



# SOCIETY FOR INDUSTRIAL ARCHEOLOGY

## NEWSLETTER

Volume 40

Spring 2011

Number 2

## GRAND OPENING! BOSTON'S WATERWORKS MUSEUM

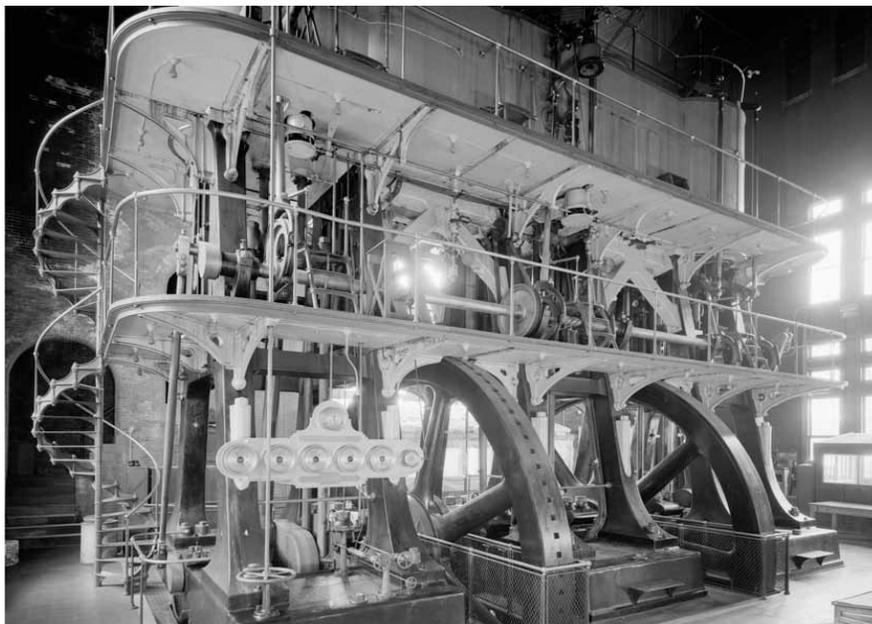
**O**n Sunday, March 27, Boston's Metropolitan Waterworks Museum celebrated its grand opening. More than 2,000 visitors braved the windy, cold weather to take a look at the city's newest historical attraction. The opening of the museum culminates an effort begun 20 years ago when a group of local residents joined together in an attempt to persuade the state government to turn the waterworks into a museum rather than tear it down.

Officially known as the **Chestnut Hill High-Service Pumping Station** (tour site—SIA Annual Conference, 1984), the station is a magnificent cathedral-like Romanesque building built in 1886-87 and expanded in 1897-98 to house the massive engines and pumps that provided the rapidly growing metropolitan Boston region with clean, potable water. The oldest of the three surviving engines is the 1895 triple-expansion, steam-pumping engine designed by

Erasmus D. Leavitt (1836-1916) and built by the Quintard Iron Works of New York. The engine, which is well known to historians of steam technology, was designated a National Historic Mechanical Engineering Landmark in 1973. When the station was expanded in 1897-98, another triple-expansion pumping engine was installed, this one built by the E.P. Allis Co. of Milwaukee. A compound Worthington-Snow engine was installed in 1916. The engines remained in use until replaced by steam-turbine driven centrifugal pumps in 1954 and remained serviceable until the station was taken off line in the 1970s.

The Friends of the Waterworks, Inc., was formed in 1991 to advocate the preservation of this former eight-acre Metropolitan Waterworks site and its three historic buildings. The Commonwealth of Massachusetts passed legislation in 2005 authorizing the sale of the site and its buildings for re-development, subject to preservation restrictions. After

*(continued on page 2)*



Jet Lowe, HAER MA-24

*The triple-expansion pumping engine (E. P. Allis Co., 1916) at the Chestnut Hill High-Service Pumping Station.*

### In This Issue:

- SIA Fall Tour to the Last Green Valley
- IA Notes
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  - Civil War Prison Industries
- Truss Bridges with 2-Part Web Members
- Announcing SIA Study Tour to Malta

## GRAND OPENING (continued from page 1)

many twists and turns, preservationists eventually persevered and in 2009 established the Metropolitan Waterworks Museum Inc. (MWM), a tax-exempt educational organization financed by the Waterworks Preservation Trust.

Financing for the preservation project was achieved in part through a private-public partnership with a private developer undertaking rehabilitation of the site for residential condominiums. The MWM owns the museum building, which also contains four condominiums. The remaining buildings, including the new curved Watermark Building, contain an additional 108 condominiums.

The Waterworks Museum consists of the Great Engines Hall, housing the three pumping engines, and a two-story glass-enclosed pavilion featuring a community meeting room available to area nonprofit community groups. The museum's exhibits and interpretive programs focus on the historical themes of public health, engineering, architecture and social history. They enable visitors to learn how the pumping station became the hub of an ever-expanding water system that continues to provide the city with abundant, clean water. The monumental building reflected civic pride in the technology that made it possible.

The *SIA Newsletter* is published quarterly by the Society for Industrial Archeology. It is sent to SIA members, who also receive the Society's journal, *IA*, published biannually. The SIA through its publications, conferences, tours, and projects encourages the study, interpretation, and preservation of historically significant industrial sites, structures, artifacts, and technology. By providing a forum for the discussion and exchange of information, the Society advances an awareness and appreciation of the value of preserving our industrial heritage. Annual membership: individual \$50; couple \$55; full-time student \$20; institutional \$50; contributing \$100; sustaining \$150; corporate \$500. For members outside of North America, add \$10 surface-mailing fee. Send check or money order payable in U.S. funds to the Society for Industrial Archeology to SIA-HQ, Dept. of Social Sciences, Michigan Technological University, 1400 Townsend Drive, Houghton, MI 49931-1295; (906) 487-1889; e-mail: [SIA@mtu.edu](mailto:SIA@mtu.edu); Website: [www.sia-web.org](http://www.sia-web.org).

Mailing date for Vol. 40, No. 2 (Spring 2011), June 2011. ISSN 0160-1067. If you have not received an issue, apply to SIA-HQ (address above) for a replacement copy.

The *SIA Newsletter* welcomes material and correspondence from members, especially in the form of copy already digested and written! The usefulness and timeliness of the newsletter depends on you, the reader, as an important source of information and opinion.

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The museum is open from 11 am to 4 pm Thursday through Sunday and until 9 pm on Wednesday. Admission is free, so stop by if you're in the area. Better yet, rent the place for your next event. (The museum is prohibited from charging general admission, so it needs to be creative about raising operating revenue.) Directions and additional information at: [www.waterworksmuseum.org](http://www.waterworksmuseum.org).



Jet Lowe, HAER MA-24

*The Romanesque-style Chestnut Hill High-Service Pumping Station, built in 1886-87 and expanded in 1897-98.*



Dennis De Witt

*A recent view of the rehabilitated Metropolitan Waterworks Museum pumping station building.*



## SIA Fall Tour 2011—“The Last Green Valley” • Oct. 13–16

This year’s SIA Fall Tour will explore the Quinebaug-Shetucket Rivers Valley. The valley appears dark when viewed at night from aircraft or satellites thus earning it the title as “The Last Green Valley” in the dense urban corridor between Boston and Washington. The valley includes some 1,085 square miles from East Brookfield, Mass. in the north to Norwich, Conn. in the south. On the east it is bound by the Rhode Island state line. The valley is an area of pastures, woodlands, clean streams, small cities, and even smaller towns. Yet, within the bucolic setting, are a number of light and medium industries, architectural sites, and remnants of a once-thriving charcoal industry, old mills, a railroad museum, a textile museum, waterworks, and dams.

The Fall Tour will be based at the **Southbridge Hotel & Conference Center**, a renovated building built in 1904 as the factory and office of the American Optical Co. The rate for SIA attendees will be \$105/night.

Thursday’s early-bird tour will focus on Old Sturbridge Village’s waterpower and includes behind-the-scenes surveys of a grist mill, sawmill, and carding mill. Attendees will have free time after the mill tour to view exhibits including the blacksmith shop, pottery, glass collection, and other artifacts of early 18th-century life. The opening reception, featuring local food products and a cash bar, will be held at the village’s Oliver Wright Tavern and will precede a presentation on the engineering and industrial heritage of the “Last Green Valley”.

The terms of some Friday tours are currently being finalized. On tap are visits to Spirol International, a manufacturer of fastenings; New England Automated Rolls, the baker of all of McDonald’s hamburger buns; a candle factory; charcoal kilns; a manufacturer of colognes and personal care

products; the Taylor Brooke winery; and Numa Tool, a manufacturer of drill bits. We will tour the Chamberlin sawmill, a small-scale facility dating to the early 20th century. For SIA’s architectural buffs, we will visit Roseland Cottage, a summer home built in 1846 in the Gothic Revival style and visited by several presidents..

Saturday will be devoted to sites in the vicinity of Willimantic and Mansfield, including the New England Railroad Museum, the Windham Textile and History Museum, American Thread, the famous “Frog” bridge, the Willimantic Footbridge, and Gurleyville Grist Mill. In addition we will visit the National Thread Company Mill and the U.S. Army Corps of Engineers Mansfield Hollow Dam, a National Register-listed flood control facility. The banquet will be held at the Sturbridge Conference Center and will feature 19th-century music by Rick Spencer. For additional information visit the web sites of places on the itinerary.

Sunday will feature do-it-yourself tours. Interested attendees will receive a list of museums and directions to get to them. Possible sites could include Mystic Seaport and the USS *Nautilus* Submarine Museum at the U.S. Naval Submarine Base in Groton. Fall foliage should be at a peak during the tour and well worth some serious “leaf peeping”.

The Quinebaug Valley is easily accessible from the Massachusetts Turnpike by auto. It is 153 miles from New York, about a three-hour drive. Southbridge is about equidistant, approximately 65 miles from Logan Airport in Boston, Green Airport in Providence, and Bradley Airport at Hartford-Springfield. The nearest Amtrak station is in New London, Conn. Plan on visiting this “quiet corner” of Connecticut during the 2011 SIA Fall Tour.

*David A. Poirier and Robert Stewart*

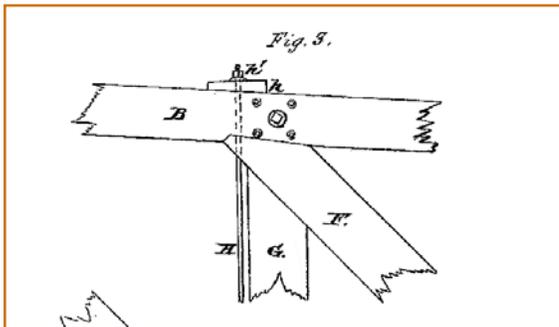


*The American Optical Company in Southbridge from a publication dated 1907. The building has been renovated and now serves as a conference center and hotel.*

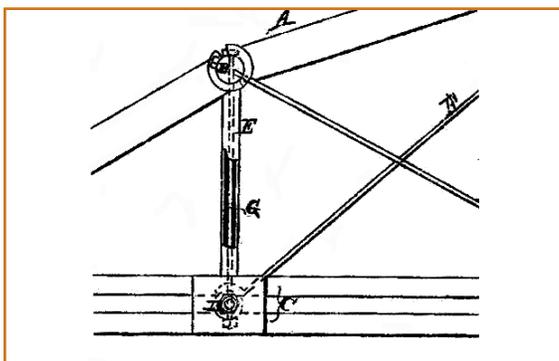
### SIA Study Tour to Malta April 2012

We have tentatively scheduled an International Study Tour of Malta for the second half of April 2012. The beautiful and temperate island-nation of Malta offers 5,000 years of history in an area the size of Washington D.C., and travel to Malta is surprisingly easy. There are regular flights from North America and many European cities. The country lies within the EU and the euro currency zone. American and Canadian tourists do not need visas. English is universally understood. Due to Malta’s strategic location at the crossroads of the Mediterranean, the maritime, shipbuilding, military, and engineering industries have dominated the economy for many centuries. We will also tour transportation, energy, water, and food-processing facilities. Watch future issues of *SIAN* and SIA e-news for updates as this exciting tour opportunity takes shape.

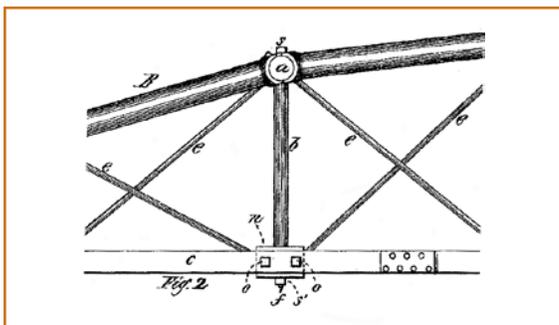
# Elusive American Truss Bridges: Truss Bridges Using Two-Part Web Members



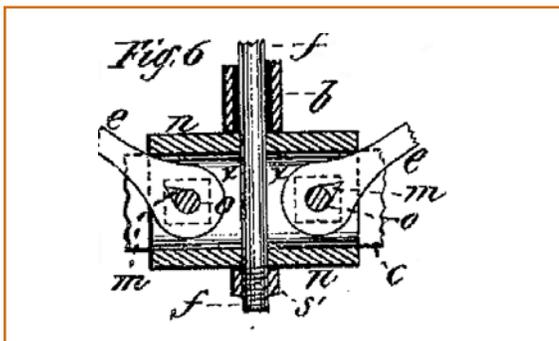
Detail from Cooley's 1878 patent # 208,155.



Detail from Herthel's 1867 patent # 71,484.



Johnson's 1873 patent #144,766.



Detail from Johnson's 1873 patent, showing the connection of the vertical and diagonals to the bottom chord junction box.

Builders of 19th-century American truss bridges were aware that as heavy wagons crossed a truss bridge, some members in the truss web underwent stress reversals. These web members needed to be able to accommodate changes from compression to tension or tension to compression. This phenomenon was exacerbated as the live loads imposed by the railroads became increasingly heavier than the dead load of the bridge itself. Engineers thus scrambled to find ways to cope with the issue.

Wood, due to its abundance, was the economical material of choice for early American trusses. But wood, while capable of handling both tension and compression forces, presented difficulties for builders attempting to make a connection capable of transmitting tensile forces. Wrought iron, while excellent for tensile members, was relatively expensive and thus used sparingly, until it became more widely available in the last quarter of the 19th century.

One solution used members composed of two parts, one to resist compressive stresses and the other to resist tensile stresses. George Cooley's timber-truss bridge patent of 1878 (see illustration) is an example of this approach. His patent shows a thin wrought-iron rod (H) parallel to a timber strut (G), with the timber member being held in place by bolts or simply by being compressed (F) between the top (B) and bottom chords of the truss. The threaded end of the tensile rod penetrated the chords and was secured by a washer and a nut (h). The timber member would handle the compression forces, and the wrought-iron rod would deal with the tensile forces, as the situation required.

As the cost of iron became more competitive and thus its use more common for all or most of the members of a truss, engineers experimented with an intriguing approach to dealing with the need to have truss web members capable of alternately resisting compression or tension. A wrought-iron rod was inserted within a cast-iron tube. The cast-iron tube resisted compression forces, the wrought-iron rod tensile forces.

In 1867, George Herthel patented a truss that had a hollow, vertical, metal post (E) with a sculpted end that bore on a metal pin at the truss's panel points. This hollow post contained a wrought-iron rod (G) that penetrated the pin (C) and then was secured by a washer and nut. This design would require an extra-large pin in order to withstand the loss of material due to the holes drilled to accommodate both the inserted vertical rod and the diagonal rods (F). Patent drawings do not provide hints as to how the fabricator should size individual members or parts of the truss. It is not known if any trusses were built using this detail.

A few years later, in 1873, Phelps Johnson proposed a different approach to the problem of connecting a truss member composed of a rod and a tube. His patent shows tubular verticals (b) that extend between a tubular top chord (B) and a junction box (n) secured to a bottom chord (C) that consists of two wrought-iron plates. The inserted tie-rod (f) penetrates the pin (a) in the top chord and is then secured with a nut (s). The lower end of the tie-rod penetrates the junction box and is then secured by a nut (Johnson's drawings do not show washers).

The upper ends of the pair of crossed diagonals (e) between the web verticals also penetrate the pin (a) and are secured by a nut. Their lower ends are looped to form an eye, which is secured by a bolt (o) in the junction box on each side of the tie rod.

While Johnson may have solved some of the complexity in Herthel's earlier proposal by not having the diagonals and the verticals intersect at a common point on the bottom chord, he raised a different issue. The plates of his bottom chord are spliced between the verticals, and there are no panel point pins along the bottom chord. Since this created a configuration that could not be accurately analyzed, there may have been a natural reluctance to use it.

In 1879, John Jayne patented a configuration that also used a "hollow post" (F) as a vertical web member, and then inserted a tie-rod (h) from the top through the curved, timber, top chord (C) down to a wooden block (G) that supported a deck beam (B). Again, no records have been discovered indicating whether any bridge was built using this design. The detail, however, appears to be more practical than Herthel's.

In 1891, William Green patented a truss with a junction box that permitted intersecting tubes containing inserted rods to be connected at panel points in an accessible manner that avoided drilling holes in any of the actual members.

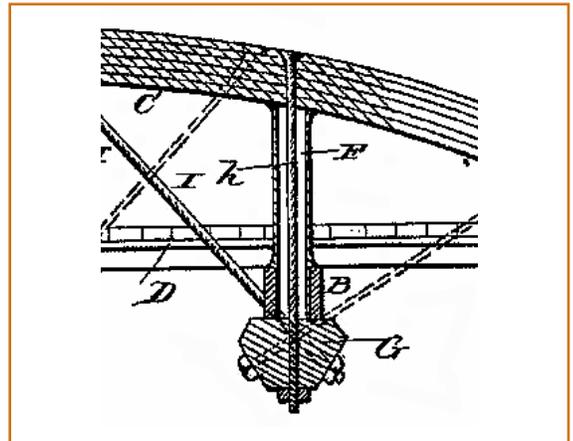
In 1870, J.H. Cofrode & Co. of Philadelphia built a pony-truss variation of a configuration known as a "Post Truss" near Lancaster, Mass. The Atherton Bridge's mid-span web members consisted of wrought-iron rods inserted within a Phoenix column. The truss's vertical end consisted of a wrought-iron rod sandwiched between a pair of pipes. Although the end post would not be subject to stress reversals, the tie-rod would have served to stabilize the truss during the assembly process.

Toward the end of the 19th century the introduction of steel, a material essentially equal in its capacity to handle compression and tension, permitted engineers to design individual truss members that could be both easily connected to each other and capable of handling stress reversals. This rendered moot the search for efficient ways to design members composed of two parts, one to handle tension and the other compression.

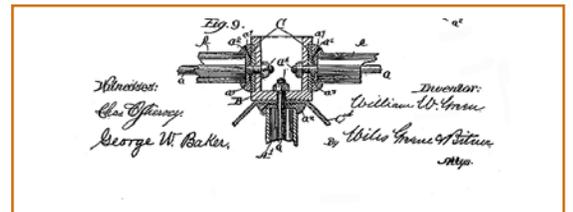
A few patents in addition to those discussed were probably obtained. How many examples of any of the patented concepts were built will never be known, nor how many of the non-patented variations, such as the Lancaster pony truss. However, in both cases the numbers would appear to be small.

The history of truss-bridge design contains numerous examples of rational ideas that were tried, proved cumbersome or impractical, and ultimately abandoned. The use of two-part members to cope with stress reversals is a chapter in this series. The use of a rod-within-a-tube is an interesting dog-leg dead-end in the evolution of the development of the American truss bridge. It provides a small intriguing insight into how builders and engineers approached problem solving.

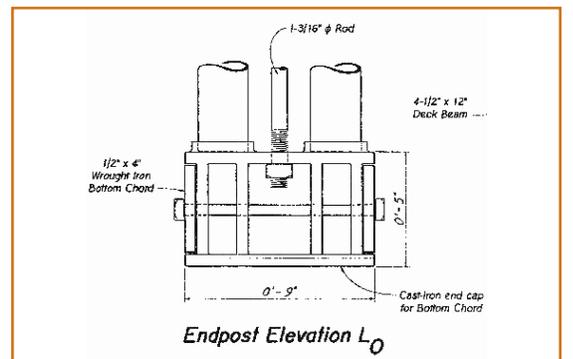
David Guise



Detail from Jayne's 1879 patent #216,364.



Detail from Green's 1891 patent #458,161.



Atherton Bridge end post.



Phoenix columns enclose tension rods at mid-span of the Atherton Bridge.

## IA Notes—Prison Industries & The Civil War

The 150th anniversary of the Civil War begins this year and is motivating a flurry of publications and commemorative events. One historical note that is likely to be largely overlooked is that in the decades leading up to the war, many states, both North and South, had adopted systems to put prisoners to work, often making cheap textiles or shoes, which were sold to Southern slave owners. Prison industries were rather quickly put into service supplying the war effort. Various systems were used to exploit the labor of prisoners including the contract system, in which prisoners made goods or performed services for a private firm using space within the prison; the lease system, in which the security and living arrangements of the inmate were handled by a contractor at a worksite off prison grounds (the state was paid a fee for the use of the inmate); the piece-price system under which contractors supplied the raw materials and paid the state an agreed amount for the work done on each piece or article manufactured by the inmates; and the state-use system, where the goods and services produced by prison inmates could be only for the use of the state government.

The Civil War initially disrupted markets for industrial prison labor and its products. In 1861, the prison systems of Massachusetts, New Jersey, Maryland, and New York all reported difficulty finding markets for their products. The warden of Philadelphia's Eastern State Penitentiary in his *Annual Report* of 1861 mentioned that the textile manufacturer for whom the inmates operated the cot-

ton weaving looms went out of business in May of 1861 because of the disruption of cotton supplies; a new contractor could not be found. The report also indicated a steep drop in production of, and profit from, prison-made shoes. Prison industries in the North, however, soon recovered by taking on contracts to produce supplies for the Union forces. Prisons, including those in Massachusetts and Pennsylvania, reported an increase in production by late 1862, as they began manufacturing supplies for contractors to the Union army and navy.

Prison industries in the states that became part of the Confederacy were vital to the war effort, manufacturing weapons, clothing, and field supplies. The workshops of Alabama's Wetumpka State Prison made caissons and wagon wheels. The textile mill at the Texas State Penitentiary in Huntsville was one of the largest in the South to remain unaffected by Union troops throughout the war. Ironically, the only attack on the mill came from a Confederate cavalry unit that raided the factory in 1863 to try to obtain additional clothing for its men. The Huntsville prison was able to make up to five thousand uniforms a month. The workshops of the Virginia State Penitentiary in Richmond produced goods for the Confederate war effort at least as early as July 1861, and until the Union capture of the Georgia State Penitentiary in Milledgeville, Ga. in 1864, its workshops were used to make arms.

Tyler Turpin

## HISTORIC BRIDGE NEWS

**Lifespan: The Bayonne Bridge in Transition** is an exhibit at the Noble Maritime Collection, Snug Harbor, Staten Island, N.Y. through October 23. The trussed, steel-arch bridge, completed in 1928, is about to undergo renovation with the deck to be raised for clearance of larger container ships. The exhibit is composed largely of contemporary works of art depicting the bridge. Info: (718) 447-6490; [www.noblemaritime.org](http://www.noblemaritime.org).

The **Seven-Arch Stone Bridge** in Lockport, Ill. sustained significant damage when portions of its spandrel walls collapsed into Deep Run Creek. The bridge, built in 1868, is among the oldest surviving bridges in the state. Deep Run Creek was originally the course of the Des Plaines River, but when the Chicago Sanitary & Ship Canal was built from 1892 to 1900, this section of the river was rerouted. Engineers currently are reviewing alternatives for rehabilitating the bridge.—*Chicago Herald* (Mar. 10, 2011)

**Bay City Bridges** is an exhibit at the Historical Museum of Bay County (Mich.) featuring drawings, photographs, and

artifacts from Bay City's historic bridges including the Belinda St., Third St., Cass Ave., and 23rd St. bridges across the Saginaw River. The exhibit highlights original architectural drawings on linen sheets, which were rescued from the city's engineering department several years ago. The majority of bridges featured were movable spans built by the Milwaukee Bridge & Iron Works in the last quarter of the 19th century. The exhibit runs through the end of October.

The **National Historic Bridge Preservation Program** was one of those eliminated in President Obama's budget proposal for 2012. The program has provided about \$8 million a year in grants to repair or rehabilitate a dozen or so covered bridges each year since first being authorized in FY 2000. Funds have also been used to support research into best-practice methods for rehabilitation and for the historic documentation of covered bridges by the Historic American Engineering Record (HAER). U.S. Department of Transportation officials have said communities will still be able to apply for grants for covered-bridge projects, but they will have to compete with other highway and bridge projects for funds. ■



# SOCIETY FOR INDUSTRIAL ARCHEOLOGY

## NEWSLETTER

### PUBLICATIONS OF INTEREST

Vol. 40, No. 2

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COMPILED BY

Mary Habstritt, New York, NY., Justin Spivey, Oakland, Calif., and Patrick Harshbarger, SIAN editor, Wilmington, Del.

#### GENERAL INTEREST

- ◆ Paul Bryan. **Metric Survey for Preservation Uses: Past, Present, and Future.** *APT Bulletin*, Vol. XLI, No. 4 (2010), pp. 25-29. Provides a comparison of survey techniques, from hand measurement to 3-D laser scanning, discusses the strengths and weaknesses of each, and shows how they can be combined to best meet a project's needs.
- ◆ Kate Clark. **Informed Conservation: The Place of Research and Documentation in Preservation.** *APT Bulletin*, Vol. XLI, No. 4 (2010), pp. 5-10. Using two case studies from her work at Ironbridge Gorge, Clark makes a case for research and documentation to inform decisions about whether to preserve historic sites.
- ◆ Alan Feuer. **The Wilderness below Your Feet.** *NY Times* (Jan. 2, 2011), p. MB1. Chronicles a five-day journey through sewers and transit tunnels beneath New York City, led by Norwegian adventurer Erling Kagge and public history student Steve Duncan and accompanied by an ever-changing entourage.
- ◆ Stephen Harrigan. **Relics to Reefs: Why Fish Can't Resist Sunken Ships, Tanks, and Subway Cars.** *National Geographic* (Feb. 2011), pp. 84-103. With sinking of the *General Hoyt S. Vandenberg* as a jumping-off point, looks at use of discarded military tanks, subway cars, and the like for artificial reefs and how the junk is colonized by sealife. For a video of the sinking of the *Vandenberg*, see <http://ngm.nationalgeographic.com/video/player/#?titleID=artificial-reefs&catID=1>
- ◆ Shena Mason, ed. **Matthew Boulton: Selling What All the World Desires.** Yale Univ. Pr., 2009. 304 pp. illus. \$75. Beautifully illustrated volume commemorates the 200th anniversary of Boulton's death and accompanied a major exhibition at the Birmingham (U.K.) Museums & Art Gallery. Part catalogue and part collection of scholarly articles making extensive use of the Boulton and Watt archives. Boulton's fame as an industrialist and the Soho Manufactory are covered in detail with their important role in the industrial revolution, especially as it related to steampower, cotton, and the factory system. Rev.: *Journal of Design History*, Vol. 23, No. 4, pp. 429-32.
- ◆ Mireya Navarro. **Hoping Gowanus Canal Cleanup Turns Up Old Treasures.** *NY Times* (Mar. 14, 2011). While focusing on the impending cleanup of Brooklyn's Gowanus Canal, also quotes Prof. Fredric L. Quivik [SIA] in discussing how the U.S. Environmental Protection Agency sometimes can be persuaded to add a preservation component to Superfund projects.
- ◆ Peter F. Stone. **Collecting Tech: Appreciating and Collecting Historical Technology.** Astragal Press, 2011. 216 pp., illus. \$42.95. Chapters cover specific areas of technology including domestic, steam, nautical, electrical, engineering, surveying, scientific, tool and occupational technology, describing significant developments within each and giving advice on collecting objects with an emphasis on their social and historical contexts.
- ◆ Louis Uchitelle. **When Factories Vanish, So Can Innovators.** *NY Times* (Feb. 13, 2011), Business, p. 5. Closure of the last flatware manufacturer in the U.S. prompts author to analyze how the loss of industry means we are also losing the ability to innovate and the skills to make things.
- ◆ Daisuke Wakabayashi. **Japan's Belching Smokestacks Draw Industrial-Strength Sightseers.** *WSJ* (Jan. 24, 2011). The newest trend in Japanese tourism is Kojo Moe. It means "Factory Infatuation" and describes tourists who caravan to Japan's industrial centers to take photographs of power plants, refineries and steel mills.
- ◆ David Weitzman [SIA]. **Skywalkers: Mohawk Ironworkers Build the City.** Roaring Brook Press, 2010. 128 pp., illus. \$19.99. Aimed at an audience of ages 10 to 14, tells the story of Mohawk ironworkers who risked their lives to build New York's landmark skyscrapers and bridges. Handsomely illustrated with historical photographs, explores the intersection of modern construction technology and traditional Native American culture in the unlikely environment of high steel. Brings to life the dangers and thrills of working hundreds of feet in the air while riveting, welding, and jumping from beam to beam.

#### RAILROADS

- ◆ James Barron. **A Clock Moves in Grand Central, and Memories Stir.** *NY Times* (Mar. 25, 2011). A large Self Winding clock, once ubiquitous in train stations across the country and essential for the synchronization of train schedules, has been preserved and moved downstairs to the dining concourse in NYC's Grand Central Terminal. In its heyday, Western Union leased and maintained more than 50,000 Self Winding clocks and telegraphed the time to them from the U.S. Naval Observatory in Washington.
- ◆ Michael T. Burkhart. **An Incredible Run: EMD's SW-1.** *NRHS Bulletin* (Winter 2011), Vol. 76, pp. 4-13. History of SW-1 switching locomotive, introduced by EMD in 1939 with 660 built over the next 15 years. Today, about a third are estimated to survive with many in operation at shortlines, factories, and museums.
- ◆ James R. Chiles. **Miracle under 42nd Street.** *I&T* (Winter 2011), pp. 12-21. NYC's Grand Central Terminal as the surface manifestation of a remarkable underground railroad network.
- ◆ Alexander Craghead. **Temples to a Forgotten Religion: The**

**American Railway Depot.** *NHRS Bulletin* (Fall 2010), Vol. 75, pp. 4-43. Photo essay explores the faded glory and neglect of small-town depots, mostly throughout the Midwest and western U.S.

- ◆ Anthony Heywood. **Engineer of Revolutionary Russia: Iurli V. Lomonosov (1876-1952) and the Railways.** Ashgate, 2010. 430 pp. \$144.95. As well as an innovative engineer who campaigned to enhance the role of science, Lomonosov played a major role in shaping and administering the Russian railways and undertook several diplomatic and scientific missions to the West during the early years of the Revolution. Falling from political favor during an assignment in Germany in 1927, he achieved notoriety in Russia by choosing not to return, thereby escaping probable arrest and execution. This is the first in-depth study of his life and politics.
- ◆ Steve Jessup. **Pacific Northwest Transition.** *NRHS Bulletin* (Winter 2011), Vol. 76, pp. 14-35. With color photos and maps, discusses the operations of the Union Pacific, Burlington Northern Santa Fe, Canadian Pacific, and Canadian National.
- ◆ Tom Murray. **Chicago & North Western Railway.** Voyageur Pr., 2008. 160 pp., illus. \$36.95. Illustrated history of line established as the Galena & Chicago Union in 1848. Coverage through 1995 with extensive photos of the 1920s to 1950s. Rev.: *NRHS Bulletin*, Vol. 75 (Summer 2010), p. 36.
- ◆ **Saginaw Timber Company #2 Inspection Report.** *Mid-Continent Railway Gazette*, Vol. 43, No. 2 (August 2010). Detailed photography and description from thorough inspection of the Number 2, built in 1912 by Baldwin for logging service in Washington state. Also, **Western Coal & Coke #1 Inspection Report**, Vol. 43, No. 3 (October 2010). Built in 1913 by Montreal Locomotive Co. for coal hauling service at Beaver Mines, Alberta. Also in this issue, **A Tale of Two Telegraphers**, passing along the tradition and skills of telegraphy at the Chicago & North Western depot at the Mid-Continent Ry. Museum in N. Freedom, Wis.
- ◆ Joe Schultz. **Michigan Central Station, Detroit, 2010.** *T&C*, Vol. 51, No. 4 (Oct. 2010), pp. 889-92. How the grand, now abandoned, station, sent to oblivion largely by the automobile, is a fitting architectural symbol for the Automobile City. Also, Joe Flanagan. **Running on Empty.** *CG* (Fall 2010), pp. 32-41. Features photos of the station and observations on the plight of Detroit and the post-industrial city.
- ◆ Brian Solomon and Patrick Yough. **Coal Trains: The History of Railroad and Coal in the United States.** Voyageur Pr., 2009. 160 pp., illus. \$37. Over 200 photos illustrate how railroads move coal. Chapters cover the anthracite haulers, the Appalachian bituminous coal railroads, and those that service the Illinois, Powder River, and Unitah coal basins. Rev.: *NRHS Bulletin*, Vol. 75 (Summer 2010), p. 37.
- ◆ Ilene R. Tyler and Ann K. Dilcher. **Sustainable Heritage Conservation: Pere Marquette Railroad Depot in Michigan.** *APT Bulletin*, Vol. 41, No. 1 (2010), pp. 21-26. Project to restore the Bay City depot, which was near the brink of demolition, focused on ways to retain its original features (e.g., wide, overhanging canopies and numerous large windows) while improving its energy efficiency.
- ◆ Robert Walz. **The Garden City Western.** *NRHS Bulletin*, Vol. 75 (Summer 2010), pp. 22-34. Western Kansas shortline in business since 1916.

## AUTOMOBILES & HIGHWAYS

- ◆ Paul Clemens. **Punching Out: One Year in a Closing Auto Plant.** Knopf Doubleday, 2011. 288 pp. \$25.95. Investigates the 2006 closing of the ThyssenKrupp (former Budd Company) auto-part stamping plant on Detroit's East Side (tour site—2005

SIA Fall Tour). Built in 1919, it was one of the oldest active plants in the city. Follows the sad, brutal process of picking it apart and sending it, piece by piece, to the countries that now have use for the machines.

- ◆ Joe Flanagan. **Freeway, Seattle's Alaskan Way Viaduct.** *CG* (Winter 2010), Vol. 15, No. 4, pp. 26-36. History of the double-deck freeway, emblematic of the postwar approach to urban mobility. Also in this issue, Meghan Hogan. **Ridgetop Ramble, Engineered Delight along the Blue Ridge Parkway.** Celebrates the 75th anniversary of the Blue Ridge Parkway with documentation photos by HAER.

## AERONAUTICS

- ◆ Tom D. Crouch. **Chauffeur of the Skies, Roy Knabenshue and the Gasbag Era.** *Timeline* (April/June 2011), Vol. 28, No. 2, pp. 24-41. Balloons and dirigibles built and flown by Knabenshue, an Ohio native, who advanced and popularized lighter-than-air flight technology in the early years of the 20th century.
- ◆ Margaret Foster. **Fire Burns WWII Hangar in Alaska.** *Preservation Online* (Feb. 18, 2011), [www.preservationnation.org/magazine](http://www.preservationnation.org/magazine). Damage to Hangar Two, built in 1944, at Ladd Field in Fairbanks.

## WATER TRANSPORTATION

- ◆ Kornelia Takacs. **Compass Chronicles.** Astragal Press, 2010. 176 pp., illus. \$39.99. General guide to compass types, their history, special uses and patented improvements.
- ◆ Nathan Ward. **Dark Harbor: The War for the New York Waterfront.** Farrar, Straus & Giroux, 2010. 250 pp. \$26. How journalist Malcolm Johnson, whose Pulitzer Prize-winning series became the book and movie *On the Waterfront*, came to investigate and expose corruption on the docks of New York Harbor. Also discussed is life on the docks for the men who worked for lousy pay in unsafe conditions loading and unloading ships. Rev.: *NY Times Book Review*, Sept. 26, 2010.
- ◆ John H. White, Jr. **Hudson River Steamboats.** *I&T* (Winter 2011), pp. 30-39. How the Hudson was a hotbed of innovation and competition for the world's fastest vessels in the 1840s.

## AGRICULTURE & FOOD PROCESSING

- ◆ Paul Deed. **Roman Fish Salting Factory in Denia.** *Euro Weekly News* (Feb. 24, 2011), [www.euroweeklynews.com](http://www.euroweeklynews.com). Archeologists have located the remains of a fish-salting factory (c. 300-500 A.D.) underneath downtown Denia, Spain. It consists of four contiguous pools dug into the earth and coated with a heavy lime-based plaster.
- ◆ Michael Emery and Irwin Richman. **Yesterday's Farm Tools & Equipment.** Astragal Press, 2010. 208 pp., illus. \$39.99. Illustrated guide to the tools associated with haying, grains, tobacco, orchards, poultry, dairy, horses, and mules in farm practices. Over 500 photos of tools from the Landis Valley Museum, Lancaster, Pa.
- ◆ Margaret Foster. **Dogfish Head Brewery Revives Delaware Cannery, Town.** *Preservation Online* (Jan. 13, 2011); [www.preservationnation.org](http://www.preservationnation.org). The successful micro-brewer, located in Milton, Del., has expanded into the former, and until recently abandoned, warehouse of the Draper-King Cole cannery.
- ◆ Susanne Freidberg. **Fresh: A Perishable History.** Harvard Univ. Pr., 2009. 416 pp. \$27.95. New refrigeration and transportation technologies that allowed distributors to defy geography and seasonality in delivering foods, c. 1850-1950. Rev.: *T&C* (Oct. 2010), pp. 1031-33.
- ◆ Elisabeth Ginsburg. **The Blueberry Queen: How a New Jersey Town Celebrates Its Pioneer.** *Preservation Online* (Mar.

21, 2011). Whitesbog, N.J., celebrates its blueberry industry and preserves worker housing, a general store, pay office, and processing and packing plants.

## COMMUNICATIONS

- ◆ Christophe Lecuyer and David C. Brock. **Makers of the Microchip: A Documentary History of Fairchild Semiconductor.** MIT Pr., 2010. 368 pp., illus. \$24.95. History of the early years of Fairchild (est.1957). The company became the model for the Silicon Valley start-up. Features a collection of facsimiles of documents including the company's first prospectus; ideas, sketches, and plans; and a notebook kept by cofounder Jay Last.
- ◆ **Technology & Culture**, Vol. 51, No. 4 (October 2010) features a series of articles on early radio and telephony: Gabriele Balbi, *Radio before Radio: Araldo Telefonico and the Invention of Italian Broadcasting* (distribution of news and entertainment programming via telephone lines and house-based phones); Noah Arceneaux, *Wanamaker's Department Store and the Origins of Electronic Media, 1910-1922* (Philadelphia department store featured its own storefront radio stations to advertise and sell radios); Priya Satia, *War, Wireless, and Empire: Marconi and the British Welfare State, 1896-1903* (Marconi's use of media to foster the reputation and commercial prospects of radio, particularly playing on radio's ability to tie together the far-flung British empire); and Christopher Beauchamp, *Who Invented the Telephone? Lawyers, Patents, and the Judgments of History* (focus on the army of lawyers who shaped the ownership and control of the telephone patents, and in the course of their legal arguments also popularized a unified but inaccurate history of its invention).
- ◆ Tom Wheeler. **Lincoln's t-Mails.** *I&T* (Winter 2011), pp. 22-29. How the President used the new technology of telegraphy to communicate with his generals in the field.

## BRIDGES

- ◆ Ben Barr. **Conway and Britannia Tubular Bridges: Stephenson's Team.** *EHH*, Vol. 163, Issue EH1, pp. 51-60. Describes sequence of model tests and the methods used to overcome the problems of buckling identified in the experimental work undertaken in the late 1840s and early 1850s by Stephenson prior to construction of the landmark bridges.

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*With Thanks.*

- ◆ **Covered Bridge Topics**, Vol. 68, No. 4 (Fall 2010) includes Lola Bennett, *William Henry Gorrill and the Pacific Bridge Company* (prominent California bridge builder); *The Delaware Giants* (historic photo essay of covered bridges over the Delaware River); Gerald Arbour, *Chronicles of Old Quebec, The First Thiffault Crossings and Its Neighbor* (construction of bridges at La Bostonnais in 1945-46); *Some Twin Covered Bridges from Vermont* (photo essay on bridges that are so close that one can be seen from the other). Vol. 69, No. 1 (Winter 2011) includes *A Look into Stereo* (the Ellsworth Collection of stereographs at the NSPCB archives); *1828 Bridge Timber Used in Central Maine Barn* (1828 lattice truss timbers found re-used in barn in Leeds); and *T. Willis Pratt and His Plank Warren Truss* (a patented truss design of 1873). Avail. with membership in the National Society for the Preservation of Covered Bridges, [www.coveredbridgesociety.com](http://www.coveredbridgesociety.com).
- ◆ Michael Gould. **The Innovative Use of Concrete by the LMS Railway.** *EHH*, Vol. 163, Issue EH3, pp. 139-146. How precast, reinforced-concrete bridge decks were introduced by the London, Midland and Scottish Ry., from 1911 on.
- ◆ Andrew Grossman. **Finding a Fix for the Tappan Zee.** *WSJ* (Feb. 15, 2011). The NY State Thruway Authority's Tappan Zee Bridge, opened in 1955 and carrying increasing traffic loads under deteriorating conditions, is presented as an example of how government agencies are considering public-private partnerships to fund infrastructure repairs.
- ◆ Ken Kobus [SIA]. **Pittsburgh's OC Bridge.** *Keystone* (Spring 2011), Vol. 44, No. 1, pp. 67-81. History of the Ohio Connecting Ry. Bridge, a multi-span truss bridge over the Ohio River, built in 1914-15 as part of a bypass around Pittsburgh's Union Station yard. Derived from paper presented at the SIA Annual Conference in Pittsburgh in 2009. Also in same issue, Ken Kobus, **Conway Enginehouse**, pp. 12-14. Project to document the enginehouse prior to its demolition by Norfolk Southern in 2010. The enginehouse was built in 1909 at the PRR Conway Yard. *Keystone* is the quarterly journal of the Pennsylvania RR Technical & Historical Society, [www.prrths.com](http://www.prrths.com).
- ◆ Henry Petroski. **Bridges of the Mediterranean.** *American Scientist*, Vol. 99, No. 1 (Jan.-Feb. 2011), pp. 15-19. Traces the history of the region's bridges from ancient times (citing from Herodotus) up to the modern day.

## BUILDINGS & STRUCTURES

- ◆ Robert Behre. **Architect Jack Graham Recalls Inspiration behind Local Landmark, Sullivan's Island Lighthouse.** *Charleston (S.C.) Post and Courier* (Jan. 17, 2011). Light, built in 1962, has an unusual triangular shaft and hexagonal base. Graham was a student of Louis Kahn and went to work at the U.S. Coast Guard Headquarters in the 1950s.
- ◆ David M. Foxe. **Building Information Modeling for Constructing the Past and Its Future.** *APT Bulletin*, Vol. XLI, No. 4 (2010), pp. 39-45. An equally philosophical and practical approach in explaining how building information modeling (BIM) can—and must—be adapted for use in historic preservation practice.
- ◆ Lawrence F. Kruth and Jeffrey E. Gasparott. **An Inside Job.** *MSC* (Dec. 2010), pp. 26-30. The conversion of the Lansing, Mich. Ottawa Street Power Station to ten stories of Class A office space. The steel erector framed new floors within the existing structure, even using the turbine hall's original craneway to erect new steel. A sidebar gives a brief history of the 1939 Art Deco structure.
- ◆ Catherine C. Lavoie. **The Role of HABS in the Field of Architectural Documentation.** *APT Bulletin*, Vol. XLI, No. 4 (2010), pp. 19-24. Evolution of the Historic American Buildings Survey, from its creation in 1933, through the advent of

computer-aided drafting, to proving the continued relevance of hand measurement in a digital era.

- ◆ Yves Marchand and Romain Meffre. **The Ruins of Detroit.** Steidl, 2010. 230 pp. English ed.: \$125. Coffee table-style photographic documentation of Detroit's abandoned buildings of all types from factories to churches, train stations to libraries.
- ◆ George C. Skarneas. **From HABS to BIM: Personal Experiences, Thoughts, and Reflections.** *APT Bulletin*, Vol. XLI, No. 4 (2010), pp. 47-55. Changes in the field of architectural documentation from the 1930s to the present. Offers lessons learned and expresses healthy skepticism about the limits of digital technology.
- ◆ Kelly Streeter. **Information Technology for Building Documentation.** *APT Bulletin*, Vol. XLI, No. 4 (2010), pp. 33-38. Pros and cons of various approaches to building condition assessment process, hardware, and software.

## WATER CONTROL & RECLAMATION

- ◆ Manny Fernandez. **For Water Tunnels, Age Is Just a Number.** *NY Times* (Jan. 16, 2011), p. MB8. Describes construction of a new water tunnel for New York City's new Croton filtration plant; "the 1800s meet the 2000s" at an intersection between new and old aqueducts.
- ◆ Manny Fernandez. **Miles of Sewer Lines, and He Knows Them Well.** *NY Times* (Feb. 16, 2011). Luis Baerga, New York City's longest-serving sewer inspector, recounts his experiences with French film crews, debunks the alligator myth, and explains why live rats are better than dead ones.

## ABBREVIATIONS:

APT	= Association for Preservation Technology International
CG	= <i>Common Ground</i> , published by the National Park Service, <a href="http://commonground.cr.nps.gov/index.cfm">http://commonground.cr.nps.gov/index.cfm</a> .
CH	= <i>Construction History</i> , journal of the Construction History Society
EHH	= <i>Engineering History &amp; Heritage</i> , published by the Institution of Civil Engineers, <a href="http://www.engineeringhistoryandheritage.com">www.engineeringhistoryandheritage.com</a> .
I&T	= <i>American Heritage of Invention &amp; Technology</i>
MSC	= <i>Modern Steel Construction</i> , published by the American Institute of Steel Construction
NRHS	= National Ry. Historical Society
T&C	= <i>Technology &amp; Culture</i> , published by the Society for the History of Technology
Timeline	= published by the Ohio Historical Society, \$40/yr. Info: (614) 297-2315
WSJ	= <i>Wall Street Journal</i>

*Publications of Interest* is compiled from books and articles brought to our attention by you, the reader. SIA members are encouraged to send citations of new and recent books and articles, especially those in their own areas of interest and those obscure titles that may not be known to other SIA members. *Publications of Interest*, c/o SIA Newsletter, 305 Rodman Road, Wilmington, DE 19809; [phsianews@aol.com](mailto:phsianews@aol.com).

## CHAPTER NEWS

Oliver Evans (Greater Philadelphia). On March 14, over twenty members and friends of the chapter had an opportunity to examine at the American Philosophical Society a patent dated 1808 for an automated flour mill invented by the namesake of their chapter. Roy Goodman, Asst. Librarian and Curator of Printed Materials, explained that the document was part of the Warren S. McCulloch Papers, recently acquired by the Society. Anyone interested in viewing the patent may contact Charles Greifenstein, manuscripts librarian ([cgreifenstein@amphilsoc.org](mailto:cgreifenstein@amphilsoc.org)). On May 16, historian and author Regina Blaszyk made a presentation to the chapter on the history of Plexiglas as part of her research for the centennial of Philadelphia's Rohm & Haas

Co. (now part of Dow Chemical), which was instrumental in transferring methacrylate technology from Europe and adapting it for use in airplane windows in the 1930s.

Roebling (Greater N.Y.-N.J.) members were treated to a special tour of the Vertical Urban Factory exhibit at the Skyscraper Museum (SIAN, Winter 2011) on March 5. The tour was led by curator Nina Rappaport. SIA Past-President Mary Habstritt, who served as an advisor on the exhibit, gave a talk on New York's industrial heritage at the museum on Feb. 23. Chapter members toured the Modern Art Foundry ([www.modernartfoundry.com](http://www.modernartfoundry.com)) in Astoria, Queens, on March 20. The foundry, which specializes in casting sculptures and conservation work, has been in operation since 1932 and at the same location since 1944.

Southern New England has a new website that is up and running. Editors William Burt and Craig Austin encourage members to communicate with them through the website and to send in news, notices of events, items of interest, etc. The new SNEC website is being hosted on the SIA website: [www.sia-web.org/chapters/snec/snecindex.html](http://www.sia-web.org/chapters/snec/snecindex.html). ■

**Support Your Local Chapter.** For info on a chapter near you or to start one, contact Tim Mancl, SIA Director, Local Chapter Chair ([tjmancl@gmail.com](mailto:tjmancl@gmail.com)) or check out the local chapters section of the SIA website ([www.sia-web.org](http://www.sia-web.org)).



OESIA members gathered at the American Philosophical Society to view manuscripts associated with the chapter's namesake.

## SITES & STRUCTURES

The **Sparrows Point steel mill** (tour site—1995 SIA Annual Conference, Baltimore), which has been closed since July 2010, is set to restart. The announcement was made by New York-based RG Steel, which closed a deal to purchase the plant from Severstal, the Russian-based steelmaker. Severstal had purchased Sparrows Point from the financial wreck of Bethlehem Steel in 2008. RG Steel hopes to rehire nearly 1,000 workers who were laid off and bring the mill into full production as soon as possible. It is anticipated that the blast furnace will become operational in May. As part of the deal, RG Steel also acquired mills in Warren, Ohio and Wheeling, W.Va.—*Baltimore Sun* (Mar. 17 and Mar. 31, 2011)

Baltimore's next big rehab of an IA white elephant will be **Mount Vernon Mill No. 1** in Jones Falls Valley, south of the folkloric neighborhood of Hampden. The multi-story brick mill was started in 1845 by the same investors who in 1842 had built the Woodberry Factory (a 2010 casualty to fire). Mount Vernon No. 1 grew to remarkable length and overran the site of the older Laurel Flour Mill. During the expansion of 1873, it suffered a fire but was rebuilt. Some of the 1840s fabric still stands. The works converted to synthetic textiles in 1948, then closed up in 1972 and sent its activities to the South. The vast space later housed smaller enterprises including Rockland Mills, Inc., which made medical gauze. David Tufaro is the developer of the rehab, which aims to convert the vast spaces into condos, apartments, and two restaurants. Oddly enough, the great Kremlesque bell that summoned the workers each day was known as "Big David," for the formidable manager and major investor David Carroll.—*John McGrain* (SIA)

The **Robert Julian Roundhouse and Turntable** was named an American Society of Mechanical Engineers historic landmark at a ceremony in March. The 37-bay roundhouse, built in 1924 and one of the largest ever constructed, is located at the Spencer Shops of the former Southern Ry., which now house the North Carolina Transportation Museum in Rowan, N.C.—*Salisbury Post* (Mar. 20, 2011)

The U.S. Coast Guard honored the **Smilax** as the Queen of the Fleet at a ceremony at its home port of Fort Macon in Atlantic Beach, N.C. The *Smilax* is a 100-ft.-long construc-

tion tender and the oldest operating cutter in the fleet. It was built by the Dubuque Boat & Boiler Works in 1944.—*Charlotte Observer* (Apr. 14, 2011)

The **WSM radio tower** south of Nashville, Tenn., is under study for addition to the National Register. The 808-ft.-tall steel tower, built in 1932, has been used to broadcast the legendary Grand Ole Opry country music show that popularized country music and spread it beyond the South.—*The Tennessean* (Jan. 20, 2011)

The **S.S. United States**, the down-on-its-luck luxury ocean liner that has been rusting away at a pier in Philadelphia since 1996, gained a new lease on life earlier this year when it was acquired by the S.S. United States Conservancy. Built in 1952, she still holds the record for the fastest crossing of the Atlantic Ocean in either direction by a regularly scheduled passenger liner. The conservancy was able to raise \$3 million to buy her from NCL Group, the operator of Norwegian Cruise Lines. NCL had acquired the liner about ten years ago with plans to rehabilitate her for use cruising the Hawaiian Islands, but those plans never came to realization. NCL was taking bids from scrapyards when the conservancy was able at the last minute to raise funds to match the ship's scrap value. The conservancy's goal is a public-private partnership to permanently dock the ship and fill it with hotel rooms, restaurants, classrooms, and offices.—*Wall Street Journal* (Feb. 1, 2011) ■



HAER NC-8.

*The Robert Julian Roundhouse and Turntable at the Southern Ry. Spencer Shops.*

## Digital SIAN Reminder

SIA members now have the option of downloading the *SIAN* as a digital download at the time of publication, which is typically three to four weeks before the printed version arrives in your mailbox. You will still receive the printed copy unless you opt out, but now you can read the electronic version sooner.

Members who have signed-up to receive the SIA's e-news will receive notification when the paperless version of each issue becomes available. If you haven't been re-

ceiving e-news, please make sure we have a good email address for you. Members can sign up for e-news at the SIA website ([www.siahq.org](http://www.siahq.org)). The e-news message will direct you to an unpublicized part of the SIA website where you may view and download the issue. You are encouraged to share the electronic *SIAN* with your colleagues and friends as a membership recruitment tool.

To sign up for the paperless option, contact SIA headquarters at [SIA@mtu.edu](mailto:SIA@mtu.edu).

# IA Notes—Fire Insurance Maps and Environmental Assessments

Fire insurance maps are an esteemed source of information for the study of historic industrial establishments and a tool commonly used by industrial archeologists.\* They are especially valuable to the environmental assessor, since the fire insurance companies were concerned with many of the structures, operations, and hazardous substances that are relevant to a Phase I Environmental Assessment.

Associated Factory Mutual Fire Insurance Companies of Norwood, Mass., prepared excellent site-specific fire insurance maps of industrial facilities. Other companies published coverage of cities, such as Ernest Hexamer & Son's mapping of Philadelphia. But for nationwide coverage and ready availability, the fire insurance maps prepared and published by Sanborn Map Company of Pelham, N.Y., are the essential reference. Fire insurance maps are so important to the environmental assessor that Sanborn was acquired by Environmental Data Resources, Inc. (EDR) of Milford, Conn. EDR is a vendor of environmental regulatory agency databases, and acquired Sanborn after fire insurance maps became a standard research tool for every Phase I Environmental Assessment per the American Society for Testing Materials (ASTM) standard E 1527-05. EDR provides electronic black-and-white reductions of Sanborn maps. Many environmental assessors—including some with years of experience—have never seen an original Sanborn atlas and don't know that the maps are usually large and colorful.

The author's library includes a Sanborn atlas for a portion of Boston (Vol. 5; Breed's Island, East Boston, and Charles-

town), published in 1927. The last hand-pasted revisions were attached on Sept. 19, 1932. A diversity of industrial establishments is depicted, including the Hodge Boiler Works at 99 Summer Street; Middlebrook Wool Combing Co. at 308-314 Border Street; General Electric Co.'s East Boston Lamp Works at 156-200 Porter Street; East Boston Potteries at 146 Condor Street; and Gibby Foundry Co. at 96 Condor Street. Various other establishments and features of potential environmental concern are also depicted.

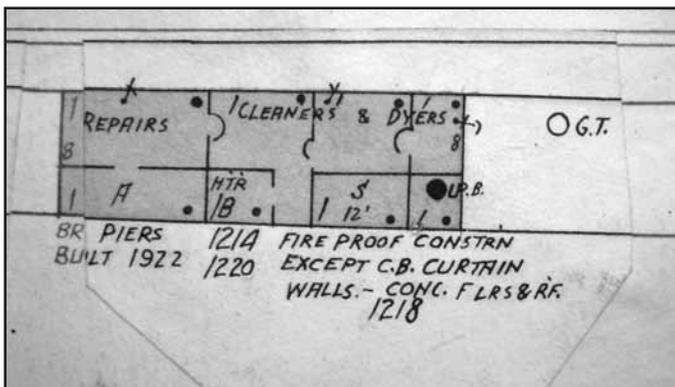
Not surprisingly, "G.T." (gasoline tank) is an immediate concern. Underground storage tanks are usually depicted as circles on Sanborn maps, less commonly as rectangles. The collection of soil and groundwater samples from borings is usually preceded by a geophysical survey (magnetometer and ground-penetrating radar) to delineate the tank. Nonetheless, the indication of a tank's dimensions and alignment by its depiction as a rectangle is obviously more useful than a circle.

Transformer vaults are another feature of interest to the environmental assessor. Because of the dangers of shrapnel and scalding hot oil associated with a transformer explosion, liquid-cooled transformers were often located in concrete vaults. Other discrete rooms depicted include those for the storage of solvents and paints.

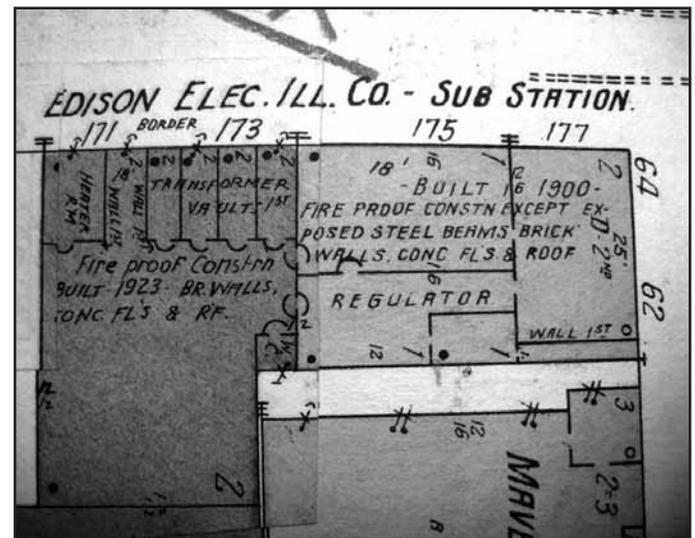
Sanborn maps differentiate among the various types of laundry establishments, labeling them as steam laundry, Chinese laundry, wet wash laundry, etc. The differentiation was likely due, at least in part, to the dangers associated with a boiler explosion. Of immediate concern to the envi-

(continued on page 13)

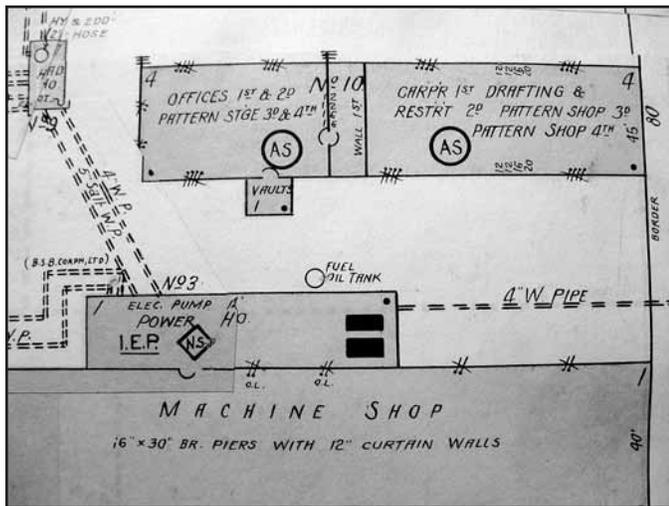
All maps Boston, Mass., Vol. 5; Breed's Island, East Boston, and Charlestown, Sanborn Map Co. 1927, rev. 1932.



The environmental assessor's perfect storm: an automobile ("A") repair shop adjoining a dry cleaner, adjoining a gasoline underground storage tank, 1214-1220 Bennington St. "S" is a store. The black circle labeled "U.B." represents an upright boiler, probably to generate steam for the cleaner's garment presses. A separate heater ("H'T'R") for space heating of the building is indicated in another room.



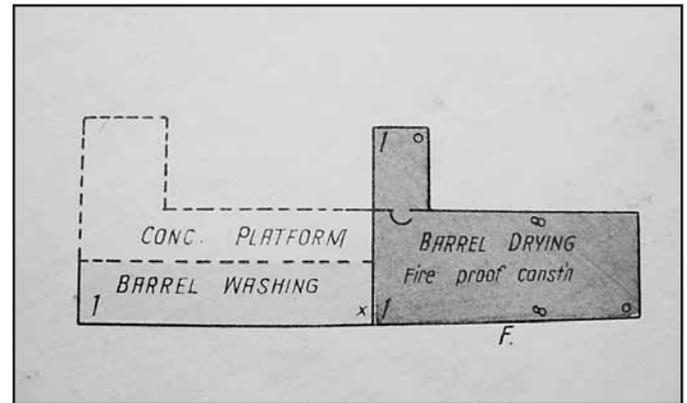
Four transformer vaults in the Edison Electric Illuminating Co. substation at 171-177 Border St.



Fuel oil tank (center, outside powerhouse) Bethlehem Ship Building Corp. Ltd., Atlantic Works Plant, 80 Border St. The two black rectangles are horizontal boilers.

ronmental assessor is a dry cleaner, the use of chlorinated solvents (trichloroethylene and perchloroethylene) by dry cleaners dates to at least as early as the 1920s.

Like any map, a fire insurance map depicts only the features and operations identified by the field personnel and included by the mapmaker. In rare instances, “Admittance refused” is noted with regard to a particular establishment, in which case the physical plant is depicted on the basis of public records. Whatever their limitations may be, fire insurance maps are an invaluable tool to the industrial archaeologist and environmental assessor alike. When maps con-



Barrel washing and drying building of the Standard Oil Co. of New York’s Beacon Yard, near 580 Chelsea St. Barrels may have been inverted on the concrete platform in order to drain them of residue prior to washing. Rinsate from washing may have been discharged to the ground surface outside the building via floor drains or scuppers.

cur with information contained in other sources (especially city directories), the investigator is reasonably assured that the information is sound and conclusions can be developed.

Michael Bernstein

\*N.B., for more on the use of insurance maps in IA studies, see Vogel, Robert M. [SIA] “Quadrangular Treasure: The Cartographic Route to Industrial Archeology.” *IA*, Vol.6, No.1 (1980): 25-54; and, Wright, Helena E. [SIA] “Insurance Mapping and Industrial Archeology.” *IA*, Vol. 9, No.1 (1983): 1-18.

## IA ON THE WEB

**Detroit 1906** ([www.merit.edu/~jim Moran/detphot/detroit.html](http://www.merit.edu/~jim Moran/detphot/detroit.html) or search for “Detroit 1906”). This site is built around a detailed analysis of a panoramic photo of the Campus Martius public square. Discusses streetcars, street patterns, air quality, and commercial architecture. Also **The Ruins of Detroit** ([www.steidville.com/books/1050-The-Ruins-of-Detroit-English-Edition.html](http://www.steidville.com/books/1050-The-Ruins-of-Detroit-English-Edition.html)). Although this site is primarily the publisher’s publicity for the book of the same name, it includes an extensive gallery of Detroit industrial-site photos.

**Domino Sugar Refinery** ([www.thedominoeffectmovie.com](http://www.thedominoeffectmovie.com)). The 9-min. trailer for *The Domino Effect*, a new documentary on the redevelopment of the Domino Sugar site in Williamsburg, Brooklyn (tour site—SIA Annual Conference 2002) and the larger impact of rezoning on this neighborhood, which formerly was working-class and industrial. The filmmakers are raising money toward releasing it.

**Bridge Hunter** (<http://bridgehunter.com>). Photos and brief descriptions of thousands of historic bridges across the U.S.

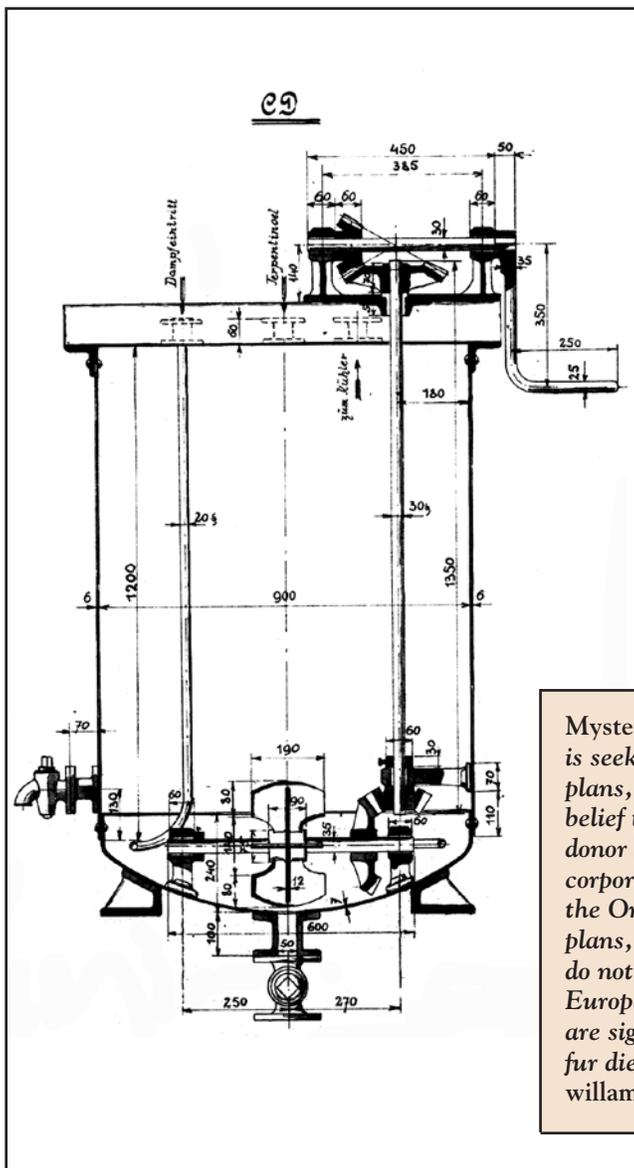
**Langhorne Carpet Co.** ([www.newsworks.org/index.php/art-entertainment-sports/item/11972-27pcarpet](http://www.newsworks.org/index.php/art-entertainment-sports/item/11972-27pcarpet)). Short video shows operations of one of the last manufacturers of woven carpets. Most carpet now is made by computerized “tufting”—a row of needles knitting carpets to a backing material and binding them with glue. The company in Bucks County, Pa. uses mechanical looms that haven’t changed much in over 100 years.

**Postcards of Rochester, N.Y.** ([www.flickr.com/photos/rochestersubway/sets](http://www.flickr.com/photos/rochestersubway/sets)). Private collection of 183 vintage postcards features many views of commercial and industrial structures.

**Society for Historical Archaeology Publications** ([www.sha.org/publications/](http://www.sha.org/publications/)). The SHA’s “publications explorer” contains all major SHA publications from 1967 to the present, including a large number of articles and technical briefs related to industrial topics. While most publications are free, some might need to be purchased.

(continued on page 14)

## NOTES & QUERIES



The Center for the History of Business, Technology & Society at the Hagley Museum & Library, Wilmington, Del., has created a new research grant opportunity and revised its grant application procedures. In addition to its existing research and dissertation grant programs, the Center now invites applications for one-week exploratory research grants that are intended to determine if Hagley collections are useful for a particular project. Hagley has among the nation's largest collections of imprints and archival materials related to the history of industry and technology. Info: [www.hagley.org/library/center/grants.html](http://www.hagley.org/library/center/grants.html).

**English Industrial Heritage at Risk** is a program of research and public involvement recently launched by English Heritage in response to concerns that many of the nation's industrial landmarks, from canals to factories, are suffering from deterioration and neglect. The aim is to get the public and those responsible for the sites involved in a debate over the future of industrial heritage before it is too late. The study has revealed the extent to which the nation's listed or scheduled industrial heritage is at risk. The ultimate goal is to develop proposals for directing resources toward the neediest cases. Info: [www.english-heritage.org.uk/industrial-heritage-at-risk](http://www.english-heritage.org.uk/industrial-heritage-at-risk). ■

**Mystery German Mill Plans.** *The Willamette Falls Heritage Foundation is seeking information to assist with identification of a large roll of mill plans, a detail of which is shown left. The plans were donated in the belief that they were for an Oregon paper mill because the deceased donor had emigrated to the U.S. in 1920 and worked for several mill corporations in the northwest, including Publishers Paper, which ran the Oregon City mill for decades. Upon closer inspection, however, the plans, which are incredibly detailed and in color pencil or watercolor, do not appear to be of any Oregon mill, but a mill somewhere in Europe, perhaps Prague. One plan is dated 1907, a few of the plans are signed by Dr. R. Jurgensen, and some are stamped Techn. Bureau fur die Chemische Industrie. Info: Sandy Carter, (503) 655-0659; [willamettefalls@msn.com](mailto:willamettefalls@msn.com).*

### IA ON THE WEB (continued from page 13)

**The Steam Locomotive** ([www.liveleak.com/view?i=816\\_1298931726](http://www.liveleak.com/view?i=816_1298931726)). An 18-min. film documenting operations on the NY Central in 1938. Also on Liveleak (browse "locomotive"), several other old documentaries on railroad operations, mostly from Britain.

**Triangle Shirtwaist Factory Fire Centennial Project** (<http://rememberthetrianglefire.org/open-archive/>). The Triangle Fire Open Archive is an online, participatory archive of community-contributed stories, images and documents. Each of these objects tell a piece of the history and impact of the infamous New York City Triangle factory fire of 1911 and its critical relevance for today's pressing questions about labor rights and safety, from New York City to Wisconsin to Bangladesh.

**Welland Canal** (<http://mistermerrittsditch.ca/>). Features history and postcard views of the canal (tour site—SIA Fall Tour, Niagara Falls, 1984) and canal-side industries. Many of the bridges have long since been removed, as have the enormous concrete utility poles designed to allow clearance for the high-masted ships still common on the second Welland Canal of 1888. The Burgoyne Bridge, a high-level truss built in 1915, is under threat of replacement. ■

"IA on the Web" is compiled from sites brought to the editor's attention by members, who are encouraged to submit their IA Web finds: [phsianews@aol.com](mailto:phsianews@aol.com).

## IA EXHIBITS

**Designing Tomorrow: America's World Fairs of the 1930s** will be on display at the National Building Museum in Washington, D.C. through July 10. Between 1933 and 1940 tens of millions of Americans visited world's fairs in cities across the nation. *Designing Tomorrow* explores the modernist spectacles of architecture and design they witnessed—visions of a brighter future during the worst economic crisis the U.S. had known. The fairs popularized modern design for the American public and promoted the idea of science and consumerism as salvation from the Great Depression. Info: [www.nbm.org](http://www.nbm.org).

**Harnessing the Hudson** is an exhibit through September 25 at the Chapman Historical Museum (Glens Falls, N.Y.) exploring the history of waterpower in upstate New York from colonial sawmills to modern generating stations. The exhibit features photographs and archival materials from the museum's Spier Falls collection. In 1898, the Mechanicville hydroelectric plant began producing electricity for Glens Falls and surrounding communities, as well as the large General Electric Plant in Schenectady, 50 miles away. Info: [www.chapmanmuseum.org](http://www.chapmanmuseum.org).

**Jolan Gross-Bettelheim: An American Printmaker in an Age of Progress** features rare prints by the Hungarian-American artist (1900-1972), a pioneering modernist woman printmaker who excelled in creating prints of industrial scenes, machinery, and technology. Her compositions celebrated the modernist geometric imagery that prevailed during America's machine age. The prints are comparable to those of leading American printmakers, although her work is not widely known. On display at the Jane Voorhies Zim-

merli Art Museum at Rutgers University, New Brunswick, N.J. through July 31.

**Railroad Communications and Signaling** will be on exhibit at the RR Museum of Pennsylvania in Strasburg through Dec. 31. From solitary signals to centralized-traffic-control centers, learn about the history of railroad technical operations and try to run a simulated rail traffic operation in this exhibit. Photographs, artifacts, and video from the museum's rich collections round out the fascinating story of rail communication. Info: [www.rrmuseumpa.org](http://www.rrmuseumpa.org).

The **B&O RR Museum** (tour site—1995 Annual Conference, Baltimore) is marking the 150th anniversary of the Civil War with a special exhibit **The War Came by Train** open through May 2015. The Civil War was the first major conflict where railroads played a prominent role, and the B&O was a major line that straddled the divided country. Between April 19, 1861 (the Baltimore Riot) and April 21, 1865 (Lincoln's Funeral Train), the B&O stood witness and participant to the war that changed the course of American history. The exhibit features photographs, broadsides, interpretive signage, video presentations, life-size dioramas, artifacts related to the B&O's operations, and the largest assemblage of Civil War railroad equipment in the world including eight locomotives and cars that served during the war. Locomotives to be presented include The William Mason (1858), The Thatcher Perkins (1863), The Atlantic (1832), The Memnon (1848), The John Hancock (1835), and the Pioneer (1851) on loan from the Smithsonian Institution. Kid-friendly interactive exhibits will engage children in learning about Civil War railroads.—*B&O RR Museum Train Mail* (Mar. 2011) ■

## CONFERENCES & WORKSHOPS

**Reading Artifacts Summer Institute.** The Canada Science & Technology Museum in Ottawa offers a week-long workshop, Aug. 15-19. It will be held in the museum's storage facility in the midst of Canada's largest collection in science, medicine, and technology. With sessions led by material culture scholars and open to students, faculty, scholars, and professionals, the institute will challenge participants to think beyond traditional accounts of science and technology and gain a renewed appreciation for artifacts and the multiple, unpredictable stories they tell. Info: [www.sciencetech.museums.ca/English/whatson/2010-reading-artifacts.cfm](http://www.sciencetech.museums.ca/English/whatson/2010-reading-artifacts.cfm).

**Call for Papers:** The Pioneer America Society: Assn. for the Preservation of Artifacts & Landscapes (PAS: APAL) will hold

its 43rd annual conference at the Indian River State College and Marriott Courtyard in Stuart, Florida, on Oct. 12-15. The conference theme is *Boom and Bust: Landscapes of Economic and Cultural Transition*. The emphasis is to document the boom and bust cycles in Florida and show how these cycles affected real estate, architecture, transportation, coastal development, cultural diversity, agricultural landscapes and shifting land use, environmental issues, and what the future holds for the Treasure Coast. Presentations will be limited to 20 minutes. Abstracts must be no longer than 300 words, including the author's name, affiliation, and title. Deadline: Aug. 27. Abstracts should be sent directly to: Marshall E. Bowen, 2011 PAS: APAL Conference, 1007 Cadmus Dr., Fredericksburg, VA 22401; [mbowen@umw.edu](mailto:mbowen@umw.edu). Info: [www.pioneeramerica.org](http://www.pioneeramerica.org). ■

# **SOCIETY FOR INDUSTRIAL ARCHEOLOGY**

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## CALENDAR

### 2011

**Aug. 26-Sept. 1:** Association for Industrial Archaeology Annual Meeting, Cork, Ireland. Info: [www.industrial-archaeology.org](http://www.industrial-archaeology.org).

**Sept. 5-8:** Rustbuckets or Floating Heritage?—Corrosion of Historic Ships Conference, Stockholm, Sweden. Info: [rustbuckets2011@maritima.se](mailto:rustbuckets2011@maritima.se).

**Sept. 22-25:** Society for the Preservation of Old Mills Annual Conference, Fairfax County, Va. Info: [www.spoom.org](http://www.spoom.org).

**Oct. 6-7:** First Annual Natural Gas History Symposium, Titusville, Pa. Sponsored by the Oil Region Alliance on the campus of the University of Pittsburgh at Titusville. Info: [www.oil150.com/calendar/details?id=291](http://www.oil150.com/calendar/details?id=291).

**Oct. 11-16:** Assn. for Preservation Technology Annual Conference, Victoria, B.C. Info: [www.apti.org](http://www.apti.org).

**Oct. 12-15:** Pioneer America Society: Association for the Preservation of Artifacts and Landscapes, Annual Conference, Stuart, Fla. Paper proposals requested. See article in this issue. Info: [www.pioneeramerica.org](http://www.pioneeramerica.org).

**Oct. 13-16:** SIA FALL TOUR, QUINNEBAUG VALLEY, CONN. See article in this issue. [www.sia-web.org](http://www.sia-web.org).

**Oct. 19-22:** National Preservation Conference, National Trust for Historic Preservation, Buffalo, N.Y. Paper sessions and tours on the topic of industrial heritage are planned, some with input from SIA members. Info: [www.preservationnation.org](http://www.preservationnation.org).

**Oct. 20-22:** Grain Elevators: A Heritage to Be Created, 3rd International Meeting of the TICCIH Agriculture and Food Section, Nogent-sur-Seine, France. Technology, construction, aesthetics, and conservation. Info: [picot.francoise@yahoo.com](mailto:picot.francoise@yahoo.com).

**Nov. 3-6:** Society for the History of Technology (SHOT) Annual Conference, Cleveland, Ohio. Info: [www.historyoftechnology.org](http://www.historyoftechnology.org).

**Nov. 17-18:** The Life of New Materials Conference, Hagley Museum & Library, Wilmington, Del. Co-sponsored by the Chemical Heritage Foundation and Philadelphia Area Center for History of Science. Info: [www.pachs.net/newmaterials](http://www.pachs.net/newmaterials).

**Nov. 17-20:** The 14th National Conference on Planning History, Baltimore, Md. Society for American City and Regional Planning History. Paper sessions and tours on architecture, planning, geography, and landscape design. Info: [www.dcp.ufl.edu/sacrph](http://www.dcp.ufl.edu/sacrph).

**Nov. 27-Dec. 2:** 17th ICOMOS General Assembly and Scientific Symposium, Paris, France. Theme of conference is Heritage: Driver of Development. Info: [www.icomos-paris2011.com](http://www.icomos-paris2011.com).

### 2012

**Jan. 4-8:** Society for Historical Archaeology Annual Conference, Baltimore, Md. Info: [www.sha.org](http://www.sha.org).

**Mar. 28-31:** American Society for Environmental History, Madison, Wis. Info: <http://aseh.net>.

**Apr. 18-22:** Society of Architectural Historians Annual Meeting, Detroit, Mich. Info: [www.sah.org](http://www.sah.org).

**May 31-June 3:** SIA 41st ANNUAL CONFERENCE, CINCINNATI, OHIO. Info: [www.sia-web.org](http://www.sia-web.org).

**Oct. 11-14:** SIA FALL TOUR, UTICA, N.Y. Tours of industrial sites in the Mohawk Valley and the Adirondacks. Info: [www.sia-web.org](http://www.sia-web.org). ■