



SOCIETY FOR INDUSTRIAL ARCHEOLOGY

NEWSLETTER

Volume 47

Winter 2018

Number 1

PRESERVING THE PRESIDENT PUMP ENGINE HOUSE

In 1872 one of the world's largest stationary engines was put into operation just south of Bethlehem, Pa. at the zinc mines in the village of Friedensville. The President pumping engine cleared the high groundwater from the mine pit and shafts, allowing zinc ore extraction. What remains today is a massive stone Cornish engine house. The adjacent Ueberroth quarry is full of aquamarine water in a bucolic setting that has the potential to be an attractive park with historical and archeological significance. The engine house is on private property owned by Lehigh University and site conditions are such that it is not currently open to the public.

Mark Connor, a local resident with a background in business and historical research, has studied the President Pump's history and is working with the township and the property owner to consider the development of a historical

park built around the engine house ruins. Connor is seeking to garner a broad coalition of parties interested in making this preservation project a reality. As a member of the SIA's Oliver Evans Chapter, he made a presentation to that group in Oct. 2017 at the Fairmont Water Works. This was a fitting setting given the innovative water pumping systems used at Fairmont and the fact that the President Pump was largely made in Philadelphia, then hailed as the "workshop of the world."

Connor's familiarity with the engine house goes back to his childhood. Of his impressions of the structure, he wrote: "I thought it looked like a castle from the classic illustrated comic books I loved to read. Stories like *A Connecticut Yankee in King Arthur's Court* were a particular favorite. Much to my surprise, my research into the engine house in Upper Saucon Township led directly back to Cornwall, England,

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Lehigh University

In This Issue:

- Slate of Candidates for 2018 SIA Election
- Update: 2018 SIA Annual Conference, Richmond, Va.
- Student Scholarships
- New SIA Tours and Events Coordinator
- Fall Tour Preview: Dayton, Ohio
- Roebling Chapter tour report: A Tale of Two Bridges

President engine house in 2017 following clearance of tree and vegetation growth from around building.

PRESIDENT PUMP ENGINE HOUSE (continued from page 1)

the legendary home of King Arthur! An even greater surprise was the architectural uniqueness of this structure and the extent that the pumping engine was a milestone in the history of both mining and mechanical engineering.”

The President Pump was dedicated in the name of the sitting U.S. president, Civil War hero General Ulysses S. Grant. The pump was capable of pulling up to 17,000 gallons of water per minute from a depth of 300 ft. The massive 3,000 hp engine had a single steam cylinder with an inside diameter of 110 in., so large that before its inauguration the company held a banquet inside of it. The steam to drive the engine came from 16 boilers that consumed 28 tons of coal per day, all hand stoked. The engine and boilers, of steel, wrought and cast iron, together weighed over 1,000 tons. People from all over the world came to see it, and its progress was reported in newspapers from the *New York Times* to the *South Australian Advertiser*, always describing the engine as an engineering marvel.

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; Website: www.sia-web.org.

Mailing date for Vol. 47, No. 1 (Winter 2018), March 2018. 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.

TO CONTACT THE EDITOR: Marni Blake Walter, Editor, SIA Newsletter, 11 Esty Rd., Westmoreland, NH 03467; sianeditor@siahq.org.

Although the President was built in world-class foundries in Philadelphia, it was designed and operated by Cornish-born engineers and technicians whose experience in deep-rock mining technology was recognized at the time as the best in the world. In terms of advances in steam technology, the President was the largest walking beam pumping engine ever used in a mining application and the largest single-cylinder stationary steam engine in the Western Hemisphere and, arguably, the largest in the world when the factors of physical size, power, and volume of water moved are collectively considered. The Cornishman who designed the President, John West, went on to design and oversee the installation of pumps in the gold and silver mines of the western U.S., where these Cornish-style pumps were essential to deep-rock mining.

The President Pump had two phases of operation. It operated continuously from 1872 until 1876, when the mines shut down as the cost to remove the water rendered them uncompetitive compared to other sources. From the 1880s until the early 1890s, the mines and the President operated again as the zinc ore was sought by European governments for its superior properties in making brass (an alloy of copper and zinc) for gun cartridges. The pump was so powerful that when it operated, nearby springs and wells started to run dry and farmers for miles around had to dig their wells deeper because the water table was being drawn down. As a result, the President was often referred to as a “monster machine” in local newsprint. The zinc mines finally closed completely in 1893 and zinc was not mined again in Upper Saucon Township until the 1950s when New Jersey Zinc opened a new mine near the old one.

In 1900, the President Pump's engine was sold for scrap, taken out of its stone house, and dynamited into movable pieces, which were then removed from the site. Crowds

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Mark Comer

President engine house and Ueberroth mine pit quarry in foreground, winter 2017.

2018 Richmond Conference Update: Registration Opens in Mid-March

SIA's 47th Annual Conference will be held in Richmond, Va., Thursday, May 31 through Sunday, June 3, 2018 (see article, *SIA* Fall 2017). Current SIA members will soon receive registration materials in the mail. Online registration will be available starting March 20 on the SIA website (*sia-web.org*).

As a center of multiple key American industries before the Civil War, the capital of Virginia exported coal, tobacco, and iron, and hosted the largest flour mill in the world. The Tredegar Iron Works produced half of all artillery tubes manufactured in South. After the war, the Golden Leaf became king with Tobacco Row hosting four of the largest manufacturers in the country. Support industries such as box making, paper making, lithography, and machine shops flourished.

The SIA Richmond planning committee continues to develop an exciting program featuring a mix of antebellum and post-Civil War Richmond and central Virginia industrial, transportation, and military sites. The conference will follow a familiar schedule of early bird tours and a reception on Thursday; process tours Friday; paper sessions, business luncheon, and banquet on Saturday; and optional tours Sunday. Thursday's tours include an all-day visit to the historic grounds of the University of Virginia in Charlottesville, a walking tour of Richmond's industrial waterfront, and rare holdings on local industry from the Collections of the Library of Virginia. Friday

process tours include O.K. Foundry, a family-owned producer of architectural castings; Strickland Machine Co., one of the oldest precision machine fabrication facilities in Virginia; and Philip Morris USA, with headquarters in Richmond since 1929. Transportation sites will include structures associated with the James River & Kanawha Canal, the Triple Crossing of three rail lines in Shockoe Bottom, the 1883 Byrd Park Pumphouse, Main Street Station, and bridges spanning the James River. In

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Student Travel Scholarships. The SIA awards travel scholarships to help full-time students and professionals with less than three years of full-time experience to attend annual conferences. Those interested in applying for a travel scholarship to attend the 2018 Annual Conference in Richmond, Va. should submit a concise letter outlining their demonstrated interest in and commitment to industrial archeology or a related field, and one letter of reference. **Deadline for applications is Mar. 31, 2018.** Apply to Patrick Harshbarger, SIA Scholarship Committee, 305 Rodman Rd., Wilmington, DE 19809; (609) 695-0122, ext. 115; pharshbarger@hunterresearch.com.



The skullcracker at the Appomattox Iron Works in historic Petersburg, where SIAers will visit an impressive collection of Antebellum industrial buildings and infrastructure.

Christopher Marston
Courtney Murtaugh



Canal keeper house on the Appomattox Canal, Petersburg.

PRESIDENT PUMP ENGINE HOUSE (continued from page 2)

came to watch as the 16 boilers were hauled away (each boiler was 50 ft. long and weighed about 8,000 lbs.) to be installed in other operations.

But the stone engine house was too massive to be demolished. What remains today is a part of the engine because the pump was “house built,” meaning that the engine house was an integral part of the engine design, supporting it rather than simply providing weather protection. Much of the massive stone walls and foundation of the engine house still exist. Similar pumping engine houses in Cornwall now form the key monuments of a UNESCO World Heritage landscape. They are to Cornwall what windmills are to Holland. According to Connor, the engine house in Friedensville is the only surviving example of a Cornish-style, house-built pumping engine structure in the U.S., and one of only a few existing examples in the Western Hemisphere.

Overall the engine house structure is 40 ft. high. One wall is 9 ft. thick and supported the two sets of 36-ft.-long walking beams that transmitted power from the engine to the pump shafts. The floor plan is dominated by a central masonry platform on which the 200-ton engine was anchored, with large pits on either side for the two flywheels that were 30 ft. in diameter and weighed 92 tons each. The massive installation stands on bedrock 114 ft. below ground level.



Mark Connor

President engine house showing arched cylinder or “plug” door.

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2018 SIA Slate of Candidates

The SIA Nominations Committee is pleased to present the following slate of candidates for the 2018 election:

President *(2-year term)*

Vote for one

Christopher Marston

Vice President *(2-year term)*

Vote for one

Tim Mancl

Saul Tannenbaum

Director *(3-year term)*

Vote for two

Rebecca Burrow

Seth Price

David Simmons

Nominations Committee *(3-year term)*

Vote for one

Marc Belanger

Ian Hay

TICCIH Representative *(3-year term)*

Vote for one

Bode Morin

SIA bylaws state that the Nominations Committee shall notify the membership of the proposed slate at least 70 days in advance of the Annual Business Meeting. **This is that notice; it is not a ballot. This notice was also sent to members via email or mail (depending on contact information provided to SIA HQ).** Additional nominations may be made in writing over the signatures of no fewer than 12 members in good standing (dues paid for the 2018 calendar year) and delivered to the Nominations Committee chair at the address below no later than **April 21, 2018**. Candidates must have given their consent to be nominated and must also be members in good standing. Ballots, which will include a biographical sketch and photograph of each candidate, will be mailed in early May. Members must have paid their dues for the 2018 calendar year in order to vote.

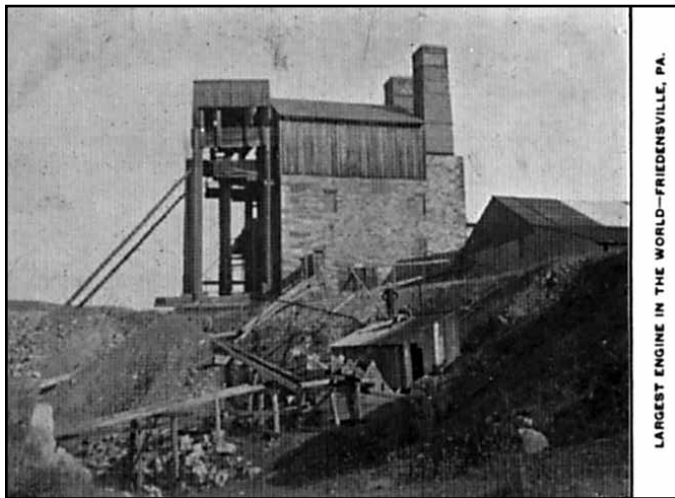
The 2018 Nominations Committee is Bill Vermes, Mike Raber, John Mayer, and Amanda Gronhovid, SIA Past President (ex officio). Please direct all nominations and other correspondence to: SIA Nominations Committee, c/o Bill Vermes, Chair, 16263 Bardbury Ave., Middleburg Heights, OH 44130, 440-590-1976; wvermes@pennoni.com. ■

The interior platform that supported the engine's cylinder extends 32 ft. below the floor level rock face.

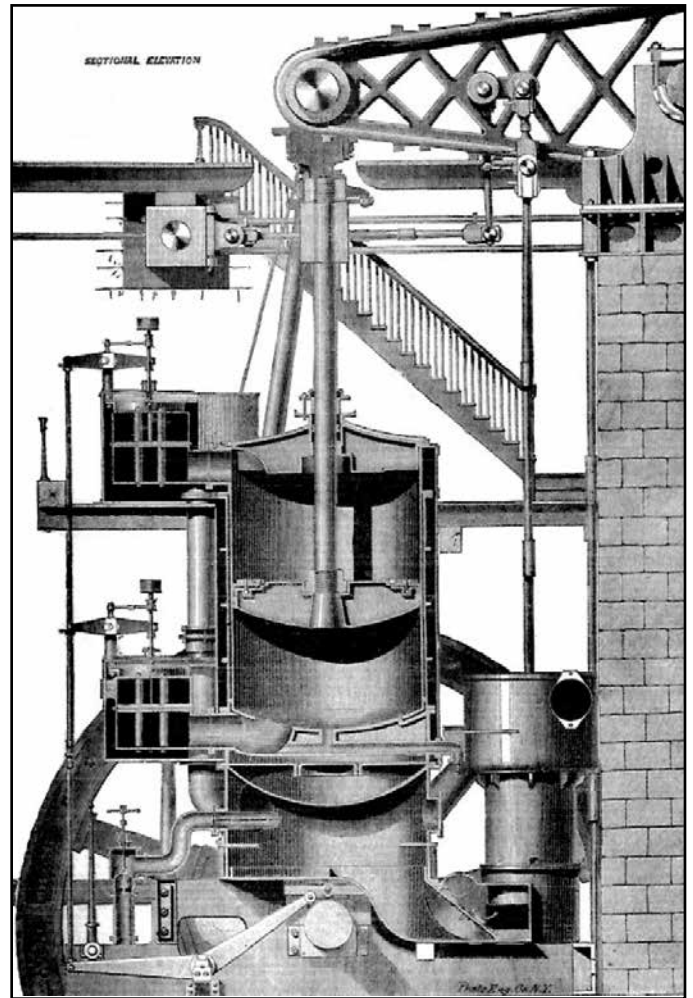
Connar notes that it is fortunate that both Lehigh University and Upper Saucon Township are interested in preserving the President's engine house, but this structure was abandoned over 120 years ago and, despite its sturdy construction, is showing significant wear and tear. Urgent steps to arrest the decay and preserve the remains are necessary for this monument to be enjoyed by subsequent generations.

Lehigh University is currently developing an application for a Pa. Historical and Museum Commission (PHMC) Planning Grant for the preservation of the engine house and its surroundings. Further, the engine house location was recently selected to be part of Lehigh University's Technical Entrepreneurship Capstone program for the 2018 spring and fall semesters. This award-winning program will allow a select group of students to work on relevant topics such as virtual reality reconstructions of the President engine and heritage park design concepts. SIAN will follow this story as preservation plans move forward.

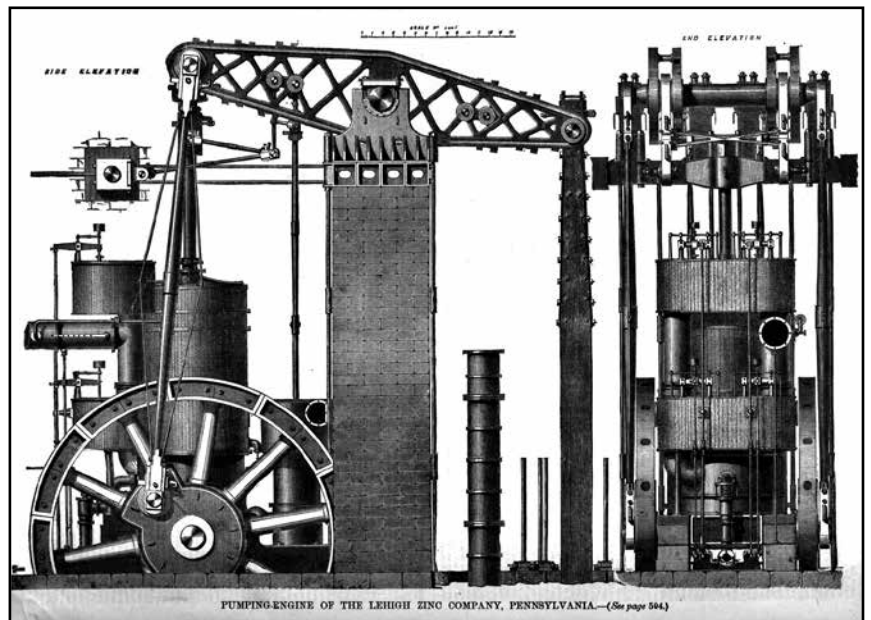
Mark Connar



View of the President engine house, ca. 1874. Navbooks, Wordpress (cropped image from a stereoview photograph)



Sectional drawing of President engine cylinder. "Pumping Engine at the Lehigh Zinc-Works, Friedensville, Pennsylvania," *Scientific American Suppl.* 1, No. 32, Aug. 5, 1876 (New York: Mumm & Co. Pub.)



Front and side view diagram of the President engine. "Pumping Engine at the Lehigh Zinc-Works, Friedensville, Pennsylvania," *Scientific American Suppl.* 1, No. 32, Aug. 5, 1876 (New York: Mumm & Co. Pub.)

2018 SIA Fall Tour Preview Dayton, Ohio, Sept. 27–30

The 2018 SIA Fall Tour will be in Dayton, Ohio, Sept. 27–30, with an early bird tour to selected sites in Cincinnati on Thurs. Sept. 27. Writing in the wake of the infamous Easter Day flood of 1913, the *Boston Evening Transcript* called Dayton the “City of a Thousand Factories.” Among the most famous manufacturers were the railway car and freight builders Barney & Smith Car Co., the internationally renowned National Cash Register, and a host of automobile component manufacturers. Although natural disasters like the 1913 flood and corporate takeovers have adversely affected the physical remnants of the city’s remarkable industrial heritage, significant elements of that history remain for touring. Especially important are those relating to Dayton as the home of the aviation industry through its connection with the Wright brothers.

The Crowne Plaza downtown will serve as the tour hotel. The hotel is located only a short walk from the Packard Museum and Oregon Historic District, with trendy shopping, bars, and restaurants. It is also within walking distance of the Dayton Engineers’ Club, where the Thursday reception will be held. Inexpensive nonstop flights are offered to the Dayton International Airport from Chicago, Washington D.C., New York City, Houston, and Providence. Cincinnati is the most convenient Amtrak connection.

The National Park Service administers the Dayton Aviation Heritage National Historical Park on West Third Street. More importantly, the Wright Brothers’ original 1910 and 1911 factory buildings—the first American facility specifically designed and built for airplane manufacturing—still stand a mile to the west. Not currently controlled by the National Park Service, negotiations are under way for the



Hartzell Propeller, Inc.

Today, Hartzell Propeller has more than 400 different blade designs that can be configured on hubs ranging between two to six blades. Both aluminum and composite materials are used.

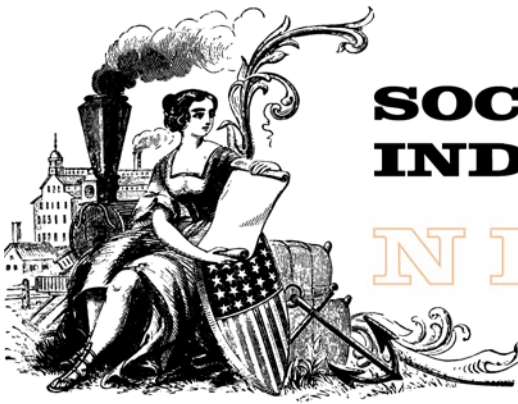
SIA to tour these buildings, where the Wright Co. operated from 1910 to 1916.

Dayton is also home to the National Museum of the U.S. Air Force at Wright-Patterson AFB (tour site—2012 Annual Conference, Cincinnati and 1996 Fall Tour, Central Ohio). Seventeen acres of indoor exhibits include a world-class collection of aircraft and missiles—totaling more than 360 and spanning the earliest days of human flight to the Space Age. Technical repairs necessary for displays are completed in the Restoration Hangar, where experts duplicate original fabrication techniques and procedures. The hangar

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The National Museum of the U.S. Air Force presents the totality of the nation’s military aviation heritage—including many planes and missiles that are one-of-a-kind.



SOCIETY FOR INDUSTRIAL ARCHEOLOGY

NEWSLETTER

PUBLICATIONS OF INTEREST

Vol. 47, No. 1

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COMPILED BY

Mary Habstritt, New York, N.Y., Patrick Harshbarger, Wilmington, Del., and Marni Blake Walter, SIAN editor, Westmoreland, N.H.

GENERAL INTEREST

- ◆ Andy Newman. **Riding a Time Capsule to Apt. 8G.** NYT (Dec. 17, 2017), Metropolitan pp. 1, 6–7; www.nytimes.com. A tour of operating “old-timey” elevators that still require human operators. In a follow-up story, **Going Door to Door in Search of Ancient Elevators** (Dec. 17, 2017), p. 2, Newman gives a behind-the-scenes account of how he carried out the story assignment.
- ◆ David Rollinson. **Nova Scotia’s Industrial Heritage: A Guidebook.** Nimbus Pub., 2018. Includes over 70 sites of interest, from the shipbuilding display at the Bear River Heritage Museum to the Digby Rail Trails. Organized by industry (power, natural resources, agriculture, crafts, and transportation).
- ◆ **TICCIH Bulletin 78** (4th Quarter, 2017) includes Kathryn A. Morrison, *Cherishing the Motor Age* (Historic England’s efforts to recognize automobile-centric buildings of the 20th c.); Lucie K. Morisset, *Villes-Usines and Company Towns: International Study Perspectives* (perspectives from around the world on preserving company towns, which are now seen as part of a bygone era); Gaston Gagnon, *Val-Jalbert, Ghost Town and Living History Museum* (preserving a Canadian company village, among the oldest in Quebec, associated with the wood pulp industry); Heike Oevermann; *Good Practice Criteria in Heritage Conservation: Zollverein Industrial Complex* (application of UNESCO policies and guidelines to conserving the Ruhr’s coal mining heritage); David Perret, *Henry Ford’s 1928 IA Holiday, Part I* (recounting Ford’s visit to the industrial areas of England in 1928); Bill Burns, *Ireland, Newfoundland, and the Atlantic Cable* (Valentia, Ireland, is seeking UNESCO World Heritage Site status for its role as a terminus of the first undersea telegraph cable of 1858); Ekaterina Khaunina and Valentina Muzychuk, *New Life of the Stanislavsky Factory Theatre* (redeveloping industrial factories and related buildings in Moscow, Russia); Tine Verroken and Tjil Vereenoghe, *Diving Into the Machine: 3-D Techniques For Industrial Collections* (results of a pilot project to digitally document, model, and interpret a mule jenny and a scotching turbine; visitors can use

hand gestures to manipulate and operate the digital models) as well as a round-up of industrial heritage news from around the world. Info: www.ticcih.org.

TEXTILES

- ◆ Elizabeth Pratt Fox. **Connecticut Shapes the Intimate-Apparel Industry.** *Connecticut Explored* (Winter 2017-2018), Vol. 16, No. 1, pp. 27–31. Union suits, corsets, and brassieres made in Conn.
- ◆ Amber Rottinghaus. **Iowa Company Now Owns Two Rare Sewing Machines.** *Green Bay Press-Gazette* (July 2, 2017), Region, p. 1AA. The Jerald Sulky Co., Waterloo, Iowa, recently acquired a second 1902 Singer 67-1 heavy-duty sewing machine. These are two of only nine remaining across the globe. The machines are about 1,500 lbs. each and 5 ft. tall. They are used to produce dashboards and fenders for horse carriages.
- ◆ Alex Williams. **No Room for America Left in Those Jeans.** NYT (Nov. 10, 2017), www.nytimes.com. International Textile Group announced plans to close the storied Cone Denim White Oak plant in Greensboro, N.C. The 112-year-old factory was the last major manufacturer of selvage denim in the U.S.

IRON & STEEL

- ◆ Martin Pickands, ed. **Iron in New York. New York State Museum Record No. 8.** New York State Education Department, 2018. 172 pp., photos, maps, illus. Free download: nysm.nysed.gov/publications/record. The result of a multi-disciplinary symposium at the New York State Museum, Albany, in 2010. Includes contributions by SIA members Gordon C. Pollard, Steven A. Walton, Fred Sutherland, David P. Staley, and Robert Rawls. Chapters address the early iron industry in N.Y. from archaeological, geological, and documentary perspectives.

MINES & MINING

- ◆ Sam Anderson, photos by Luca Locatelli. **White Gold.** NYT Magazine (July 30, 2017), pp. 34–45. Photo essay

on the booming Italian marble trade with discussion of old and new markets that have kept quarries busy.

- ◆ Lisa Gavon. **Shaping History at Donovan Mill.** *Nevada Magazine* (Jan.-Feb. 2018), nevadamagazine.com/home/inside-the-magazine/history/donovan-mill/. The site of Donovan Mill in Silver City, Nev. was witness to boom and bust cycles in gold and silver mining from the 1860s through the 1950s. The mill underwent many changes and technological innovations during that period. The Comstock Foundation for History and Culture bought the mill in 2014 and plans to create an interpretive center honoring the heritage of mining culture.
- ◆ Brian James Leech. **City That Ate Itself: Butte, Montana and Its Expanding Berkeley Pit.** Univ. Nevada Pr., 2018. 376 pp., photos. \$31.96 cloth. A social and environmental history of the infamous Berkeley Pit in Butte, Mont., an open-pit copper mine that operated from 1955 to 1982. Its expanding boundaries dramatically changed the landscape and the lives of workers and residents. Today, the remaining toxic lake is the subject of a federal Superfund cleanup.

LUMBER & PAPER

- ◆ Christopher Wilk. **Plywood: A Material History.** Thames & Hudson, 2017. 240 pp., illus. Produced in association with the Victoria & Albert Museum's exhibition, explores the wide ranges of uses for plywood from furniture to aircraft. Rev.: *CH*, Vol. 32, No. 2 (2017), p. 135.

WATER TRANSPORT

- ◆ David Brooks. **Sacandaga Canal Project: A Short History.** *New York History Blog* (Nov. 5, 2017), <http://newyorkhistoryblog.org>. Details attempts to build a canal

along the Sacandaga River to connect Montgomery County industries with the Erie Canal.

- ◆ William M. Fowler Jr. **Steam Titans; Cunard, Collins, and the Epic Battle for Commerce on the North Atlantic.** Bloomsbury, 2017. 368 pp., \$30 cloth. Shipping magnates Samuel Cunard and Edward Knight Collins wielded the tools of technology, finance, and politics to compete for control of globe's most lucrative trade route in the mid-19th c., spanning the North Atlantic from the dominant ports of Liverpool and New York. Rev.: *WSJ* (Aug. 8, 2017).
- ◆ Louis Arthur Norton. **Learning the Ropes.** *Sea History* 161 (Winter 2017/2018). A look at rope-making and rope use in nearly every aspect of sailors' work. Shows both functional uses and works of art.

RAILROADS

- ◆ Max R. Miller. **Along the Valley Line: The History of the Connecticut Valley Railroad.** Garnet Books, Wesleyan Univ. Pr., 2017. 160 pp., illus. \$24.95 paper, \$19.99 ebook. Provides the first comprehensive history of the Connecticut Valley RR through maps, ephemera, and archival photographs of the trains, bridges, and scenery surrounding the line. Includes tales of booms and busts, train wrecks, and ghost sightings.

AUTOMOBILES & HIGHWAYS

- ◆ T. Lindsay Baker. **Portrait of Route 66: Images from the Curt Teich Archives.** Univ. of Okla. Pr., 2016. 265 pp. \$34.95. Album of postcard images from the Curt Teich Co., founded in 1898, and producer of postcards for commercial establishments across the Midwest and Southwest. Features large city hotels, motels, tourist camps, restaurants, auto dealerships, and bridges. Rev.: *SCA Journal* (Fall 2017), pp. 37–38.
- ◆ Being Here Landscape Architecture & Environmental Design, PLLC. **Toward Accessible Historic Streetscapes: A Study of New York City's Belgian Block Heritage.** 2017. 34 pp.; <http://hdc.org>. Commissioned by the Historic Districts Council, this report examines the city's historic roadbeds, sidewalks, crosswalks and even embedded train rails. It goes on to identify past and present solutions to our historic streets and examines the feasibility of them in the context of ADA.
- ◆ Oliver Evans. **The Story of Brilliant Engineering by a Man Named Holland.** *Tribeca Trib* (June 5, 2017); <http://tribecatrib.com>. NYC's Holland Tunnel was named for the engineer who designed it, overcoming the problem of venting automobile exhaust.
- ◆ David Freund. **Gas Stop: The Gas Station in American Life, Landscape, and Architecture.** *SCA Journal* (Fall 2017), pp. 12–17. Photographic documentation of gas stations and roadside landscapes of the late 1970s and early 1980s.
- ◆ Jeffrey Karl Ochsner and David A. Rash. **Research Notes: Design for Mobility, Intercity Bus Terminals**

CONTRIBUTORS TO THIS ISSUE

Nancy Banks, New York, N.Y.; Marc N. Belanger, Reno, Nev.; Mark Brown, Austin, Texas; Arlene Collins, Houghton, Mich.; Mark Connor, Bethlehem, Pa.; James Douet, Barcelona, Spain; Aron Eisenpress, New York, N.Y.; Mary Habstritt, New York, N.Y.; Patrick Harshbarger, Wilmington, Del.; Neill Herring, Jesup, Ga.; Matt Kierstead, Marlboro, N.Y.; Christopher Marston, Washington, D.C.; Steve Muller, Troy, N.Y.; Courtney Murtaugh, Barrington, Ill.; Dave Poirier, Simsbury, Conn.; Gordon Pollard, Morrisonville, N.Y.; Amy Randolph, Harrisburg, Pa.; Maryellen Russo, Dripping Springs, Texas; Daniel Schneider, Houghton, Mich.; David Simmons, Galena, Ohio; Tyler Turpin, Richmond, Va.; William Vermes, Middleburg Heights, Ohio; Robert M. Vogel, Washington, D.C.; Steven Walton, Houghton, Mich.; Suzanne Wray, New York, N.Y.

With Thanks.

in the Puget Sound Region. *B&L*, Vol. 24, No. 1 (Spring 2017), pp. 67–91. Explores the architecture and operation of bus terminals in Seattle, Tacoma, Bellingham, and other communities with a focus on the 1920s to the 1950s.

COMMUNICATIONS

- ◆ Michael Windover. **Placing Radio in Sackville, New Brunswick.** *B&L*, Vol. 24, No. 1 (Spring 2017), pp. 46–66. History of the Canadian Broadcasting Corporation's (CBC) site that was designed by the CBC's architecture department and constructed in 1939 and then expanded during WWII to broadcast the Voice of Canada shortwave programming worldwide. Describes the site's antennae structures, buildings, and other technological infrastructure, which was recently decommissioned.

BUILDINGS & STRUCTURES

- ◆ Kenneth C. Crowe II. **Historic Sites in Troy and Cohoes Will Get a Boost.** *Albany Times Union* (Dec. 14, 2017); *timesunion.com*. State grants were awarded for restoration work at the Hudson Mohawk Industrial Gateway's Burden Iron Works Museum, Rensselaer County Historical Society's Hart-Cluett House, and the Matton Shipyard in Cohoes, which in turn is expected to help bring more visitors to the area. (See also the note in this issue, Sites & Structures.)
- ◆ Heather David. **Motel California.** CalMod Books, 2017. 184 pp. \$45. An architectural survey of postwar motels. By 1961, there were more than 60,000 motels in California. Rev.: *SCA Journal* (Fall 2017), pp. 36–37.
- ◆ Natalie Zawisny, Corentin Fivet, and John Ochsendorf. **Guastavino Design of the 1909 Thin Brick Dome of the Cathedral of St. John the Divine.** *CH*, Vol. 32, No. 2 (2017), pp. 39–66. Rafael Guastavino, Jr. designed the 93-ft. diameter dome of the cathedral in Harlem, N.Y. As the thinnest brick shell in the world, the dome is an example of construction efficiency and material optimization. This paper reviews Guastavino's calculation notes and drawings to show that they contained every calculation needed for this highly innovative and original design.

POWER GENERATION

- ◆ Jesse Denno. **Block-Sized City-Beautiful Powerhouse Landmarked after 38 Years.** *Cityland* (*www.cityland.org*). In a unique designation, the NYC Landmarks Preservation Commission voted Dec. 5, 2017 to landmark the 1904 IRT (Interborough Rapid Transit) Powerhouse including a “statement of regulatory intent,” acknowledging the realities of technical and regulatory complexity involved in the building's continued use by Con Ed for steam generation. It was once the largest steam-driven powerhouse in the world containing the largest reciprocating steam engine generators ever installed and the largest ever built in the U.S. SIA's Roebling Chapter had supported

landmarking and continued use in testimony at the 2009 hearings.

- ◆ **Windmillers' Gazette**, Vol. 36, No. 4 (Autumn 2017) includes several features by Christopher Gillis on Dempster Industries, manufacturers of windmills: *Dempster—The Last 30 Years*; *Rosemary Heble: Dempster's Parts Lady*; and *Dempster's Wind-wheel Shaft Bearings*. Avail.: \$20/yr., published quarterly. Christopher Gillis, Editor, P. O. Box 788, Buckeystown, MD 21717; *www.windmillersgazette.org*.

MISC. INDUSTRIES

- ◆ Dave Corrigan and Karen Hudkins. **Connecticut's Small-Appliance Revolution.** *Connecticut Explored* (Summer 2017), Vol. 15, No. 3, pp. 26–31. From around 1910 until the 1970s, Conn. was home to nearly a dozen nationally recognized companies that developed, manufactured, and marketed an array of small appliances. Mixers, toasters, coffee percolators, and waffle irons became integral to the preparation of food in the slowly increasing number of electrified middle-class households in the state.
- ◆ David Simmons [SIA]. **Silent Channels: Building Standard Oil's Pipeline Empire.** *Timeline* (Oct.-Dec. 2017), pp. 44–53. Details development of Standard Oil's natural gas business which necessitated a network of pipelines to supply industrial centers in Ohio.

ABBREVIATIONS:

- B&L* = *Buildings & Landscapes*, Journal of the Vernacular Architecture Forum
- CH* = *Construction History*, Journal of the Construction History Society
- IA News* = of the Association for Industrial Archaeology (U.K.), *www.industrial-archaeology.org*.
- NYT* = *New York Times*
- SCA* = Society for Commercial Archeology
- TICCIH* = *The International Committee for the Conservation of the Industrial Heritage*, *www.mnactec.com/ticcih*
- Timeline* = published by the Ohio Historical Society, \$40/yr. Info: (614) 297-2315
- WSJ* = *Wall Street Journal*

Publications of Interest are compiled from books, articles, and digital media brought to our attention by you, the reader. SIA members are encouraged to send citations of new and recent books, articles, CDs, DVDs, etc., 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 Marni Blake Walter, Editor, *SIA Newsletter*, 11 Esty Rd., Westmoreland, NH 03467; *sianeditor@siahq.org*. ■

FALL TOUR *(continued from page 6)*

is open for public tours on Fridays.

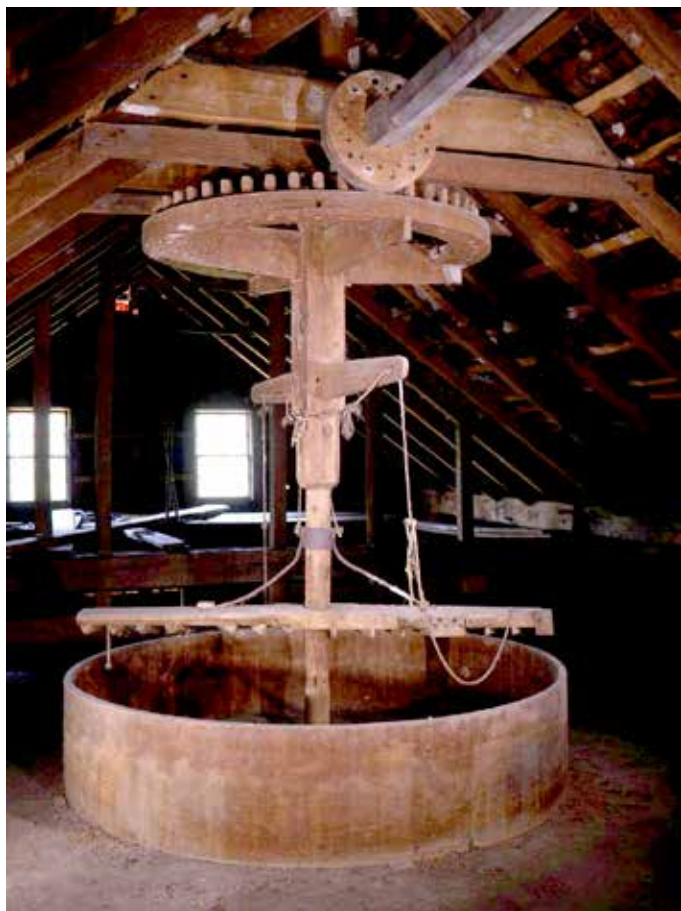
Additional Friday process tours will also highlight aviation history. A tour of Hartzell Propeller of Piqua, longtime manufacturers of 2-to-6-bladed aluminum and composite propellers for piston engine aircraft, has been arranged. En route is a stop at Hobart Mfg. in Troy, makers of food-processing equipment. Troy is also home to a museum for the Weaver Aircraft Co. (WACO) that began production here in the 1920s. Halfway between Troy and Piqua is the Eldean Covered Bridge, recently named a National Historic Landmark as the best-preserved surviving example of Stephen H. Long's prestressed truss, America's first scientifically designed wooden bridge.

The Mound Cold War Discovery Center in nearby Miamisburg highlights the nation's first Atomic Energy Commission site begun in the wake of WWII. Exhibits explore Dayton's part in the Manhattan Project along with Mound Lab's initial role in supplying nuclear weapon triggers. The museum also covers the lab's investigations of nuclear technology in medical applications and as energy sources for deep space probes. T-Building, a 5-story underground facility



US Naval Air Station, Jacksonville, Fla.

Friday tour site Hartzell Propeller in Piqua has been equipping aircraft for over 90 years. The company supplied propellers for the Grumman G-21 Goose, among the most versatile amphibious aircraft in aviation history, during its production between 1937 and 1945.



Ohio History Connection, William G. Keener, Photographer

The hopper boy on the upper floor of the Staley gristmill was copied directly from an Evans plate.



Ohio History Connection, William G. Keener, Photographer

The last log sawn on the Staley sawmill was left in place when production was concluded around the turn of the 20th c.

accessed through a long tunnel with triple blast-proof doors and 16-ft. concrete walls, where the processing of nuclear materials occurred, will be toured.

The banquet will be held at Staley Mill Farm and Indian Creek Distillery, New Carlisle vicinity, an early 19th-c. Oliver Evans-inspired gristmill and sawmill (tour site—1996 Fall Tour, Central Ohio). A reconstructed distillery, added since SIA's last visit in 1996, uses historic still equipment to produce rye whisky and bourbon.

The early bird tour on Thurs., Sept. 27 will travel to Cincinnati to see a hot-metal pour at Verdin Bell & Clocks and to explore the towers of the John A. Roebling Suspension Bridge (tour sites—2012 Annual Conference, Cincinnati). A stop is also scheduled in Middletown at Aeronca, manufacturers of airplane engine components.

Full details will be announced in the summer. David Simmons, Ohio History Connection, is heading the committee planning the Dayton tour.

David Simmons and Christopher Marston

RICHMOND CONFERENCE (continued from page 3)

Virginia's Tidewater area, tours will include the USS *Monitor* Center and Batten Conservation Laboratory. The committee is also planning to offer tours of the Tredegar Iron Works and historic Petersburg, featuring the Appomattox Iron Works. The Saturday dinner will feature local Southern comfort food and tours at the Stone Brewery east of downtown.

This year's conference headquarters is the Omni Richmond Hotel, 100 South 12th St. This hotel offers elegant accommodations within the historic Shockoe Slip district, above remains of the Kanawha Canal Basin. Make your reservations at the SIA rate through this link: <https://www.omnihotels.com/hotels/richmond/meetings/society-for-industrial-archeology-47th-annual-conference>. You are encouraged to book early. The \$138 per night conference rate is good through May 9, 2018. ■

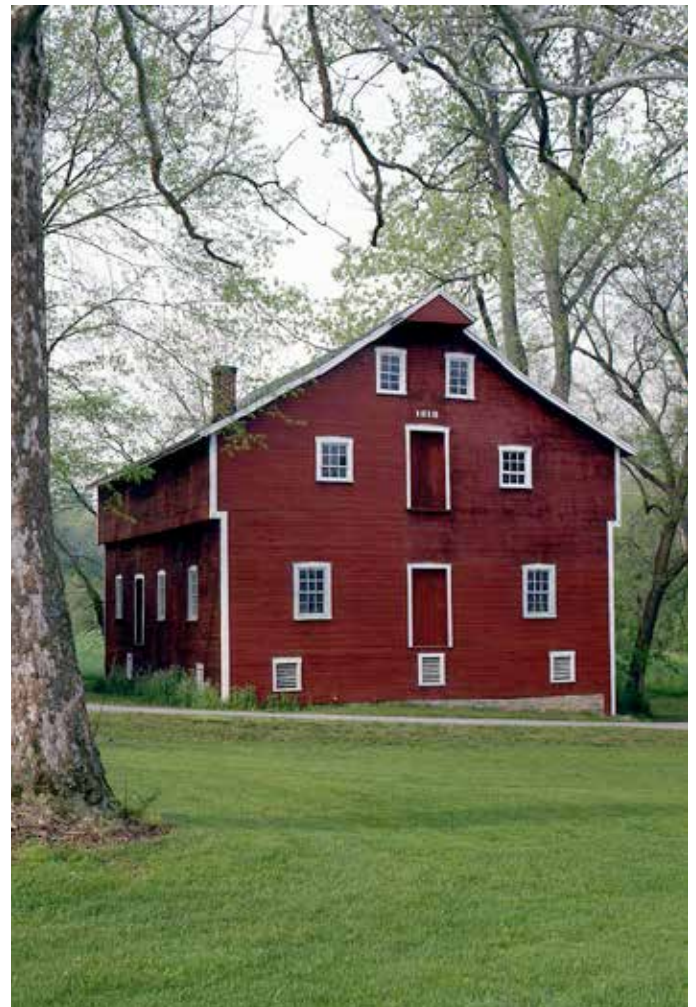


USAF

The Restoration Hangar, located nearby on Wright-Patterson AFB, will be part of the Friday tours. Efforts there are currently focused on restoring the famed WWII B-17F Memphis Belle for public display on May 17.



Ohio History Connection, William G. Keener, Photographer



The Staley Farm just north of Dayton will be the site of the Saturday banquet. The National Register-listed site includes an early 19th-c. gristmill and sawmill—virtually unaltered from their original Oliver Evans-inspired construction.

New SIA Tours and Events Coordinator Courtney B. Murtaugh



MUW Photographer

Courtney B. Murtaugh

The SIA is pleased to introduce Courtney Murtaugh as our new Tours and Events Coordinator. Courtney comes to the SIA with a wealth of event planning experience. In 2006 Courtney founded CBM Meetings Plus, building on her extensive experience in organizing and planning activities for non-profit organizations. As CBM Meetings Plus's principal and owner, Courtney has served as a consultant, executive director, and meeting manager for numerous nonprofit organizations. You can see a list of the firm's clients at www.cbmeetingplus.com.

Courtney's venture into CBM Meetings Plus followed her experience as Director of Guest Services for Loyola University Chicago. In addition, Courtney served for nearly two decades as a Worship Director in the Archdiocese of Chicago, where she served in various parishes and agencies. She was the Program Director for the Office of Divine Worship working closely with the Cardinal Archbishop, as well as a Regional Ministry Commission Coordinator and she served as the liturgical consultant to a \$20M campus-building project. She has been a member of St. Anne Parish since 1985, and is a choir member and cantor. She also served on the Parish's Liturgy Commission and as Environment and Art Coordinator for nearly 20 years. Courtney volunteers for numerous philanthropic organizations, including serving five years as a Gala Committee Member for a local hospice fundraiser, which she co-chaired in 2014. She is also on the Board of Advisors for the Zimu Foundation, which is striving to break cycles of illiteracy and poverty in Uganda. A graduate of Mississippi University for Women, Courtney has been very active in serving the Alumni Association by chairing several

committees and serving as the 2017–2018 President of the MUWAA Board. Courtney resides in Barrington, Ill. with her husband Barry. They have three adult children Liam, Rory, and Keefe, who are fully launched. Please join us in welcoming Courtney to the SIA! If you would like to discuss event ideas with her or personally welcome her, she can be contacted at SIAevents@siahq.org.

SIA Membership Report and Surveys

SIA's Board of Directors has accepted a recent report by the Membership Committee. The report is available here: <http://www.sia-web.org/membership-committee-report-2018/>. In brief, since 2002 the society has lost an average of just under 60 members per year. Consequently, the Board is in the process of developing membership marketing and retention plans. We need a better understanding of the existing membership and their interests in SIA before doing that. This spring we will start with an online pre-

liminary survey (<https://www.tinyurl.com/SIA-membership-survey-2018>) that will go live when the 2018 ballots are mailed. Marketing students at MTU will use the results to develop a larger, more comprehensive, online survey as a 2018 fall class project. Your thoughtful participation in both surveys will help the Board develop a plan to keep SIA vibrant for years to come. Please visit the links above to understand what we are facing and help us thrive and grow in the years ahead.

SITES & STRUCTURES

The **Burden Iron Works Museum** of the Hudson Mohawk Industrial Gateway in Troy, N.Y. (tour site – 1987 and 2015 SIA Annual Conferences) received a grant of \$500,000 in mid-Dec. 2017. The annual New York State Regional Economic Development Council (REDC) award, which includes matching funds, will enable the Gateway to substantially complete the exterior renovation of the 1882 Burden Iron Work Museum building, formerly the administration offices of the Burden Iron Co. There will also be funds to begin the interior renovation. The Gateway intends to restore the masonry stairs and exterior wood doors for the building's three entrances, and renovate wooden windows. Interior work will include restoration of cherry paneling, new flooring, and HVAC upgrades. Interior work will have to be done around the museum's 9-ton Corliss steam engine, which cannot be moved. Also as part of the same REDC process, the Erie Canalway National Heritage Corridor received two awards totaling \$373,400 for the **Matton Shipyard** (tour site—1987 SIA Annual Conference) Preservation Adaptive Reuse Initiative (SIAN Vol. 46, No. 4, 2017). These funds will pay for the implementation of the major elements of the initiative: stabilization of three remaining structures at the site in Cohoes, N.Y., stabilization of the Hudson River shoreline to prevent further erosion, environmental remediation, and cultural resource evaluation. See also the *Albany Times Union*, Dec. 14, 2017: www.timesunion.com/news/.—Steve Muller

The **Mohasco Power House** in Amsterdam, N.Y., also known as the McCleary, Wallin and Crouse Power House, will benefit from an \$8,900 grant from the Preservation League of New York State's (PLNYS) Donald Stephen Gratz Preservation Services Fund. The grant, awarded to the City of Amsterdam, will provide funds for a conditions assessment and code analysis of the power house. The assessment will help to prioritize a list of repairs to the bridge and power house exterior and to estimate construction costs. The power house was built in 1903 and is one of the few buildings to survive from the city's once-flourishing carpet manufacturing industry. The structure has been vacant since Mohasco Industries moved to Georgia in the 1960s. PLNYS aims to help return historic buildings to productive use and to encourage municipalities to embrace and promote their industrial heritage.—www.preservenys.org/blog/, July 17, 2017.

Red Mountain Mine No. 10 in Birmingham, Ala., was recently re-opened, and visitors to Red Mountain park will be able to view the mine entrance. The iron ore mine, opened in 1880, was initially owned by the Alice Furnace Co. It was later sold to the Tennessee Coal Iron & RR Co., and has been sealed by a massive door since it closed in 1956. The mine played a major role in production for U.S. Steel Corp. and in the development of Birmingham. A safety gate was installed at the mine entrance, and lighting will soon be added so visitors will be able to see 500 ft. into the tunnel. Info and photos: al.com/living/index.ssf/2017/12/historic_mine_re-opened_on_red.html. ■

IA ON THE WEB

America's Locomotive: Boston & Maine #3713 (www.project3713.com). Follow the progress of a project to restore "The Constitution," a 4-6-2 Pacific type built by the Lima Locomotive Works in 1934, now in the collection of the Steamtown National Historic Site, Scranton, Pa.

Atlas of Stepwells (<http://stepwells.org/atlas>). A forum for sharing information on stepwells, stepped ponds, and other stepped-water architecture, with more than 1,700 stepwells mapped. Includes a photo gallery.

Making Places: Historic Mills of Connecticut (<https://connecticutmills.org>). Presents data from a statewide survey of historic industrial resources and company-built communities in Conn. Includes historical overviews of mill development, a searchable database of mills in the state, and resources for mill owners and developers.

SAH Archipedia: Classic Buildings (<http://sah-archipedia.org>). A free, open-access subset of the Society of Architec-

tural Historians' main *SAH Archipedia*. This site contains entries for around 100 buildings from each state, with descriptions, photos, and maps. Entries include some industrial sites, bridges, and other infrastructure.

Wuppertal suspension monorail (the "Schwebbahn") (www.schwebbahn.de/en/history-technology/history/; for visitor info see www.wuppertal.de/microsite/en/tourism/schwebbahn). The suspension monorail in Wuppertal, Germany is a landmark and historical monument and also an important means of transport since its inauguration in 1901. Today, 85,000 passengers use it daily to travel through the city. Tourists can still take a ride in Carriage no. 5, built in 1900 and known as the "Emperor's Carriage." The complete route of the monorail is about 8.3 mi., with 20 stations.

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: sianeditor@siahq.org ■

CHAPTER NEWS

Roebling Chapter (Greater N.Y.-N.J.). Chapter member Matt Kierstead arranged a special **Tale of Two Bridges Tour** for the chapter in Sept., including visits to the Walkway Over the Hudson (which was originally the Poughkeepsie RR Bridge) and the Mid-Hudson Suspension Bridge just downriver. Highlights of the tour were presentations by experts Fred Schaeffer, Barney Martin, and Jeffrey Wright, and a visit inside the anchorage of the suspension bridge, where the New York State Bridge Authority is planning to create a “museum” experience.

Fred Schaeffer, as chair of the Walkway Over the Hudson organization, was instrumental in creating a public/private partnership to repair the bridge and create the walkway. He spoke about the history of the organization and what was involved in getting community and political backing for the walkway. His presentation gave us a vivid look at how development of the walkway went from being a volunteer-led to a

professional effort with public funding, becoming a New York State Historic Park and a tourist attraction. The walkway was an immediate success, with over 415,000 visitors in the first three months, far exceeding expectations.

Bridge engineer Barney Martin of the consulting engineer firm Modjeski & Masters shared his knowledge of the engineering background for both bridges. The railroad bridge, completed in 1889, was strengthened in 1907 to handle heavier freight trains by engineer Ralph Modjeski, who added a third line of trusses down the middle, a central girder, and interleaved columns. (Subsequent changes replaced the double tracks with a gantlet track in the center and then a single track.) Even so, freight trains were restricted to 12 mph on the bridge, and the 1% grade required crews' attention. By the time of a fire in 1974, few trains crossed the bridge, and the Penn Central was unable to fund repairs.

(continued on page 15)



Aron Eisenpress

Masonry and steel pier of the Poughkeepsie-Highland Railroad Bridge (1886–1888), now known as Walkway Over the Hudson. Note the triangular support truss in the center which was added in the 1907 renovation of the bridge.



Aron Eisenpress

Detail of the anchorage of the Mid-Hudson Suspension Bridge. The cable strands separate out as they go to the anchor eyebars. Each cable on this bridge is 16-3/4 in. in diameter and is composed of 6,080 wires.



Fred Schaeffer

Roebling Chapter group photo on the Walkway Over the Hudson.

Modjeski was also chief engineer for the Mid-Hudson Bridge, which was completed in 1930. At the Mid-Hudson Bridge, Jeffrey Wright, Chief Engineer for the New York State Bridge Authority (NYSBA), led a tour of the anchorage, as well as a tour through the disused toll collectors' offices and quarters above. The NYSBA is planning a "museum experience" in these spaces with exhibits on the history and technology of the Mid-Hudson Bridge; the history, mission, and bridges of the NYSBA; and the social history of NYSBA's toll collectors.

An extra treat was the opportunity to listen to composer Joseph Bertolozzi's Bridge Music at a recorded audio exhibit at the west tower of the Mid-Hudson Bridge. The music was played using parts of the bridge as a very big percussion instrument, struck with mallets, hammers, logs, and even with steel pellets poured down the interior of the tower (and we heard about the cleanup from that!). More information is at www.josephbertolozzi.com/bridge-music/.

Aron Eisenpress and Matt Kierstead

The Roebling Chapter also held its 37th annual Great Falls Symposium on the Industrial Archeology of the New York-New Jersey area, Oct. 21, 2017 in Paterson, N.J. Topics included the remaking of the torch flame of the Statue of Liberty, engineering in the Victorian and Gilded ages, the Hackensack Waterworks, mandates of the E.P.A. at Great Falls National Park, the Bethlehem Steel Co., the National Museum of Industrial History, and the Howell Works at Allaire State Park.

Support Your Local Chapter. For info on a chapter near you or to start one, check out the local chapters section of the SIA website (www.sia-web.org). ■

NOTES & QUERIES

Mike O'Byrne [SIA] writes: "Seeking any information, images, plans of **sail and steam-powered vessels that plied the Grand River Navigation Co.'s canal system** from Brantford, Ont. to Lake Erie. Any information sources will be much appreciated." Contact Mike O'Byrne at heritagemtp@sympatico.ca.

The Hagley Library Audiovisual Collection and Digital Initiatives Dept. announces the acquisition of the **Foote Concrete Machinery Co. collection**. The collection includes over 1,000 images related to the history of American road building from the 1910s into the 1930s. The Foote Co. first manufactured concrete mixing machines starting in the 1890s but evolved to be producers of street and road construction equipment. The collection includes photographs that document the Foote machinery and road crews in the factory and on road-building projects. The photos provide insight into the technology of road-building and the labor employed to build roads during a significant expansion of automobile culture in the U.S.—*Hagley Collections and Research News* (Sept. 18, 2017). ■

IA EXHIBITS

Thou Shalt Knot: Clifford W. Ashley is an exhibit at the New Bedford Whaling Museum, Mass., through June 2018. The exhibit celebrates the work of the master knot-tyer, maritime artist, historian, and author Clifford W. Ashley. It features Ashley's private knot collection—a recent gift to the museum—with interpretative material from the museum's private collection as well as the artist's paintings, prints, and works by other knot-tyers and artists inspired by his work. The exhibit also includes a broad range of fascinating objects including "Turk's Head" knotted scrimshaw canes, sailcloth, sailmaker and knot-tying tools, examples of various fibers, Victorian braided mourning-hair wreaths and jewelry, and knots collected worldwide by whalers and merchants. Info: www.whalingmuseum.org. ■

CONFERENCES & WORKSHOPS

TICCIH will hold a thematic conference, **The International Heritage of the Water Industry: Historic Values of Supply and Treatment Networks**, on Apr. 13–14, 2018 at the Museu Agbar de les Aigües, Barcelona, Spain. Presentations by international experts will examine how this historic infrastructure should be valued, and consider what is most significant about the heritage of the water industry. The conference is the concluding part of a thematic comparative study undertaken by TICCIH for ICOMOS to define the criteria which could be used to assess the heritage of the water industry and to identify its outstanding sites, including those which might be inscribed on the UNESCO World Heritage list. Info: waterheritage.museuagbar.com. ■

SIA Headquarters Seeking IA Photos

SIA headquarters invites the submission of photographs of IA subjects from any era for use in creating promotional materials, improving the visual dynamics of the SIA website, and for use in social media. These can include images of industrial sites, structures, and machinery or of SIA tours and activities. Photographs depicting active industrial processes or archaeological excavations in progress are especially encouraged. Images in TIFF or JPG file formats, submitted without use restrictions, are preferred. Please send digital image files to sia@siahq.org.

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CALENDAR

2018

Apr. 13–14: TICCIH Thematic Conference. The International Heritage of the Water Industry: Historic Values of Supply and Treatment Networks, Barcelona, Spain. See note in this issue. Info: waterheritage.museuagbar.com.

May 17–19: 2018 History of Oil Symposium, Petroleum History Institute. Salt Lake City, Utah. Paper sessions and field trips. Info: petroleumhistory.org.

May 24–26: Construction History Society of America Biennial Meeting on Construction History, College Park, Md. Info: www.constructionhistorysociety.org.

May 23–26: Early American Industries Assn. Annual Meeting, Bethlehem, Pa. Info: www.eaiainfo.org.

May 31–June 3: SIA 47th ANNUAL CONFERENCE, RICHMOND, VA. Info: www.sia-web.org.

June 6–10: Mining History Assn. Annual Conference, Deadwood, S.D. Info: www.mininghistoryassociation.org.

June 22–28: Assn. for Industrial Archaeology, Annual Conference, Caithness, Scotland, U.K. Tours of sites related to the herring fisheries, flagstone industry, civil works, and an excursion to Orkney for sites related to WWII naval fortifications and scuttling of the German fleet. Info: www.industrial-archaeology.org.

July 9–13: 6th International Congress on Construction History, Brussels, Belgium. Info: <http://6icch.org>.

Sept. 13–15: XVII TICCIH Congress, Santiago, Chile. TICCIH's first in Latin America. Info: www.ticcih.org.

Sept 20–23: Preserving the Historic Road 20th Anniversary Conference, Fort Collins, Colo. Info: www.historicroads.org.

Sept. 27–30: SIA FALL TOUR, DAYTON, OHIO. See article in this issue. Info: www.sia-web.org. ■