. Waterbury's mills produced two-thirds of the nation's basic brass in the form of sheet, wire, and tube in the late 19th century. Factories made a wide variety of consumer-oriented products out of brass, such as buttons, eyelets, pins, and clocks. Some of the factories were subsidiaries of the large brass companies; others, like M&W, were small independent firms that exploited a limited range of the brass-products market.

Henry Matthews started the company in the mid-19th century, making saddlery items out of brass and other metals. In 1882 Samuel Willard became a partner, and the plant was greatly expanded. Saddlery trimmings remained in their catalog, but they also made lamp parts, urn-shaped stove finials, and statuettes. Much of their output came from the power presses that were the mainstay of stamped-brass production, but brass-spinning, casting, machining, and plating processes also occurred within the complex. In the 1880's production steadily increased, and eventually the workforce at M&W numbered nearly 500. In 1888 price-fixing by the city's primary producers raised the price of brass dramatically, and small "cutting-up shops" like M&W were forced under. One of the city's large producers, Scovill Manufacturing Company, had partially financed the M&W plant, and when the company went bankrupt in 1890, Scovill's officers bought the buildings. Scovill bought the complex outright in 1903, operating it as the Matthews and Willard divi-

sion, and sold it in 1945.

Although the buildings are in poor condition, there are few departures from the appearance at the height of operations in the late 1880's. Spinning, stamping, polishing, packing, and other processes were moved around as changes in the market (such as the decline in demand for harness hardware) dictated changes in production. The bankruptcy of 1890 effectively froze the plant in time.

M&W manufactured a full line of center draft lamps and widely marketed bicycle lamps in the late 1880's. M&W manufactured both kerosene and acetylene bicycle lamps.

M&W center draft fount, circa 1897. The flame spreader is seen at the left. The elongated diamond-shaped gallery readily identifies this as a M&W product.

Models burning oil were introduced in 1897-1899 (The Bicycle Oil Lamp (Part I). The Rushlight, Volume 51, No. 3. September 1985). They included the M&W 97, the M&W 98, and the Star Lancaster introduced in 1899. The M&W Mfg. Co. was assigned at least eighteen lighting-related patents between 1892 and 1903 (The Lampworks).

M&W Flame Spreader, Patented August 18, 1896.

There is a happy ending to this story…the site is planned for redevelopment, thereby carrying on a tradition of industrial land use. The Waterbury Development Corporation is the current owner of the property. The existing complex will be deconstructed, and the materials (brick, wood, window frames, lintels and sills, slate roofing, etc.) will be salvaged for reuse. A local plumbing company will construct a new, 58,000 sf., LEED certified, distribution warehouse/office facility. It will incorporate the tenets of Smart Growth, infill development, and Transit Oriented Development. The project is funded through a Municipal Pilot Grant from the State of Conn. Dept. of Economic and Community Development's (DECD) Office of Brownfield Remediation and Development (OBRD) in the amount of $650,000.00; and a grant from the Environmental Protection Agency (EPA) in the amount of $400,000.00.

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Gretchen E. Yarnall
BL Companies

The Remington Rand Complex

in Middletown, Connecticut

Figure 1. *Advertisement for the Keating Wheel Company in 1896.*

What is locally known as the former Remington Rand complex in Middletown, Connecticut, was originally constructed by the Keating Wheel Company in 1896 (Figure 1). The complex sits immediately south of the Mattabesset River, just north of Johnson Street and the New York, New Haven and Housatonic Rail Road (NY, NY & HRR). Currently, the facility maintains three free-standing structures; a main two-story brick building with several brick ells and additions that vary in age from 1897 to 1934; a ca.1948 Quonset Hut used for storage; and a brick boiler house built as part of the original complex. Through the 20th century the factory served several different companies, including the Eisenhuth Electric Motor Vehicle Company and the Noiseless Typewriter Company. The main factory structure is now subdivided into distinct and separate work spaces, with Remington Rand – having merged with the Sperry Corporation to form Sperry Rand - closing its doors in the early 1970s.

The Keating Wheel Company, makers of bicycles, was originally established in Holyoke, Massachusetts, in 1892 by Robert M. Keating. The company's immense success prompted Keating to search for a new site for an expanded factory, leading him to an ideally suited piece of land immediately south of the Mattabesset River in Middletown. Tax abatements offered by the City of Middletown made the site that much more attractive.

Keating played an active part in the design of the new factory, with Casper Ranger, a builder from Holyoke, undertaking its construction (McCullough n.d.). Work on the new state-of-the-art facility began in 1896, and by 1897 the factory was complete. A brochure published by the Keating Wheel Company boasted that the main building was 1000 feet long, 50 feet wide, and two stories high with six ells. The Engine House [a.k.a. Boiler House] was 120 feet long and 50 feet wide, while an Office Building at the west end of the site was 100 feet long, 50 feet wide, and two stories high. They further touted the factory's modern amenities and efficiency, including the fact that the entire plant was run by electricity (Keating Wheel Company 1897). Although early lithographs of the complex produced by Keating show the Office Building, maps and atlases from the 1890s and early 1900s fail to depict it, suggesting that it was never actually built or that it burned down shortly after it was constructed.

Keating was an accomplished inventor, and a number of patents for inventions that are still in use

Figure 2. *Advertisement for Keating Cycles*.

today are attributed to him. He is credited with building the first motorized bicycle, or motorcycle, in Middletown (ca.1900), and held a patent for baseball's home-base (1886), sprocket chains (1897), an electric igniter for the Explosive Engine (1900), a motor-bicycle (1901), and a spark and valve controlling device for Explosive Engines (1906). These last three referenced patents led to a 1917 lawsuit instigated by Keating against the Harley-Davidson Motor Company for patent infringement, with the lawsuit found in his favor.

In the late 1890s, the market for bicycles was becoming oversaturated as smaller companies merged to form larger ones that dominated the market.

The result was a decline in market prices between 1896 and 1903 due to mass production. In response, in 1899 the Keating Wheel Company expanded their production to include motorized horseless vehicles, and reformed as the Keating Wheel and Automobile Company. The first electric automobile was completed at the factory on November 11, 1899.

Plans were made for the company to produce a Keating Motor Bicycle. In 1901 the first prototype was completed, and improvements were announced for the 1902 production year. The Middletown factory is often cited as the site of the first true production of a motorcycle in the United States (Warner 1990). Trade magazines touted the motorized cycle's design, stating that it was "one of the most original machines in all points of construction" (*The Dealer and Repairman,* April 1902). Despite the expanded product base and success of the gasoline-powered cycle, company management failed to turn the financially distraught company around, and negotiations began with various competitors to purchase the plant. In June of 1901 it was successfully sold to the Eisenhuth Horseless Vehicle Company of New York.

The Eisenhuth Horseless Vehicle Company was a manufacturer of Brass Age automobiles. Brass Age automobiles, ca.1890-1915, were so named because of the brass fittings that distinguished them. Eisenhuth designed his first experimental automobile in San Francisco, and had it built in Newark, New Jersey. He claimed to have been the first to actually build a gasoline engine, and the first to adopt the use of an electric ignition (*The Horseless Age*, October 1898).

In 1903, Eisenhuth merged with the Graham Fox Motor Car Company, absorbing the firm and expanding their operations at the Middletown facility. Fox had produced a model known as the Graham-Fox Compound. Eisenhuth redubbed it the Compound, and continued production of the slightly unusual vehicle that had only three cylinders; two working outer cylinders, with a third inner one designed to further expand the exhaust gases of the outer two (Figure 3). Despite the power and efficiency of the vehicle, the 1904 Compound was considered a luxury touring car at the time, and sold for the relatively high price of $6000 to

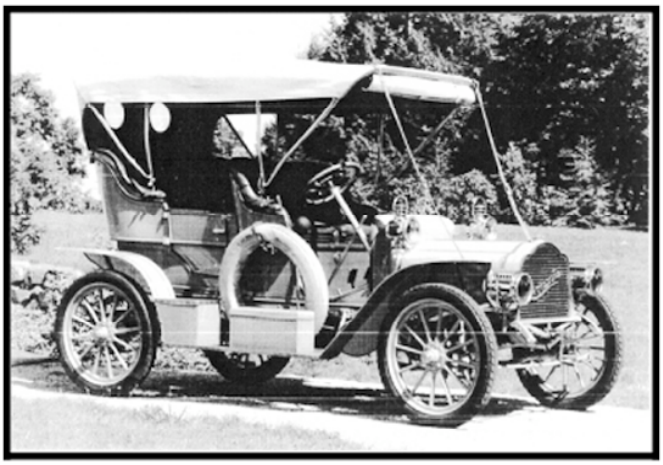

Figure 3. *Eisenhuth Compound. Today only one is known to exist.*

$8000. Equipped with a tonneau – a rear seating area – the vehicle could accommodate seven passengers. Because of its high price, the Compound failed to gain hold in the market. As a result, only 384 Eisenhuth vehicles were produced through 1907.

Eisenhuth expanded production at their Middletown Plant in 1904, and again in 1905. However, by 1907 legal problems coupled with competition from other manufacturers selling cars for far less than a Compound forced the company into bankruptcy. The factory complex remained dormant for two years.

In 1909, the Noiseless Typewriter Company was organized with the intent of producing a noiseless typewriter that was equal in other features to the best typewriters of the period (*Moody's Magazine* 1910). At the time, there was a high demand for typewriters that were quieter than the loud clattering machines prevalent at the time. The Noiseless Typewriter Company claimed to have created such a machine, by changing the internal action of the machine, thereby allowing pressure, rather than blows, to be made upon the paper.

The Noiseless Typewriter Company filed for incorporation in the State of Connecticut in January of 1909, and took possession of the former Eisenhuth Horseless Vehicle Company factory in Middletown in late 1909. Production of the Noiseless typewriter began in November, and the company began aggressively marketing their innovative product the following month (Figure 4). It was estimated that they would build 12,000 typewriters per year, with the potential for expansion within the factory to increase production to 36,000 units per year (*The Toronto World,* September 2, 1912).

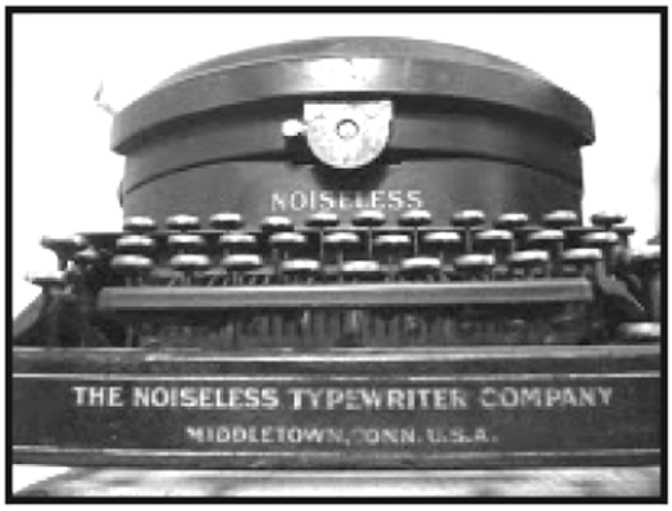

Figure 4. *An existing Noiseless Typewriter Company typewriter kept at the site.*

Problems with the Noiseless Company were cited in 1913, when a reorganization plan of the bondholders fell through. At that time it was thought that financial problems would force the sale of the company (*The Iron Age,* December 18, 1913). As a result of the failed reorganization, the company dissolved and reincorporated with the same name in June of 1914. Another reorganization of the company occurred several years later, and in 1924, the company merged with the Remington Company, forming the Remington-Noiseless Typewriter Corp.

The Remington-Noiseless Typewriter Corporation, a subsidiary of the Remington Typewriter Company, continued production of a noiseless typewriter at their Middletown facility. Remington had been producing typewriters at their Ilion, New York, factory for over fifty years when they merged with the Noiseless Typewriter Company. They touted their merger as putting the Remington Company in a position of "unquestionable supremacy" with regard to meeting the typewriter needs of every typewriter user throughout the world (*The Pittsburgh Press*, March 4, 1924).

In 1927, the Remington Typewriter Company merged with another office equipment company, Rand Kardex, to form Remington Rand, marketing the Remington Noiseless under the new name. The Remington Company had been producing portable typewriters since 1920, and went on to introduce a portable version of the Noiseless Typewriter in 1931. While their early models were large and bulky, these were later replaced by more streamlined versions that were met with enthusiasm. Production increased, and the company continued to produce typewriters at the Middletown site until employee unrest climaxed in the mid-1930s.

In 1936, 1,200 factory workers went on strike at the Remington Rand factory due to growing dissatisfaction with wages and unsuccessful negotiations with management (Figure 5). The strike was apparently particularly violent, and, while no one was killed, both labor and management engaged in "beatings with fists and clubs, rock and brick throwing, vandalism, threats and physical intimidation." At one point, the National Guard was brought in to restore order (Warner 1990). James Rand Jr., owner of the company, reacted by hiring replacement workers. When brought up on charges of intimidation in an attempt to break the strike, Rand was acquitted (*TIME*, March 22, 1937). The strike ended in April 1937, although the settlement was not

Figure 5. *Striking factory workers at the site.*

fully implemented until the mid-1940s. As a result of the strike, Rand closed the typewriter factory for several years.

As the Remington Rand Company grew, it branched out into other endeavors, cornering the market of several very profitable products. By the late 1930s, production at the Middletown plant resumed, reopening as the Electronics Division of Remington Rand. In 1949, Remington Rand introduced the first business computer, the Remington Rand 409, although this was not produced in Middletown.

During World War II, the company developed into a major military contractor and was reportedly instrumental in developing a small camera that allowed for the creation of rocket-guided missiles. "From the radio amateur's laboratories came the incentive, the original designs, applications and construction technique, and radio amateurs initiated, nurtured, developed and carried through a program of research, development and production of television camera equipment in the Electronic Division of Remington Rand at Middletown, Conn." (Early Television Org.). Both Remington Rand and Andover Kent Corporation – located in the Middletown factory in the late 1940s and early 1950s - were authorized federally funded facilities during the war.

In 1955, Rand merged with the Sperry Corporation. This time the Remington name was dropped and the new parent company was known simply as Sperry Rand, while Remington Rand remained as a subdivision. Following World War II, the Remington Rand Office Machine company produced office supplies and typewriter supplies including plaster plates, typewriter ribbons, carbon paper, Uniac ribbon, and microfilm at their Middletown plant from about 1951 through the early 1970s. The Remington Rand division of the Sperry-Rand Corporation manufactured typewriter supplies at the site through at least 1963, closing their doors in the early 1970s. Since that time, the industrial complex has changed hands several times, with several small industrial endeavors occupying the site.

The City of Middletown is preparing to remediate the former Remington Rand facility and lease space to small independent entrepreneurs, continuing the long tradition of the innovative and industrial use of the site.

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