



Society for Industrial Archeology · New England Chapters

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NNEC-SIA President's Report

The NNEC Spring Meeting and Tour featured a return to Maine with a presentation and tour of the Grand Trunk Railroad sites on Saturday, May 21st (see below).

This fall will mark five years as NNEC president which seems like a good time for a new president. With that in mind, David Dunning, currently our 2nd vice-president, has agreed to take over the presidency following our fall meeting and tour. David arranged our spring tour last year and has broad industrial archeology knowledge and many good ideas for the chapter.

I'd like to thank our chapter members who've sent in their yearly renewals from our email reminder. This saves the chapter funds from being spent on envelopes, paper, and stamps. In the end, we're all helping ourselves save money by keeping the yearly membership dues as low as possible. Those who've sent in their dues, give yourselves a pat on the back. Those who haven't (and there are a few), please help the treasurer save time, and the chapter save money, by mailing in your 2011 dues. Thank you.

Dave Coughlin
NNEC President

NNEC-SIA Spring Tour (May 21) The Grand Trunk Railroad

After a week of rain, the skies cleared for our chapter's afternoon tour of the remaining Grand Trunk Railroad sites. The morning began at the Narrow Gauge Railroad Museum in Portland, Maine, with a presentation on the founding and history of the Grand Trunk by Prof. Joel Eastman.

Originally the Grand Trunk line was slated to run



Above, Dr. Joel Eastman makes a salient point about the diamond at Yarmouth Junction, ME, to the attending members of the SIA's Northern New England Chapter. Right, the diamond at Yarmouth Junction, ME: the track arrayed right to left is the St. Lawrence & Atlantic Railroad line; leading into the distance is that of the Maine Central Railroad (Guilford or PanAm). Nelson Lawry photo.



from Montreal to Boston because the St. Lawrence River was frozen in winter and Canada needed a winter port. In the winter of 1845, John Poor, a Portland resident, drove a sleigh from Portland through N.H. and Vermont to Montreal to show this was a viable shorter route. He convinced the Montreal businessmen to build this shorter route to an open port and construction soon began.

Eight years later on July 18th, 1853, the Grand Trunk Railroad was opened, and the next year lumber, flour, grains and other goods were shipped to Portland via Montreal from the vast Canadian interior lands. The line was called "The Atlantic and St. Lawrence" in the US. The first grain elevator was built in Portland in 1860 with very large ones in 1897 and 1901. There were also warehouses, wharfs, and stockyards in Portland with the majority of these goods being loaded onto ships and sent along the east coast and to England and other foreign countries.

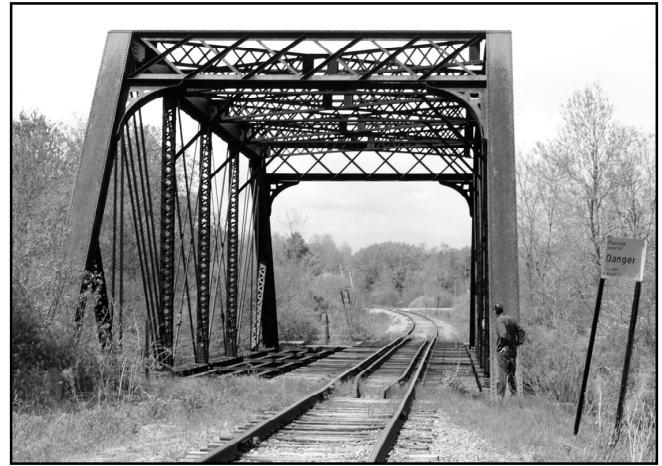
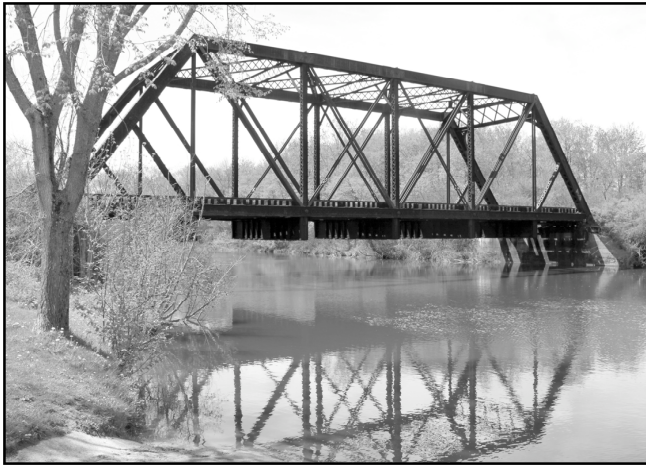
There had been passenger travel on the Grand Trunk, and in 1903 a new large passenger terminal was constructed along with other improvements. Passengers would use the adjacent and still-standing brick maritime building to book passage by steam to Europe. This was the golden age of the Grand Trunk and many

acres of Portland waterfront were devoted to moving goods and passengers that came from throughout Canada. Goods and materials were also shipped into Montreal and through Canada from Portland.

However, the Canadian Pacific RR completed a line to St. John, New Brunswick, and this began to cut into the Grand Trunk's freight and passenger business. By 1930 Canadian exports had dropped to 80,000 tons from 627,000 tons just seven years earlier.

With peak times in the past, the railroad struggled to survive with less freight and fewer passengers each year. There was a minor revival after WWII with Canadian wheat being shipped to starving European countries through Portland for a few years. The one remaining grain elevator was modernized and used until 1969.

Summer-only passenger service began in 1960 and only two years later the terminal was closed down. All passenger service ended in 1967 with freight continu-



Two views of the Atlantic & St. Lawrence Railroad's steel through-truss bridge spanning the Royal River in Yarmouth, Maine. In the photo on the left, note the space on the left once occupied by a second track.. Nelson Lawry photo.

ing until 1969. The Grand Trunk line had run for over 100 years, from 1853 until 1969. Twenty years later the line was sold to the Auburn, Maine, short line and became the St. Lawrence and Atlantic Railroad.

After lunch at the Chowder House we observed the remaining Grand Trunk brick buildings along the waterfront. We then carpooled to the 1903 Yarmouth passenger station which is now used as a floral shop. The owner allowed us to view the interior and access the back room where an original luggage wagon is stored. We even had a quick trip to the cellar where old railroad items were deposited. This station has a beautiful fireplace made of local stones.

Next stop was to view an iron truss RR bridge over the Royal River. Currently one active track runs over the bridge, but in the past there were two tracks over the river. Next, many chapter members had the opportunity to see a diamond crossing for the first time. The old Grand Trunk line crosses the Guilford freight line at a 90 degree angle. Soon the new Amtrak service from Portland to Brunswick will ride over the diamond

crossing and a new crossing will be installed; this was sitting off to the side of the tracks.

Moving along, our next stop gave us a look at the former Presumpscot RR yard which still has a few original brick buildings. The roundhouse is gone, but a brick locomotive storage building remains which once curved around one side of the roundhouse.

The final stop was to see the long timber pile bridge with central swing span running across Back Cove on the north side of Portland. This bridge suffered serious damage by fire in 1984 and has been unused since. There was hope of restoring it for use by the Maine Narrow Gauge Railroad but it now looks like that will not happen. In fact, the NGRR may eventually move to a new location sometime in the future. We returned to the Narrow Gauge Railroad Museum and thank them for allowing us to use their facilities.

Dave Coughlin
NNEC President



The Grand Trunk Railroad built a long timber pile bridge, with a central steel swing span, to carry its trains across the mouth of Back Cove to its station on India Street on the Portland waterfront. Part of the bridge suffered serious damage from fire in 1984, and has been out of service since then. Nelson Lawry photo.

Report of the SNEC Treasurer

Last December I completed my first full year as Treasurer of SNEC, and I'd like to take this opportunity to inform members about the state of our treasury, recap some SNEC activities, and propose a plan for electing officers for 2012.

First, the treasury: it may surprise you to know that SNEC is pretty well-to-do. Our capital is partly from life member dues and periodic contributions from generous members. But in addition, after a few cost savings measures I took last year, we ended the year ahead of where we started. The balance in the bank at the end of 2009 was \$8,986 and in 2010, \$9,550, which is an increase of \$564. Our income last year (and every year) was principally from dues and contributions (\$1,605) with a small amount from interest. And the principal expense was SNEC's share of publishing the semi-annual newsletter (\$738). In addition, SNEC made small donations (\$50 each) to the sites that helped host tours last year (Black Tavern Historical Society in Dudley, MA, and Museum of Our Industrial Heritage in Greenfield, MA), to support these fine organizations (see their website addresses, below, to learn more about them). Other expenses last year included a deposit for the 2011 SNEC-NNEC Symposium in Worcester.

What we didn't pay for, which had been part of SNEC's expenses in the past, was an insurance policy and website hosting. Bill Goodwin, the long-serving Treasurer who preceded me, raised the question of the need for the insurance policy when he handed over the work. From a discussion I had with the insurance company about the purposes of the policy, I learned that it provided against injuries that might occur on one's own property. Since SNEC does not own any real estate, it seemed there was no reason to have this. Moreover, member Duncan Hay informs us that SIA provides insurance for tours. So I dropped the policy and saved \$350 thereby. Saving the expense of paying an ISP developed from the fact that the website was not being maintained: for example, no one posted information about the SNEC tours. Thus, I contacted SIA headquarters to ask if they would carry a website for SNEC, and they kindly agreed to. So now we have a new website and saved the cost of paying for an ISP.

Because our expenses were reduced, I reduced dues for 2011, for members who pay in January, to \$10 from \$15.

Now I'd like to tell you about the website. Member Karl Danneil volunteered to be SNEC's website keeper, and he also designed the website. Because we were unable to get pages from the previous website from Jonathan Kranz, who designed it (Jonathan couldn't put his hands on them), Karl designed the new site from scratch and here is the result: [\[web.org/chapters/snec/snecindex.html\]\(http://web.org/chapters/snec/snecindex.html\). Karl has included pages for announcements of tours & meetings, for photos \(under recent activity\), and links, along with information on how to join SNEC. If you have anything you'd like to post, or announcements, or links to suggest, please send them to Karl. There's a link to contact him on the website; his email address is \[karl_danneil@ecom-venture.com\]\(mailto:karl_danneil@ecom-venture.com\). The site can only become useful, and therefore used, if members contribute to it. Thanks, Karl, for taking this on!](http://www.sia-</p></div><div data-bbox=)

This past year SNEC offered two tours, one of Steven Linen Works Historic District and The Black Tavern in Dudley, MA, and one of the Museum of Our Industrial Heritage in Greenfield, MA, and two nearby sites (in addition to the Museum and grounds: Gardner Falls Station hydroelectric plant of NAEA Energy Massachusetts, and Chauncey Wing's Sons, Inc. factory and adjacent foundry). The tours were well-attended, interesting, and enjoyable.

There have been no tours so far in 2011 and I'd like to urge members to propose sites for tours or other activities. I am hoping a tour will be arranged at the Metropolitan Waterworks Museum in Chestnut Hill (SNEC member Duncan Hay, one of the 21 members of the Museum's Board, has offered to handle this). We did have a successful and information-packed meeting in March, the 24th Annual Symposium of the Archeology of Industry in New England, jointly with NNEC. (Thanks to our stalwart former president Robert Stewart for recruiting presenters and organizing the meeting.) But SNEC needs more members to share their enthusiasm with others: what sites have you seen that you'd like to show us, where might you take some SNEC members? IA'ers are always poking around and learning and getting into things. Don't hide your light (discoveries, artifacts) under a bushel! Others would like to tag along and see what you've found.

Please send your tour ideas to SNEC President Bill Burt burt.william@verizon.net. Is there something you've written, or do you have some thoughts, that you'd like to share through this newsletter? If so, David Starbuck (dstarbuck@frontiernet.net) would be glad to receive it, them! Computer not your thing? Snail-mail your contribution to David Starbuck, Editor, PO Box 492, Chestertown, NY 12817.

Unfortunately, the number of SNEC members declined in 2011 from last year. Exactly how many members SNEC has is uncertain because of errors in the recording of life members. There are at least 101 members, with perhaps 18 more, who are life members. This is down from 133 in December 2010, although that figure also includes the questionable life members. We need to publicize IA better, reach out to people who might be interested in IA and offer activities and programs to draw them in.

Partly because I'd like to see members more involved, helping to make the SNEC a vital group that will easily retain members, I'd like to propose that officers for 2012 be elected by mail-in ballot, as is done by the national SIA. Although SNEC is a regional group, members are far-flung. Moreover, it has not been easy to schedule a meeting where an election can take place. A mail-in vote will allow all members who want to participate to do so, regardless of whether they can get to a meeting. The first step in doing this is developing a list of candidates for offices: President, Treasurer and Secretary. I propose that three SNEC members volunteer to be part of an Elections Committee; the committee will develop the list of candidates, and make a ballot with a short statement and bio of each. The committee members should be individuals who know the SNEC but do not want to hold office; they must be fair and impartial. They will prepare and print up the ballots and put them in envelopes. SNEC Secretary Craig Austin can mail them to members. (I will work with Craig to be sure we have an accurate list of paid-up members.) Then the Elections Committee will receive and count the ballots, determine the winners, and the officers for 2012 can be announced on the SNEC website. If you would like to volunteer for the Elections Committee, please send your name to me, Sara Wermiel, at swermiel@verizon.net. I'd like to get the committee set up by early fall.

Websites to see:

SNEC SIA

<http://www.siaweb.org/chapters/snec/snecindex.html>

The Black Tavern Historical Society

<http://www.theblacktavern.com/>

Museum of Our Industrial Heritage

<http://industrialhistory.org/>

Sara E. Wermiel, PhD
SNEC Treasurer

Wanted:

Perkins Push Button Wall Switches ca. 1914

Looking for internal cylinder parts for Perkins single push button wall switches ca. 1914 and complete wall switch assemblies. Contact Marty Grover, marty-grover@gmail.com

Marty Grover, Archivist
Castle Preservation Society Board

Explanatory Note: The Castle Preservation Society is preserving and restoring the mountaintop home, Lucknow, built in 1913-1914 in Moultonborough, NH. Lucknow is known to the visiting public as "Castle in the Clouds," castleintheclouds.org. All of the original light switches extant in Lucknow are being cleaned and lubricated. But, because this maintenance has not been conducted consistently, some are jammed and need repair and cylinder parts.

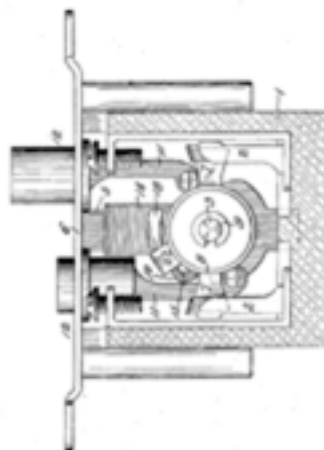


Illustration from William Tregoning's 1903 push button switch patent assigned to Charles Perkins.

Lt. Col. Wilbar Marden Hoxie



Many SIA members will recall Lt. Col. Wilbar Hoxie, who was active in the Southern New England Chapter of the SIA, a very distinctive presence at our Chapter events. Here is his obituary as it appeared in *The Boston Globe*:

HOXIE, Lt. Col. Wilbar Marden Of Reading April 4, 2011. Husband of the late Edith (Irvine) Hoxie. Father of Caroline Stagg of Chuluota, FL. Brother of the late Dr. Lloyd B. Hoxie and brother in-law of Luise Hoxie and cousin of Gerrie Bigelow. A memorial gathering will be held Wednesday April 20 from 2-4 PM at the Douglass, Edgerley and Bessom Funeral Home 25 Sanborn St. (corner of Woburn St.) READING. Burial is private. Wilbar was a retired Lt. Col. US Army.

Casting a Cylinder for a “Steam Coffin” was No Small Feat

When Connecticut-born Captain Moses Rogers arrived in New York City in the early summer of 1818, he had plenty of work to do.

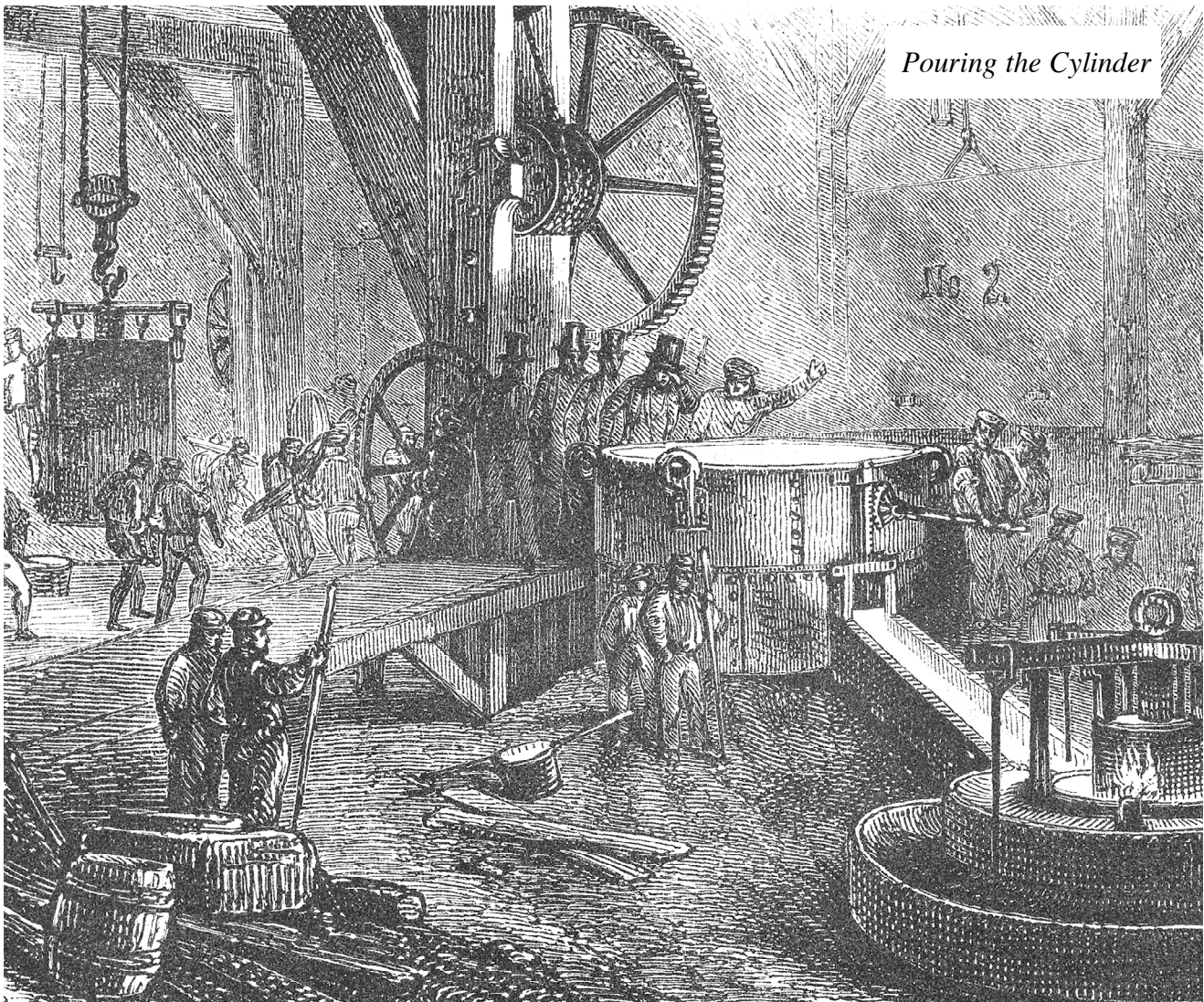
He and his fellow shareholders in the Savannah Steam Ship Company had just committed to conduct a “laudable and meritorious experiment,” to prove to the world that a steam-powered vessel was capable of safely crossing the ocean.

This was, in fact, an incredibly radical idea. So-called “steamboats” had only proven themselves viable in 1807, when Robert Fulton successfully ran his North River Steam Boat up and down the Hudson River. In the years that followed, steamboats soon proved their

ability to traverse lakes and bays, as well. But attempting to cross the powerful Atlantic Ocean in such a vessel was considered “dangerous if not impracticable,” as Boston’s *Columbian Centinel* put it.

Nevertheless, Captain Rogers—a former sailing sloop captain and one of the first steamboat captains in the world—believed it was possible, as did his fellow shareholders in the Company. With the formation of their enterprise, these true believers set out to make the dream a reality. The plan was to cross the Atlantic in a new kind of vessel—not a “steamboat,” but rather a “steamship,” the first of its kind.

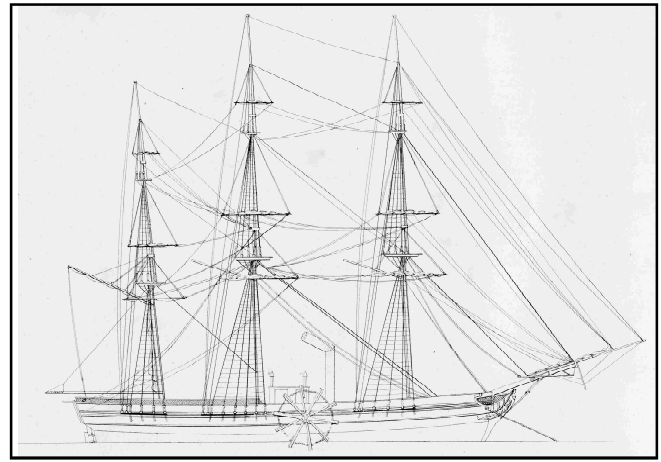
Among the many tasks that Moses had to manage





*Captain Moses Rogers,
High Technologist*

Steamship Savannah



was the manufacture of a steam engine for the vessel. The cylinder, by example, was to be the largest yet installed in a steamer. From a practical standpoint, there were only a couple of steam engine manufacturers in the country who could cast such a large item. One of them was James P. Allaire, proprietor of the Allaire Iron Works, which was situated on Cherry Street in Manhattan. It was he who received the contract to cast the cylinder and air pump for the steamship.

Casting an iron cylinder in 1818 was accomplished by using a multi-step process that included model, mold, casting and cooling.

First, a wooden model of the intended object had to be built. Wood was used simply because it can be cut, carved, filed and rounded into just about any shape imaginable.

Then, a large batch of wet clay and sand were mixed together. This molding clay was placed into a casing, which was a large, two-part container held together with hinges or clasps. The wooden model of the object to be cast was pressed down into the clay and the casing then closed around the combination. Any excess clay was squeezed out through a hole built into the top of the casing. Once the molding clay had been allowed to dry, the casing was opened and the wooden model removed, leaving a completed mold, ready for casting.

Given the enormous size of the cylinder, the finished mold could not simply rest upon the floor of the foundry during casting. Instead, it had to be buried in the ground in order to keep the weight of the molten iron from forcing the casing open.

So Allaire's men dug a large hole at the end of the casting trough. Then, they placed the fastened mold in the hole, and began shoveling and packing dirt and sand around the mold until only the top was exposed.

Once the molten iron was ready, it was released from the furnace into the long inclined trough. The orange-hot metal streamed down to the end of the conduit, and into the opening at the top of the buried mold.

As the molten iron flowed into the mold, bright sparks and gases issued from the top of the casing. Any bubbles that formed within the molten iron inside the casing eventually would be forced to the surface, resulting in a spectacular explosion out the top.

Once the pouring was done, the molten iron was allowed to cool and solidify. Then, Allaire's men picked up their shovels and began to dig. As the workers excavated the casing, plumes of steam escaping from the still-hot dirt and sand quickly enveloped them. Many hours later, the cooled casing was opened, revealing a solid iron cylinder, which measured about 6 feet high and 3 feet in diameter. At that point, it was ready for transport to the Speedwell Iron Works in Morristown, New Jersey, where the boring would take place.

In time, this single cylinder would power the first steamship in history, the Savannah, which would cross the Atlantic Ocean in 1819, and prove to the world that this first high technology—steam-powered vessels—was not just a provincial innovation, but the beginning of a global revolution.

John Laurence Busch

John Laurence Busch is an historian and author of STEAM COFFIN: Captain Moses Rogers and The Steamship Savannah Break the Barrier (Hodos Historia 2010), which can be purchased at your favorite book-store, either physical or virtual. For more details, please go to www.steamcoffin.com.

The Stevens and Sulloway Textile Mills in Franklin, New Hampshire

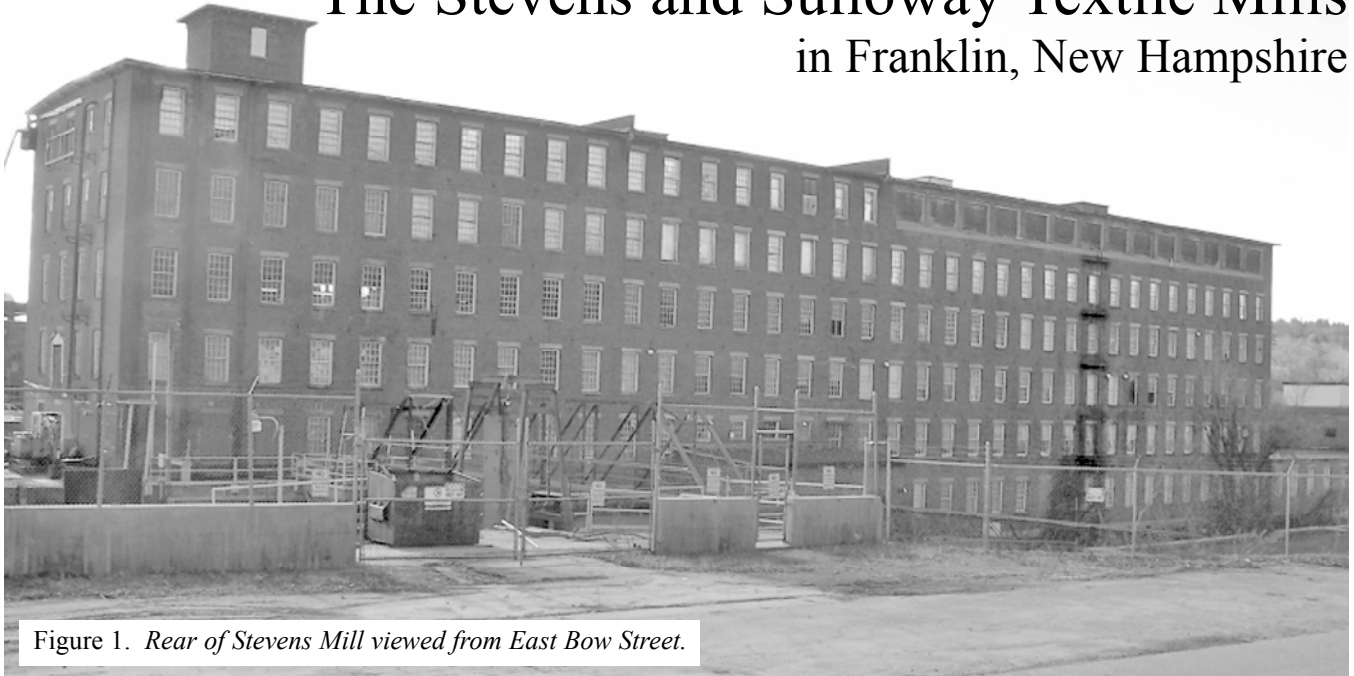


Figure 1. *Rear of Stevens Mill viewed from East Bow Street.*

Franklin, New Hampshire, lies where the Pemigewasset and Winnepesaukee Rivers meet to form the Merrimack River. Both source rivers run through the city, creating an ideal setting for industry powered by water. Franklin was home to many types of mills and factories in the glory days of the mid to late 1800's, including textile and paper mills, needle factories, hack saw factories, foundries and grist mills. The mills are an integral part of the landscape, and a number of mill buildings remain within and around the city today. Two of the largest mills are still standing in Franklin, the Sulloway Mill on River Street, and the Stevens Mill on Canal Street. Both of these structures have been updated for use today.

Stevens Mill

Stevens Mill (see Figures 1 and 2) was founded by Nathaniel Stevens, who began manufacturing flannels in a converted grist mill in Andover, Massachusetts, in 1813. Initially, Nathaniel manufactured woolen broadcloth from Merino sheep. The market became flooded, however, with English imports, and he made a business decision to switch to making flannel, which was favorably accepted. It was this kind of ingenuity and forward thinking that guided the company successfully through 150 years of changing markets. At one time, Stevens Mill was the largest privately owned woolen

mill in the country. The family also owned a number of cotton mills in the South.

During the Civil War, the northern woolen mills prospered, as cotton from the South was largely unavailable. Profits made during this boom time were put back into the company. In 1870, Nathaniel Stevens bought the machinery and building of the Griffin and Taylor Woolen Company and began manufacturing woolens in Franklin, on the banks of the Winnepesaukee River. The company went through several name changes, based on who in the Stevens family was involved at a particular time, getting its final name, J.P. Stevens Company, after World War II. The company bought a mill in the neighboring town of Tilton as well, and produced woolen cloth used to make suits, dresses, coats and blankets. The acquisition of cotton mills in the South in the 1900's is another example of excellent foresight on the part of the Stevens Company. The management staff realized from the outset that diversification was critical for the success of the company. In 1929, Stevens' began to expand into synthetics, working with rayon; and after World War II, the industry saw increased focus on chemicals and man-made fibers. The woolen division of Stevens' business shifted focus from large-scale production to items with a higher degree of craftsmanship but using smaller yardage.

In a local Franklin newspaper, *The Journal-*

Figure 2. *Stevens Mill viewed from the southeast. The Winnepesaukee River is in the foreground.*



Transcript, an article from July 21, 1955, details a presentation to the local Rotary Club by John Baum, Vice President of J.P. Stevens and Co., along with a transcript of his speech. The article is entitled “Stevens Outlook Here ‘Bright’ Says John Baum”; “Tells Rotary of Improvements to Local Plants.”

The purpose of this presentation was to update Rotarians on how the local factories were doing, and the tone was generally favorable. Mr. Baum spoke about new equipment in the mill and a more efficient flow of materials through the plant as well. He identified foreign competition as a problem facing the entire industry, as high quality items with a foreign label were available and attractive to consumers at that time. He noted that the mills in Italy paid their workers 1/6 of what American workers were paid, and English mill workers were paid 1/4 of the American salary. Japan is also mentioned as a competitor. Mr. Baum goes on further to discuss competition for consumer dollars. So many products were being developed at the time that made life easier for people, that they were spending their money on these products and not on clothing. Baum spoke to the rumors that the textile industry in New England was going to be eliminated and listed some disadvantages of operating in New England:

- 1) Higher costs: a) labor costs were high, but Baum saw that gap narrowing with modernization of equipment and increased employee productivity; b) “overhead” – utility rates, fuel costs, taxes, etc. were high in the region.
- 2) Lack of workforce: younger people were not going to work in the mills as much because there were new businesses starting, and more diverse employment opportunities.

Some advantages John Baum noted to having the mills located in New England included being close to the markets, which meant decreased shipping costs and the ability to notice market trends more quickly, as well as the availability of a skilled workforce. A problem he mentioned specific to Franklin was that the taxes in New Hampshire, compared to Massachusetts, were “unfair.”

The J.P. Stevens Company was a civic minded organization, with a reputation for treating its workers well. The company sponsored parades, old home days, and baseball games. Although mill workers rejected an opportunity to unionize in 1956, the plant reportedly paid union wages. Employees and their families could buy cloth direct from the mill at 50 cents a yard; long-time employees were given generous retirement wages. One of these longtime employees described working for the company as “like a big family – you knew everyone,” and although the mill owners lived in the South, the atmosphere at the plant was congenial, “not like it is today where you’re just a number.”

According to this same employee, the mill produced all its own power with two steam engines, with water wheels making up for whatever the steam engines couldn’t produce. Prior to steam, the plant had oil-fired burners supplemented with coal. Coal was brought in by train and dumped at the trestle near the power plant. It was then trucked to the coal hoppers, where the coal was dropped down from bunks into piston-powered stokers that put the coal into the boiler. The mill also had its own water treatment system, treat-

ing three million gallons of water a day for use in the mill.

In 1963, J.P. Stevens Company celebrated 150 years in business. The company had diversified operations, running 55 plants in eight states. The home office was in New York City, with 16 regional offices around the U.S. 35,000 people were employed by Stevens. In 1962, J.P. Stevens Company had a record high of \$585 million dollars in sales. By 1963 the Franklin plant was devoted exclusively to the dyeing and finishing process. The main mill building was 122,000 square feet on six floors. There was also an adjacent one-story dye house, as well as a power plant and storage facility across the river. Only eight plants remained in New England at this time, five in Massachusetts, one in Maine, and two in New Hampshire. Approximately 650 people were employed in the Franklin and Tilton mills during this period. Stevens Mill ceased operation in Franklin and Tilton in 1970. The decision to close was made in part because labor costs were lower in the South, where the company already had plants, and cotton manufacturing was booming.

In 1998 a fire burned a large part of the mill building on the north side of the river that had been used for storage, carding and picking when the mill was operational. Some parts of the mill complex have been renovated for current use. The large building on the south side of the Winnepesaukee River is called the "Franklin Business Center." The building rents office space and currently has tenants that include a hair salon, senior center, yoga studio, fitness center, karate studio and self-storage units.

The Sulloway Mill

Alvah Sulloway, founder of the Sulloway Mill (see Figure 3), was born in 1938 and worked until age 21 in his father Israel's mill in Enfield, NH, where the famous "Shaker Socks" were first made by machine. After learning the business, Alvah went out on his own and formed a partnership with Walter Aiken to manufacture hosiery in 1859. The partnership dissolved amicably four years later and Alvah formed a business with Frank Daniell of Franklin to put a new mill into operation on River Street, on the Winnepesaukee River. The building was a four-story brick structure containing eight sets of woolen machinery, about 150 knitting machines, and employed over 200 people. The plant produced 500 dozen pairs of socks daily. Mr. Daniell withdrew from the business in 1869, leaving Alvah Sulloway the sole owner.

On January 1, 1888 the company was turned over to a stock company and became known as Sulloway Mills. Alvah Sulloway was the treasurer and major stockholder. Sulloway Mills later employed 400-500 people, and produced 2,000 dozen pairs of socks per day, most going to war orders for the United States Government. Alvah's son, Richard Sulloway, began working at his father's mill in 1898 to learn the business. When Alvah died in 1928, Richard became treasurer-president of the mill.

In 1953, the stockholders of Sulloway Hosiery Mills voted to sell the manufacturing equipment, inventories, trademarks, trade names, copyrights and patents to the Belknap Mills Company of Laconia. This sale transferred the manufacture and distribution of Sulloway's well-known hosiery line to the mill in Laconia, which also manufactured and marketed its



Figure 3. *Eastern Side of Sulloway Mill viewed from River Street.*



Figure 4. *Salloway Mill turbine.*

own separate line. The sale did not include the buildings, real estate or water power of the original mill. It also did not include the Salloway Hosiery Shop, as it was owned by a separate corporate body. The mill had an area of 100,000 square feet and a water power rating of 275 KW at the time of the sale. Key personnel were hired to work in Laconia, but about 225 people were left without a job.

The Salloway Mill building was converted into rental apartments in 1985. Remnants of the old mill remain throughout the building, and the apartments have brick walls, high ceilings, and wooden support beams. The stairways are the original wood stairways,

and some hardwood flooring remains. In the basement there is a mound on the floor that once housed a turbine (see Figure 4), and an old scale stands nearby. The Salloway Mill Hosiery Shop, a free standing building at the front of the mill complex (see Figure 5), originally an office for the mill, then later a hosiery store for the general public, is now a retail store.

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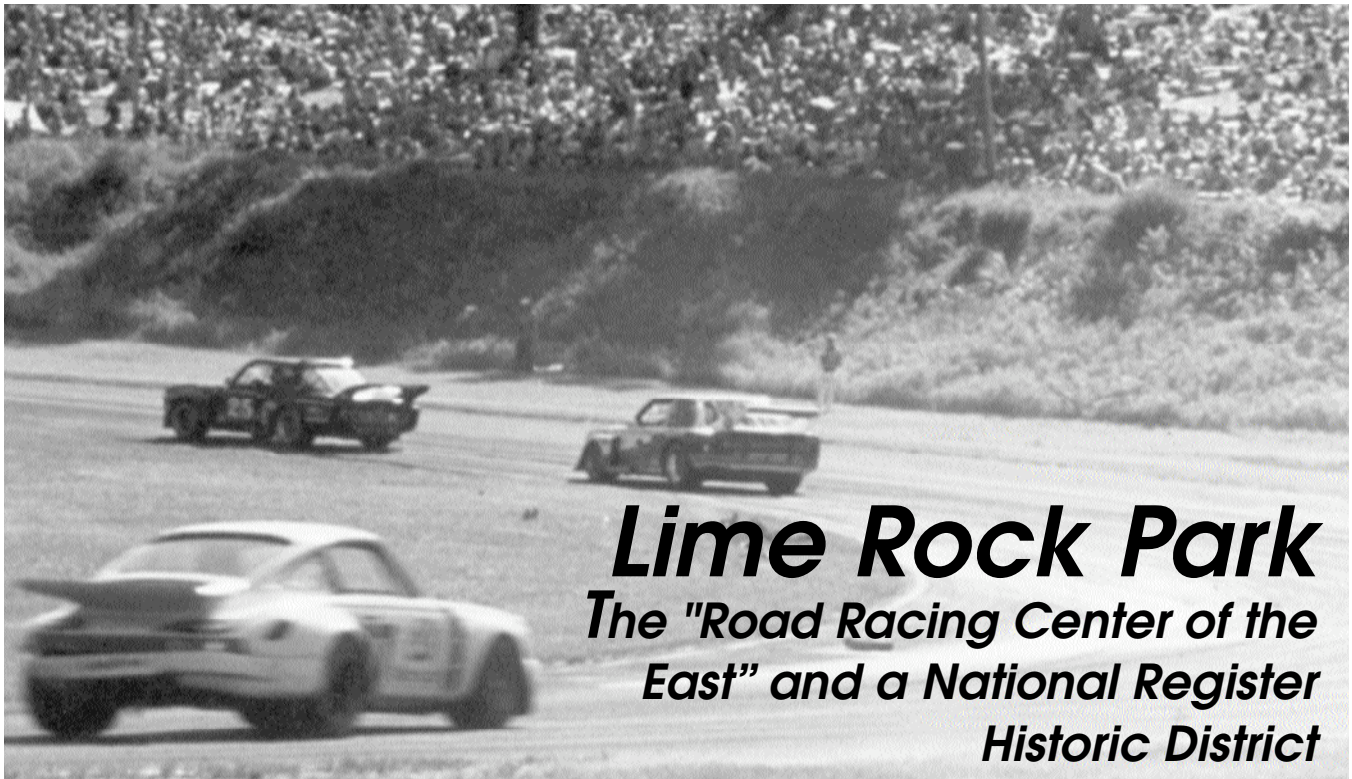
Photo Archives of the Franklin Free Public Library, Franklin NH.

Archives of the NH Historical Society Library, Concord NH.



Figure 5. *Salloway Mill office viewed from Central Street.*

Cindy Bronson
Heritage Studies Program
Plymouth State University



If you travel to the hill country of northwestern Connecticut, you will arrive at one of the most exciting places in the Northeast, Lime Rock Park. Opened in 1957, the fan-friendly venue was the first automobile race track to be scientifically designed and engineered for both recreation and safety. It is one of only a few recreational road racing facilities that were constructed across the country during the post-World War II 1950s that is still operating today. The historic course is a paved 1.53-mile race track with seven unique turns and extreme elevation changes that has earned the Park the title "Road Racing Center of the East."

Brief History of Road Racing

The very first automobile contest was organized by a Paris magazine in 1894 as a reliability test to determine the best performance between vehicles. The race was set on the roads between Paris to Rouen and was won by a steam-powered vehicle. The first American race, a round-trip competition between Chicago and Evanston, Illinois, took place the following year. These early automobile races were primarily "city to city" tests run on public roads to determine the speed and endurance of these new machines.

Although European race enthusiasts actively promoted professional road racing from its inception, in

Photo above: Race fans watching the action at the famous "Esses" section of the track in 1977. Lime Rock Park is a short track that was designed to contain extreme elevation changes and seven unique turns. The "Esses" is the portion of the original Lime Rock course that combines Turn 3, the banked "left hander," which is the only significantly sharp left hand turn on the track, with Turn 4.

America only informal road racing was popular at first. Races typically took place on a local and unorganized scale, using rural roads and airport tarmacs. European car makers had teams of racers that participated in the annual 1,000-mile Italian Mille Miglia or the annual 24-hour French Race at LeMans, competitions which are still active. In America the proponents of oval-track racing quickly surpassed the early advocates of public road racing, as evidenced by the construction of famous race tracks such as the Milwaukee Mile (1903) and the Indianapolis Motor Speedway (1909).

In an early attempt to increase the popularity of road racing in North America, three brothers, Barron, Jr., Sam, and Miles Collier, from Pocantico Hills, New York, organized the Automobile Racing Club of America (ARCA) in 1933. Just eleven years after the founding of ARCA, many of the same road racing devotees incorporated the Sports Car Club of America (SCCA), a successor to ARCA, in 1944. American road racing received a huge boost in popularity from return-

ing American soldiers, who had developed a fondness for European sports cars (e.g., MG, Jaguar, Ferrari, Maserati and Alfa Romeo) while serving during World War II.

Lime Rock Park's Beginnings

The construction of the Lime Rock Park race track is well documented, providing unique insight into the design and engineering practices employed, as well as the obstacles faced by the designers and construction management team. The idea of creating a race track on the grounds of an old gravel pit in the countryside of Salisbury, Connecticut, was conceived by Jim Vaill, the son of the original property owner, Frank Vaill. Lime Rock's pioneer role in the engineering of auto race tracks and the integrity of this original design has been recognized through its recent designation as a National Register Historic District.

The unprecedented design of Lime Rock Park came to fruition with the help of three significant individuals: John Fitch, Bill Millikin, and Raymond Loewy. Vaill contacted famed American racer John Fitch for assistance with the project. Fitch, the only American racer actively participating in European races, immediately expressed an interest in the development of the new track. Fitch, present at the tragedy in

LeMans, where Pierre Bouillion-Levegh crashed into the crowd killing himself and at least 81 spectators, had a deep commitment toward using innovative means to create a safer track for both drivers and spectators. [John Fitch later became a highway safety-engineering legend with the invention of the Fitch Barrier.]

Bill Millikin, well known as a leader in highway safety planning and engineering, was the head of the Cornell Aeronautical Laboratory (now Calspan). He was asked to study the draft track design and prepare a report with recommendations to improve the design. The resulting report, *Design Study of Deceleration Zones and Crash Barriers for an Automobile Racing Circuit*, immediately made the rounds throughout the racing world as well as the automobile industry. This was the first time a race track had been scientifically designed and engineered for both recreation and safety. For his efforts and participation in racing, Millikin was inducted into the SCCA Hall of Fame (2005).

Noted American industrial designer Raymond Loewy incorporated the pastoral, or country, ambiance into the landscape design of the park. Situated on 325 acres, the park still offers magnificent views of the historic track as well as the surrounding countryside. To this day, Lime Rock Park is the only race track in North America with no formal spectator seating or grandstands.



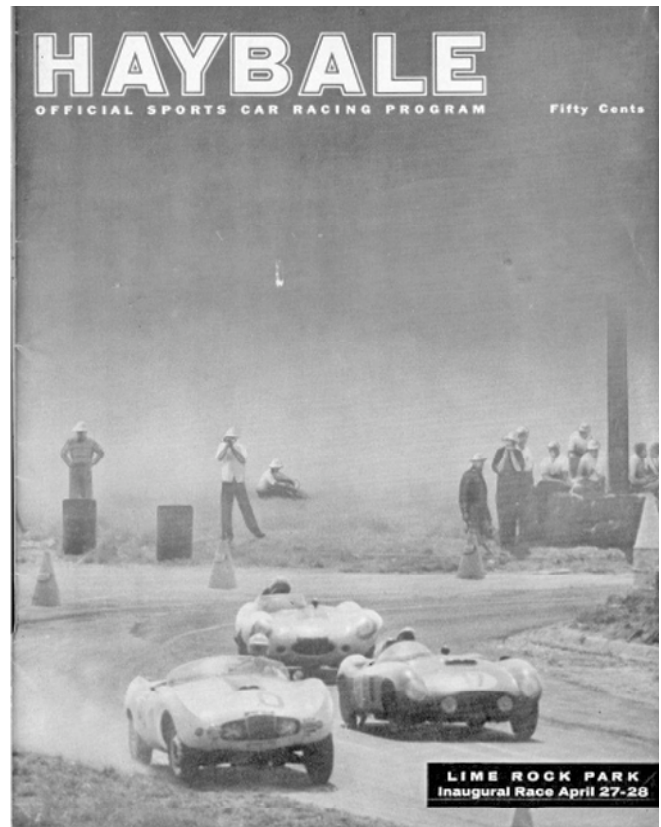
Aerial View of Lime Rock Park, looking south, 2007. Photograph by Sergei Fedorjaczenko.

The International Formula Libre Race

Of special interest to many racing enthusiasts was the International Formula Libre race that was organized, promoted, and held at Lime Rock Park in 1959. This race was an important milestone in American motor-sport history as it was the first major postwar road racing event to include both amateur and professional racers driving the vehicle of their choice. An excited crowd of nearly 12,000 showed up to watch vehicles, both large and small, including Jaguars, Listers, Ferraris, Porsches and Rodger Ward with an 11-year old Offenhauser-powered Kurtis Midget. Ward's car, which had a one-speed transmission and rear brakes, won the day with its superb maneuverability.

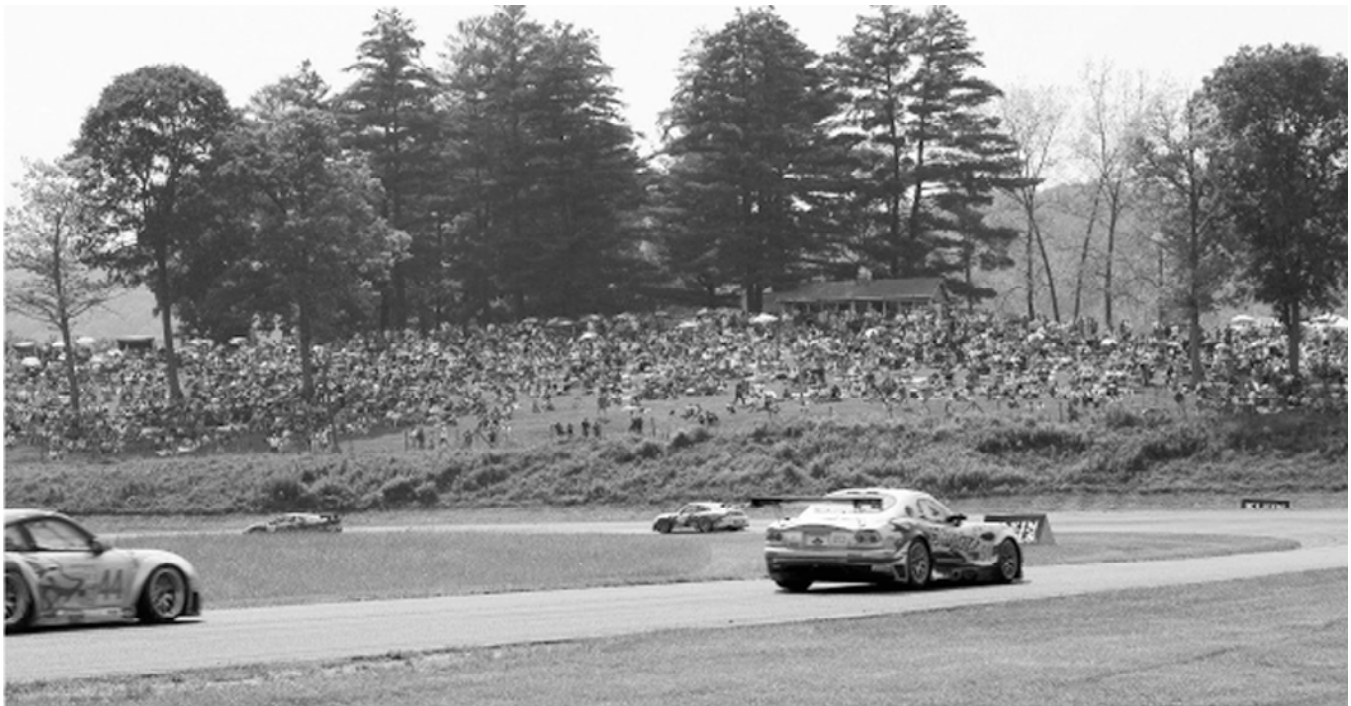
Historic Lime Rock Park

Built in 1956 and opening in April of 1957, the circuit at Lime Rock Park remains precisely as it was 55 years ago. With very few exceptions, every national and international racing driver of significant historical note has raced on the historic track. In continuous use since it opened, the Park currently hosts a variety of recreational venues including car shows, driving schools, bicycle races, new car press introductions, auto manufacturer development testing, vintage automobile races and most importantly, premier sports car racing events, which often draw tens of thousands of spectators on the weekends.



Above: Cover of Haybale No.1, Official Sports Car Racing Program for the first race at Lime Rock Park, 1957.

Below: Crowds still enjoying the fast-paced fun on the hillside overlooking the Esses, 2006 American Le Mans Series race.





View of the end of the “No Name Straight,” which is a slight misnomer since this extant section of the original track actually contains two gentle bends.

Photograph, 2008, Tod Bryant.

The beauty of the surroundings, the traditions maintained by racing upon the historic track, and the prevailing loyalty of its fans are proof of the enduring spirit of Lime Rock Park.

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Sara Mascia earned her PhD at Boston University. She is currently Vice President of Historical Perspectives, Inc., a cultural resources management firm, and is certified in Field Archaeology, Documents, and Historical Archaeology by the Register of Professional Archaeologists. On the national level, she serves as Treasurer of the Society for Historical Archaeology, a position she has held since 2006. Long before authoring the Lime Rock Park Historic District nomination to the National Register, Sara was an avid racing fan.

Membership Application to the Northern and Southern NE Chapters of the Society for Industrial Archeology

The Society for Industrial Archeology promotes the identification, interpretation, preservation, and modern utilization of historic industrial and engineering sites, structures and equipment. For information or to apply for membership to the

Northern NE Chapter (ME, NH, VT) contact Richard Russack at

RickRussack@gmail.com; or,

to the South NE Chapter (MA, RI, CT),

contact Sara Wermiel at swermiel@verizon.net

Southern New England Chapter (MA, RI, CT)

Dues Schedule

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Dues Schedule

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