

# SOCIETY FOR INDUSTRIAL ARCHEOLOGY

## NEWSLETTER

Volume 29

Spring 2000

Number 1

# THE UPS AND DOWNS OF IA IN SYRACUSE

**S**yracuse might be most famous these days as the home of a top collegiate basketball team or as the snowiest major U.S. city, but it also has a rich industrial heritage. The **Onondaga Historical Association** (OHA) serves as Greater Syracuse's largest museum of local history. Recently, it has been working on several projects to preserve and re-interpret a variety of IA heritage.

In 1996, the OHA Museum opened a permanent exhibit on the **Franklin Manufacturing Co.**, Syracuse's contribution to automobile history. The Franklin auto was produced in Syracuse from 1902 until the Depression killed it in 1934. The Franklin was a well-engineered vehicle, most distinctive because it was air-cooled with no radiator. This feature allowed for some creative styling. During the 1920s, it was Syracuse's largest employer, topping 5,000 workers during one year. Its huge complex was leveled in the 1970s. However, the **Lipe Machine Shop**, sometimes called the "Cradle of Syracuse Industry" for its role in helping give birth to many local industrial inventions, still stands nearby. Key parts for the proto-

type Franklins were made there, including some for the oldest existing Franklin, a 1902 model that recently became part of the OHA exhibit. The car is on extended loan from the Smithsonian.

The OHA Museum is opening another permanent exhibit this year on the **Syracuse China Co.** This firm was founded on the city's west side in 1871. Its present factory complex has portions dating from the early 1920s. The company produced America's first true vitreous china in 1888. It soon became a national leader in the manufacture and distribution of both commercial and household fine china. The company maintains an extensive corporate archives including valuable film footage documenting production techniques of the 1920s.

On the railroad front, Syracuse has a citywide passenger shuttle called **OnTrack**. Operated by the **Delaware & Otsego Railroad**, it uses self-propelled Budd cars from the 1950s. Another OHA pro-

*(continued on page 2)*



All photos courtesy OHA Collections

Franklin assembly line, 1923.

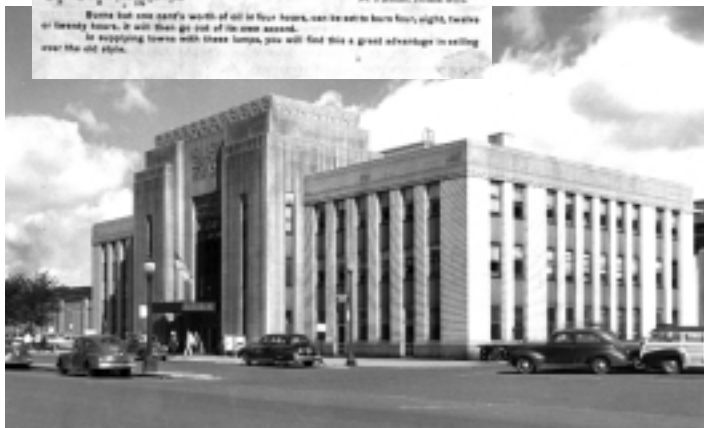


Advertisement for Dietz street lamps, ca. 1890.

New York Central Passenger Station at Syracuse, ca. 1945. This 1936 building is currently empty as the community seeks new uses.



Gambrinus statue perched on the main facade of the Haberle Brewery about 1962 is now on exhibit in Syracuse's OHA Museum.



ject developed a computer-run narrative for use on board the cars. The route uses former New York Central and Delaware, Lackawanna & Western RR tracks, which pass through some of the city's older industrial districts. The narrative presents much Syracuse industrial history, including the fact that cars pass over one of the area's few surviving Erie Canal bridges, a 1901 trapezoidal truss with a 118-ft. clear span.

On the threatened list is the 1936 **New York Central Passenger Station**. It is a modest but handsome Art Deco gem that saw its last train in 1962. It was used for years after that as a Greyhound bus terminal. That operation moved over a year ago and the structure has yet to find a new use. Also in imminent danger is the last vestige of the once-sprawling, soda-ash plant of the **Solvay Process Co.** started in 1881. Solvay was America's first facility to produce soda ash through a chemical process. When it was closed by Allied-Signal in 1986, it was the last such operating plant in the U.S. Key parts of the original operation were photographed by HAER's Jet Lowe prior to demolition. One of OHA's pending projects is to assemble former plant engineers to help prepare descriptions of the images. Over the last 14 years, most of the extensive Solvay site was demolished or sold off for development. Many hoped that the last surviving building, the Solvay Process Office Building, could find a new use. It was begun in 1889, and its romantic-styling led everyone to call it "The Castle." But one of the new firms on the site, a paper recycler called Solvay Paperboard, intends to expand and wants the office demolished. Just before the time Allied pulled the plug in 1986, local company officials made sure that many of Solvay's original

records, photographs, and documents were turned over to a local library. Now faced with growing space problems, the library is transferring the collection to the OHA.

Also in the realm of preserving IA documents, OHA has just become the designated repository for records from the **R. E. Dietz Co.** Dietz started in 1840 and became one of America's largest producers of kerosene lamps. Dietz was the lantern of choice for many of the country's railroads. Dietz began in New York City but moved to Syracuse in 1897, occupying a couple of local plants. The firm shut down its Syracuse plant in the early 1990s (Dietz lamps are now made in China). The company maintained a sizable archive, which was moved to the OHA this spring.

Like most cities, Syracuse was once home to several breweries. One of the few that survived both Prohibition and the Depression was the **Haberle Brewery**. When it did close in 1962, the hand-

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 annually. SIA promotes the identification, interpretation, preservation, and re-use of historic industrial and engineering sites, structures, and equipment. Annual membership: individual \$35; couple \$40; full-time student \$20; institutional \$40; contributing \$60; sustaining \$125; corporate \$250. 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.ss.mtu.edu/IA/SIA.html](http://www.ss.mtu.edu/IA/SIA.html).

Mailing date for Vol. 29,1 (Spring 2000), June 2000. 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 Solvay Process office complex in the early 20th century.*

some brick Victorian-era complex was soon demolished. But its most distinctive feature, an 11-ft. tall statue of the medieval brewing King Gambrinus, was moved to the roof of a nearby German restaurant. It remained there until 1996, when its owners offered it for sale. OHA raised funds from a descendent of the brewery's original founder and acquired the local icon to keep it from leaving the area. The painted metal figure, which dates from the 1880s, was fully restored in 1999. It went on display with an accompanying exhibit last October.

If business or pleasure brings you to Central New York, make a point to visit OHA Museum in downtown Syracuse and discover some varied and distinctive IA history. Info: Dennis Connors, Curator of History, OHA, 311 Montgomery St., Syracuse, NY 13202; (315) 428-1864; fax 471-2133; e-mail: [djcoha@juno.com](mailto:djcoha@juno.com).

D.C.

## Wheeling Bridge Conference Marks 150th Anniversary

On October 21, 1999, 170 civil engineers, bridge scholars, and enthusiasts from all across the world gathered at the McLure House in downtown Wheeling, West Virginia, to celebrate the 150th anniversary of the opening of the Wheeling Suspension Bridge. This was the sixth in a series of conferences on historic bridges begun in Columbus, Ohio, in 1985. The themes of earlier conferences had included historical and engineering studies and had ranged from local to state, national, and international perspectives. Because of the emphasis on the Wheeling Bridge, the history and rehabilitation of suspension bridges was the primary theme of the Wheeling program. Due to the momentous nature of the anniversary, participants from Europe and Australia were invited to present papers.

Wheeling achieved major status as a transportation hub during the 1850s. Overland travel arrived via the National Road, rail transportation came through the Baltimore & Ohio Railroad, and the city was terminus for Ohio River traffic. Billy Joe Peyton, now working as a preservation consultant in Charleston, introduced these topics and set the stage for the conference with a paper on the design and construction of the National Road. Emory Kemp, one of the conference organizers, explained the technological basis of Charles Ellet's Wheeling Bridge design, as well as the subsequent history of the bridge. Michael Cuddy, an engineer with Lichtenstein Consulting Engineers, followed this historical study with an overview of the recently completed \$6.5 million rehabilitation of the bridge. This project included preservation work on the cables, repairs or in-kind replacement of deteriorated hangers and stiffening truss members, and the installation of new open-grid deck and fiberglass walkways. The original red (trusses), white (cables), and blue (hangers) color scheme was restored and a dramatic new lighting plan added.

The inspiration for Ellet's Wheeling design came from in France. Michel Cotte, a historian at the University of Technology of Belfort-Montbéliard, described Marc Seguin's 1820s development of thin-wire suspension bridge technology in the Rhône Valley of southern France. Donald Sayenga took advantage of his long experience in the wire-rope industry to cover the technological history of wrought-iron wire and early examples of American bridges that had incorporated it. David A. Simmons, who also served on the program committee, followed with an analysis of the 25-year period of suspension bridge "popularity" in the Ohio

Valley that followed the completion of the Wheeling Bridge. Elizabeth Monroe of Indianapolis presented a condensation of her definitive volume on the 1850s Wheeling Bridge case before the U.S. Supreme Court. In the evening, conferees gathered for a reception sponsored by the West Virginia Department of Culture and History at West Virginia's Independence Hall, where a rare segment of early 19th-century wrought-iron cable was on display. Dinner at a Civil War-era Catholic girls' school known as Mount de Chantel Visitation Academy was followed by a show-and-tell session hosted by Wheeling attorney Patrick Cassidy.

Rehabilitation and engineering were the theme of the second day's proceedings. Case Western University civil engineering professor Dario Gasparini outlined the history and variety of suspension bridge stiffening methods. HNTB engineer William J. Vermes described the recent rehabilitation of the massive, two-level Detroit-Superior High Level Bridge in Cleveland. Ted Ruddock of the University of Edinburgh discussed a remarkable group of early 19th-century blacksmith-inspired and -fabricated suspension bridges in Ireland and Scotland. Penn State's Thomas Boothby spoke on the history and application of graphic funicular analysis to methods of the last century and their application to modern rehabilitation studies for arches. Retired Australian civil engineer Donald Fraser treated the evolution of timber-truss bridges in New South Wales. Hota Ganga Rao of West Virginia University's Constructed Facilities Center discussed the success and failures of an electronic force measurement device devised by his agency, following which Karen Young of the Ohio Department of Transportation presided over a lively discussion of the rehabilitation project of an 1828 National Road stone arch in eastern Ohio.

Attendees were then led on a guided tour of the Wheeling Suspension Bridge. The closing-night banquet was followed by a coffee and birthday cake dessert hosted by the Wheeling National Heritage Area Corp. The evening was capped off with a preview of the new lighting on the bridge.

A Saturday morning bus tour of Wheeling-area stone and metal truss bridges completed the conference. The 194-page proceedings, edited by Emory Kemp and published by West Virginia University Press are available for \$38.50 ppd. by contacting WVU Press, Box 6295, Morgantown, WV 26506-6295; (304) 293-3107, ext. 407; e-mail: [mmarshal@wvu.edu](mailto:mmarshal@wvu.edu).

D.A.S.

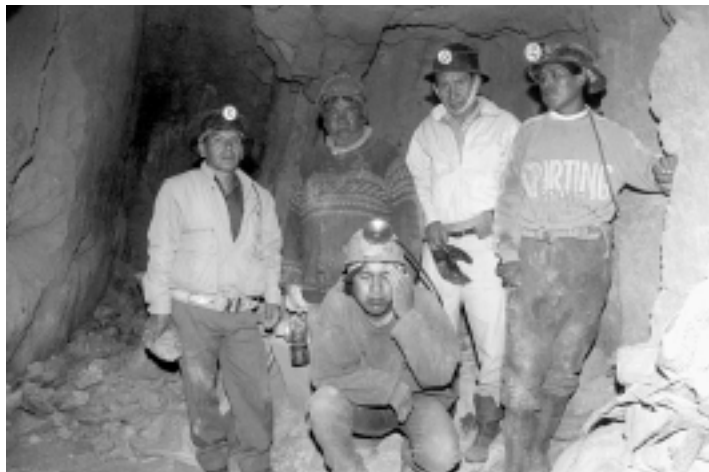
## A Visit to Potosí, Bolivia II

**W**ith great interest I read Mark Hufstetler's article "El Cerro Rico," (SIAN v.28, 2 Summer 1999) on Bolivia's famous silver mines. This past autumn I was teaching a course on mining engineering in Bolivia, so I took the opportunity for a private tour of one of the cooperative mines and had a very similar experience. My guide was a miner who attended my lectures. He hopes to advise the miners on ways to make the mines safer.

Our tour started at the miners' market with the purchase of a small bag of coca leaves, which are chewed by the miners as a stimulant. Nearby were the typical small shops with mining equipment—shovels, picks, lamps, dynamite, and fuses. I was struck by the cavalier attitude toward explosives. Everybody can buy them and does, not only for use in the mines but for the production of fireworks, which are burned in the streets during festivals and elections. Fuses and dynamite are stored together next to food and lamps, and children play in the houses and sometimes eat their meals next to the explosives. They know nothing of the health hazards from breathing degassing nitroglycol or nitroglycerin.

Miners are unwilling to use geologic maps showing the location of the stopes and veins, even when such maps are available. They find a vein and start working, without any consideration of other possible openings in the neighborhood. Most of the veins I saw were only 1-inch thick or even less. The lead-zinc ores do have a very high silver content, several hundred grams per ton, but the miners do not analyze the ore. From time to time, a woman ore-dealer comes by the mine and assesses the ore content by its color. She buys the ore and sells it to private processing plants.

Since the miners tend to follow the richest ore veins, whether the veins go up or down, the mine I visited was not level and haulage with cars was impossible. All blasted ore has to be carried out in sacks on the miners' backs. At one point, the miners in my mine found a hole going to a bigger opening, probably a stope from an abandoned mine, but nobody knows for sure. If this was an old stope, they must have found rich ores judging by its size. The miners dump their waste rock down the hole, but they are unsure of the depth of the opening. To improve ventilation, the miners want to make a connection to another mine, situated some dis-



Jürgen Weyer photos

*Potosí silver miners.*

tance above, but until now there has been no ventilation, no fan, and no second exit.

Before leaving the mine, we made the obligatory visit to the Tío, the statue representing the patron god of miners and the underworld, which was surrounded by countless small bottles with alcohol and other stuff. If a miner is thirsty, he can borrow a bottle from Tío, but he has to put it (and a second one) back the very next day.

The processing of the ore is also done in Potosí. The tailings are disposed of in a small creek where a muddy gray liquid, like melted lead, flows downhill to the next river. A disaster for the environment! If one of the old processing plants stops working, then the buildings and machines go to ruin.

Surprisingly, some of the old mining equipment is preserved in town in an old stamp mill converted to a café and museum. Outside the restaurant is a water flume at the top of a wall, which formerly drove a water wheel that powered the stamps. Inside the café, some jigs and shaking tables are preserved.

On the weekend, I had time to make a longer trip to Uyuni, a

*(continued on page 5)*



*Jig, shaking table, and line shafting of a former stamp mill, now a café in Potosí.*



*Salt bricks cut by hand axe from the Uyuni salt flats. The bricks will be shipped and sold for use as salt licks.*

# Historic American Engineering Record 30th Anniversary Exhibition

National Building Museum,  
Washington, D.C.

October 26, 2000 through April 2001

The National Building Museum (NBM) is producing an exhibition celebrating the 30th anniversary of the Historic American Engineering Record (HAER). The show promises to be an engaging overview of the wide range of significant industrial sites and structures that HAER has documented, and it will explore American history from the perspective of engineering, industrial, and technological achievements. The 3,000-sq.-ft. exhibition will transform the galleries into an image bank, using layered projections to show HAER's drawings and photos next to the sites, structures, and objects they document. The show will encourage visitors to look at the built world with heightened understanding of its engineering while presenting the history of HAER and its unique archives.

The current concept for the exhibit divides America's engineering history into four categories: Mills, Foundries, and Factories; Power Plants, Fuel Production, Mines, Wells, and Waterworks; Bridges, Roadways, Railways, and Waterways; and Miscellaneous Structures from Monuments to Missile Sites.

The exhibition will be complemented by public education programs, including evening lectures and a symposium of engineers, architects, and historians. Students can visit the exhibition after attending the museum's popular engineering-themed school programs including "Arches and Trusses: The Tension Builds" and "To Bridge the Cap", among others. The museum will publish a free color brochure to accompany the exhibit, which is expected to travel to other museums and sites across the country after it closes at the NBM at the end of April 2001. The exhibit is supported by the American Society of Civil Engineers and the

*(continued on page 16)*

## Potosí, Bolivia II *(Continued from page 4)*

city about 130 miles south of Potosí. The Salar de Uyuni is a great salt-flat of about 12,100 sq. km. Local residents use axes to cut out salt bricks, sold as lick-salt for animals, and even as a building material. The Hotel de Sal (salt hotel) is built of salt bricks, except for the roof. The salt bricks are even used to fashion the hotel's chairs, tables, and beds.

Many other ancient technologies remain in use in Bolivia, from traditional clay brick making to hand spinning. So if we want to look for them, they're there, only 11,000-ft. above sea level, in the Andes.

Jurgen Weyer  
Institute of Mining Engineering  
Freiberg, Germany



*Interior view of Hotel de Sal. The chairs, tables and walls are built of bricks cut from the salt flats.*

## On the Trail of Kaustine

The writer, having retired after 30 years as a curator at a gunpowder manufacturing site (Hagley Museum), was contacted to identify a series of 78 buildings at a WW I shell-loading plant in Penniman, Virginia. Among these many buildings were several labeled KAUSTINE. After studying both Hagley's and my own considerable library on explosive material and coming up empty, I called the local great guru of explosives, retired from DuPont, manager of Penniman, who had no idea what Kaustine was. Next, I called California where another of the great living experts resides, and he did not have any idea either. After talking to the assistant head of the University of Delaware's chemistry department without getting any further, I called the curator of the U. S. Army Ordnance museum at Aberdeen, Maryland, and he kindly checked out every manual from shell loading to fire suppression—without luck.

After spending considerable time studying maps and photographs, it became apparent that the Kaustine buildings made no sense to the production flow. In fact, if I did not know better, I would have thought they were privies. The next step was to call Susan Hengel, head of the imprints department at the Hagley Library, and tell her of the problem and my suspicion. She was asked if she would check it out. Bingo! In Buffalo, New York, there was the Kaustine Company, which made sewage disposal units that did not need sewers. Since the Penniman Plant was at low elevation, next to the James River, it made perfect sense. Later research determined the Kaustine firm began about 1914 and ceased operations under the name Kaustine about 1926.

The firm for which I was working was informed of the findings. After the requisite amount of levity at the writer's expense, they stated that they had found a group of buried tanks whose use was a mystery. But it isn't now! There is, of course, one problem with this finding ... telling the people whom you asked for helpful information what a Kaustine house turned out to be.

R.H.

# SIA Fall Tour 2000

## Ontario Oil Heritage District

October 19-21

Ontario's oil and gas industry, from its beginnings in the 19<sup>th</sup> century to the present day, will be the focus of the 2000 SIA Fall Tour, Oct. 19-21.

SIAers will stay in Sarnia, Ontario, one of Canada's main petro-chemical centers. Tentatively scheduled Friday tours include the Bayer rubber manufacturing facility (formerly Polysar); the Imperial Oil refinery (petroleum test lab and control room); and, Safety Clean, a state-of-the-art hazardous waste incineration and burial facility.

On Saturday, the focus shifts from the new to the old when SIAers will travel to the towns of Oil Springs and Petrolia, home to North America's earliest oil industry. We will be welcomed at Fairbank Oil, an active company using older methods of extraction. There are plans to demonstrate the pulling of a well using the original system of a three-pole derrick and horses. Tour participants will also visit Bain's Machine Shop, Petrolia Oil Well Supply Company, the Petrolia Discovery Historic Site, and the Oil Museum of Canada.

Registration materials and more details will be sent to members later this summer. For further info: The Petrolia Discovery, Box 1480, Petrolia, Ontario N0N 1R0; (519) 882-0897; fax 882-4209; e-mail: [petdisc@xcelco.on.ca](mailto:petdisc@xcelco.on.ca); Web site: [www.petroliadiscovery.com](http://www.petroliadiscovery.com). ■



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## Protecting the Irreplaceable in Cleveland

Last year, the National Trust for Historic Preservation named the four great Hulett iron-ore unloaders [NR, HAER, ASME] on Lake Erie at Cleveland, Ohio, to its annual list of "America's 11 Most Endangered Historic Places." However, as SIA Vice President Carol Poh Miller reported in these pages [SIAN, Summer 1999], even before the list was publicly announced, National Trust Midwest regional director James Mann wrote to the Cleveland Landmarks Commission endorsing a compromise plan calling for the destruction of two Hulett machines and the disassembly and mothballing of two others for future reassembly as part of a canal theme park on the Cuyahoga River. In his letter, Mann called the plan a "win-win solution."

Recent correspondence between structural engineer Justin Spivey [SIA] of Arlington, VA, and Richard Moe, president of the National Trust, raises important questions about the issue of historical integrity. Preserved intact and in situ, the four Hulett—stunning monuments to Cleveland's maritime and industrial heritage and the last of their kind on Lake Erie—almost certainly would have qualified for National Historic Landmark status. Their removal now precludes that distinction. Did the National Trust act responsibly? Is it enough to mothball two Hulett machines, then reassemble them, out of context, on another site? And, if we do that, can we still call it "preservation"?

As this issue goes to press, all four Hulett have been removed from the Cleveland lakefront. Two have been scrapped, while the body pieces of two others lie nearby, awaiting an uncertain fate.

—Editor

5 November 1999

Dear Mr. Moe:

I was disappointed to learn that the National Trust for Historic Preservation had endorsed a "compromise" plan for "preserving" the Hulett ore unloaders in Cleveland by dismantling two of them. As a former student of historic preservation, I stand behind James Marston Fitch's assertion that *reconstitution* (i.e., disassembly followed by reassembly elsewhere), while falling under the umbrella term of "preservation," is nonetheless an activity different from *preservation in place*. If and when two Hulett are re-erected in a park on the Cuyahoga River, they will be robbed of their connection to Cleveland's steel industry. We need only look at a Bessemer converter, surrounded by outdoor café tables in Pittsburgh's Station Square, to see that large industrial objects no longer make sense when taken out of context.

The Committee to Save Cleveland's Hulett, with the assistance of a former C&P Ore Dock employee, found that the Hulett could have been left in place while expanding the dock to the capacity desired by the Cleveland-Cuyahoga County Port Authority. The Trust apparently joined the Port Authority and the Cleveland Landmarks Commission in ignoring this possibility. That the Trust would immediately endorse the dismantling of two Hulett, without first advocating for the preservation of all four in situ, seems contrary to its name and its stated mission of "protecting the irreplaceable." Nowhere else in the world are there four Hulett ore unloaders in the proper context of a waterfront industrial site. Why did the Trust not use its substantial influence and resources to protect this irreplaceable historic site?

What incensed me to the point of writing this letter was the "11-Most



Update" in the November-December [1999] issue of *Preservation*. The Trust shamelessly reported that the Hulett "were almost relegated to the scrap heap," after supporting a plan that would scrap two of them! I am shocked that the Trust would attempt to shine a positive light on this loss of an endangered historic site, unabashedly using a 91-year-old woman's words in its own defense: "It's better to have half a loaf than no bread at all." Ms. [Frances] Lesser's gift toward dismantling two Hulett is no doubt generous. But the Trust endorsed a plan to throw half the loaf away, then dismantle the other [half] without the certainty of re-erection, which may leave only crumbs.

I feel that my membership dues are not being used to advance the cause of historic preservation. I would like the Trust to explain how its support of the Hulett "compromise" plan is consistent with its mission of "protecting the irreplaceable," and provide a convincing reason why I should not cancel my membership and urge others to do the same.

Sincerely,

Justin M. Spivey

November 12, 1999

Dear Mr. Spivey:

In response to your November 5th letter, I want to assure you that the National Trust has been and continues to be invested in securing the future of the Hulett Ore Unloaders. Our commitment is emphasized by an unprecedented announcement of the Hulett's placement on our 1999 list of America's Most Endangered Historic Places prior to the scheduled release date in order to thwart the momentum for their outright demolition. We appreciate your concern for the Hulett's [sic].

It is concerned National Trust members like yourself that give us the strength to tackle these complex preservation challenges. The National Trust is working with our local, state and national partners to find a solution that preserves the life and integrity of this important historic resource. The National Trust has joined with others in the preservation community in supporting the Canal Basin Park proposal initially developed by the Ohio Canal Corridor and Cleveland Waterfront Coalition.

This proposal merits support by the National Trust for the reasons stated in our letter to Cleveland Landmarks Commission Chairman Richard Schanfarber, dated June 1, 1999, that stated "... the preferred and best approach to preservation of the four Hulett is for them to remain *in situ* . . ." It is through our intense involvement and analysis that we concur with our preservation partners on the win-win solution that will enable two Hulett to be preserved and interpreted rather than see four demolished. A contributing factor is our understanding that placement of at least two Hulett in the Canal Basin Park will not jeopardize their National Register status. Hulett Ore Unloaders historically could be found along the lake-front and Cuyahoga River—often in pairs of two.

Thank you again for your interest and concern. Please contact Evan Lafer in our Midwest Office at 312-939-5547 if you have any additional questions.

Sincerely,

Richard Moe

4 December 1999

Dear Mr. Moe:

I appreciate your taking time to respond to my letter of 5 November 1999. Your letter of 12 November 1999, however, did little to answer my concerns about Cleveland's Hulett ore unloaders:

In response to my concerns about historical context, you stated, "Hulett Ore Unloaders historically could be found along the lake front and Cuyahoga River - often in pairs of two." My concern was not about the number of Hulett, but about their removal from an active industrial site to **a park setting with no obvious connection to Cleveland's steel industry.**

You offered no explanation as to why the Trust apparently ignored a consultant's finding that the Hulett **could have been left in place** while expanding the dock to the desired capacity.

You neither confirmed nor denied my assertion that the Hulett would **be dismantled without guaranteed funding for re-erection.**

I appreciate that the National Trust initially advocated for the *in situ* preservation of the Hulett, but I fail to understand why the Trust later abandoned this position. Lacking more complete knowledge of the situation, I can only wonder why the Trust did not employ means such as court action to ensure the Hulett's preservation. At any rate, **I do not agree that the current plan is a "win-win" solution.**"

If and when it became apparent that the Hulett could not be preserved in place, the Trust should have disassociated itself from the compromise solution. Instead, the Trust continues to claim this as a preservation victory, **setting the unfortunate precedent that dismantling historic structures is a preferable means of preserving them.**

I will not continue to support an organization which, in my opinion, has worked against the cause of historic preservation. This letter is to resign from my membership in the National Trust. Please remove my name from your membership rolls and your mailing lists.

Sincerely,

Justin M. Spivey

December 9, 1999

Dear Mr. Spivey:

Thank you for your letter of December 4<sup>th</sup> regarding the Hulett ore unloaders. I think it's apparent from our recent correspondence that we have a serious and probably irreconcilable disagreement on the best strategy to save the Hulett. I do understand your position but I'm afraid I don't agree with it.

I regret that you no longer find it possible to support the National Trust because of our position. I want you to know that we very much appreciate your support in the past and I hope that in the future you will reconsider your decision and rejoin our ranks. In the meantime, I wish you all the best.

Sincerely,

Richard Moe

### On Paterson's National Historic Landmark District

#### To the Editor:

Thank you for providing an additional forum for the discussion of the future of the historic resources in Paterson, New Jersey (*SIAN*, Summer 1999 & Winter 1999). There is obviously local interest in the future of Paterson and the Great Falls Society for Establishing Useful Manufactures (SUM) National Historic Landmark (NHL) District and perhaps some of your members will remain interested in, and contribute to, the efforts in Paterson. The history of this NHL is important to the story of how we came to be the nation we are today. National Park Service (NPS) involvement in Paterson has focused on the preservation of those resources that can tell the story of Paterson and its citizens to future generations of Americans.

The NPS role in Paterson stems from funds placed by Congress in the 1992 budget. The appropriation, called the New Jersey Urban History Initiative (UHI), provided funding for Trenton, Perth Amboy, and Paterson to conduct historic preservation projects that encourage economic development. The city of Paterson received \$4.147 million. The NPS administers these projects under a cooperative agreement with the city. The city has assembled an advisory group consisting of city officials, the Paterson Historic Preservation Commission, the SHPO, representatives of the business community, and interested citizens, to advise the NPS on the identification and administration of the UHI projects for Paterson. This group has recommended UHI funding for an exciting variety of preservation projects. Many of the projects are designed to raise public awareness of the district and, through this awareness, increase public interest and involvement in protecting the resources that tell the stories of Paterson.

Ongoing and completed projects include: a condition assessment of buildings in the NHL District; development of design guidelines for the district; an AmeriCorps project to make the district more attractive and accessible to visitors by repairing trails around the raceway system and modifying the visitors' center; an oral history project and ethnographic study conducted by the

Library of Congress' American Folklife Center; the development of a \$75,000 community grant program for historic, artistic, or cultural projects related to the UHI; the stabilization of the ruins of the Colt Gun Mill using UHI funds as part of a match for a New Jersey Historic Trust grant to the city; and a cultural resource study, including archeological work and removal of hazardous materials on the Allied Textile Printing (ATP) site.

The ATP site is one of the more complicated and challenging projects. Given its size—seven acres—and central location in the district, its ultimate reuse will play a major role in the future of the district and this area of the city. ATP ceased operations in 1983, and the property was purchased by a developer. In June of that year, the first of a dozen fires occurred at the site leaving, now, only ruins of mill buildings. In 1994, the city of Paterson acquired the property through foreclosure.

No matter what the new use on the ATP site may be, it is clear that steps need to be taken quickly to gather information from the historic resources and ruins that remain before they are gone forever. A preliminary study of the site was completed in 1996, the "Historic Industrial Site Analysis" prepared by Susan Maxman Assoc. While some have called this report incomplete, they fail to recognize the nature of the report as a survey-level document and overlook the many recommendations in the report for further research and archeological field work by a qualified industrial archeologist.

Currently, the NPS is working with 40 individuals and groups, including Sandy Norman, President, SIA; Lance Metz, President, Roebbling Chapter of SIA, and SIA members Ed Rutsch and Patricia Condell, in developing a process by which the work on the site will proceed. This consultation is occurring under the requirements of Section 106 of the National Historic Preservation Act, as amended, because the city will be using federal dollars. A process is being developed with public input on how the very issues David Soo raised in his article [*SIAN*, Summer 1999] will be addressed. The proposed process is found in a draft programmatic agreement now under review by these 40 individuals and groups. It describes the manner by which the work on the site will be conducted, not

the specific details of each element of work. This is because so many future decisions about how to proceed will depend on information yet to be gathered. For instance, the identification of a repository for any artifacts and reports will be dependent upon the significance, size, and nature of the artifact and the capability of a repository to care for the artifact and so cannot be determined at this time. However, the programmatic agreement describes the overall process of how that decision will be made. It describes similar steps for work that will be conducted including: completion of the cultural resources survey, archeological site work, evaluation of the results of this work, revisions of site plans based on this research, public review of reports, public review of building and site design, archeological monitoring of the site during construction, curation of artifacts and reports, and requirements of the city and developer to ensure the completion of the entire project.

The city is also about to begin work to stabilize the ruins of the Colt Gun Mill, one of the oldest structures

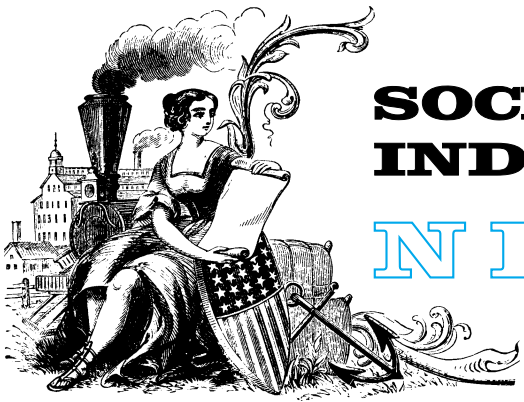


Barbara Small photo

Great Falls, Paterson, NJ

(continued on page 13)





# SOCIETY FOR INDUSTRIAL ARCHEOLOGY NEWSLETTER

## PUBLICATIONS OF INTEREST

A Supplement to Vol. 29, No. 1

Spring 2000

COMPILED BY

Mary Habstritt, New York, NY; and Patrick Harshbarger, SIAN editor.

### GENERAL INTEREST

- ▶ **American Memory: Historical Collections for the National Digital Library.** Web Site: <http://memory.loc.gov/ammem/amhome>. The Library of Congress Web site allows searches for images, documents, and sound recordings in various historical collections, including HABS/HAER; railroad maps; the Farm Security Admin. photographs; and the Detroit Publishing Co. photographs, a collection of 25,000 glass negatives and transparencies from a project where a specially outfitted railroad car was sent across the country in 1902 to document the former frontier. There is a wealth of images related to industry and technology. The search engine allows searching by keyword or subject. Some individual collections allow searching by photographer or geographic location.
- ▶ **Canal History and Technology Proceedings, Vol. XIX.** Canal History and Technology Press (30 Centre Square, Easton, PA 18042-7743), 2000. 235 pp., illus. \$22.75 ppd. Papers from the annual symposium. Edited by Lance Metz. Includes: Vince Hydro, *The Lehigh Coal and Navigation Company's Mauch Chunk RR, Part III: Panther Creek Operations & the Switchback RR*; Kenneth C. Wolensky, *A Working Class Haven in the Pocono Mts.: Unity House—ILGWU*; Jean Whitford Turcott, "The Vortex of Party Strife," *The Funding Debate and Construction of the New York & Erie RR, 1832-1851*; Lance E. Metz, *The Prosecution of the Molly Maguires in Carbon County*; Michael E. Workman, *The Kay Moor Mine, 1901-1962: A Case Study of Underground Mechanization in the Bituminous Coal Fields of Southern West Virginia*; Robert J. Kapsch, *Benjamin Wright and the Design and Construction of the Monocacy Aqueduct*.
- ▶ **Chronicle of the Early American Industries Assoc.** is published quarterly and available with membership in the EAIA (see info elsewhere in this issue). Vol. 52, 3 (Sept. 1999) includes Kay Gibson, *The Golden Age of Farm-Produced Butter in New England and the Mid-Atlantic Region, 1700s to 1800s*; Andrew Hall, *The History of the Lawn Mower, Part 2: 1900-1940*; Kenneth E. Turner, *When is a Turf Mallet Not a Mallet?*; Jim Packham, *Shears and Scissors*; Donald A. Armistead, *Different Applications of Simple Metallurgical Activity*; Thomas A. Lamond, *Spokeshaves and Similar Tools*; Mary Ann Landis, *Labor and Coal: The Beginnings of a Regional Union in the Anthracite Fields of Pennsylvania, 1854-1874, Part 1*. Vol. 52, 4 (Dec. 1999) includes Donna Parker and Jonathan Jeffrey, *Fulling Around: The Shaker Fulling Mill at South Union, KY*; Mary Ann Landis, *Labor and Coal, Part II*; Walter W. Jacob, *Brace Up for a Bit of Stanley History, 1869-1908*; James I. Walsh, *Capacity and Gauge Standards for Barrels and Casks of Early America*; Debbie Henderson, *The Making of a Felt Hat*; Allan Klenman, *An Australian Oddity* (special hatchet for safely opening oil-products crates).
- ▶ Henry Cleere. **Putting Industry on the World Heritage List.** *TICCIH Bulletin*. (Autumn 1999), pp. 3-5. Under-represented historic industrial sites on the UNESCO World Heritage list.
- ▶ John Holusha. **New Jersey Brownfields Are Drawing Developers,** *New York Times* (Sun. Oct. 17, 1999), sec. 11, pp. 1, 8. NJ law protects buyers of brownfields and innovative use of dredged material from NY Harbor for capping material. A boom in the commercial development of brownfields for shopping centers and golf courses.
- ▶ Arnold Pacey. **Meaning in Technology.** MIT Press, 1999. 272 pp., illus., \$27.50. How an individual's sense of purpose and meaning in life can affect the shape and use of technology.
- ▶ Eusebi Casanalles Rahola. **The Museum Interpretation of Industrialization.** *Industrial Patrimony*, v. 2, pp. 27-32. History and development of Museum of Science and Technology in Catalunya, Spain.
- ▶ Christine M. Rosen. **Costs and Benefits of Pollution Control in PA, NY, & NJ, 1840-1906.** *Geographical Review*, v. 88, 2 (April 1998), pp. 219-240. PA judges saw abatement costs too high; NY and NJ judges didn't.
- ▶ **Small Town America: Stereoscopic Views from the Robert Dennis Collection.** Web site: <http://digital.nypl.org/stereoviews>. The NY Public Library has digitized selected historical collections, and this is one of the first collections of photographs to be put on its Web site. (Another on the history of transportation is due soon.) The stereoviews of small towns and cities in NY, NJ, and CT are grouped by location and can be searched by keyword. Many images of bridges, mills, and transportation.
- ▶ Edward Tenner. **Why Things Bite Back: Technology and the Revenge of Unintended Consequences.** Knopf, 1996; 1997 pap. 346 pp., bibliog., index. \$26; \$13 pap. 20th-c. technology that improved conditions only later to develop adverse consequences or "revenge effects." Examples include automobiles, which were viewed as solving the sanitary problems of horse-drawn vehicles only to result in a different kind of pollution as well as traffic jams; football helmets, which have led to more violent play; and carpal tunnel syndrome, brought on by improvements in office technology, but which goes back to the days of telegraph operators, who developed "glass arm."

- George M. Winder. **The North American Manufacturing Belt in 1880: A Cluster of Regional Industrial Systems or One Large Industrial District?** *Economic Geography* v. 75, 1, Jan. 1999, pp. 71-92.
- David Worth. **A Smoke Belching Congestion of Factories.** *Industrial Patrimony* v. 2, pp. 65-72. Cape Town, South Africa's neglected industrial heritage.
- G. Pascal Zachary. **Endless Frontier: Vannevar Bush, Engineer of the American Century.** MIT Press, 1999. 528 pp., illus. \$22. Biography of cofounder of Raytheon, whose initial success was based on long-lasting radio tubes, and President Roosevelt's engineering advisor, who oversaw the work of the Manhattan Project.
- Dennis Zembala. **The Baltimore Museum of Industry: A Working Museum for a Working City.** *Industrial Patrimony*, v. 2, pp. 57-58.

### MINES & MINING

- Geoffrey L. Buckley. **The Environmental Transformation of an Appalachian Valley, 1850-1906.** *Geographical Review*, v. 88,2 (Apr. 1998), pp. 175-198. Coal mining in the George's Creek valley west of Cumberland, MD, transformed the natural landscape.
- Grenville A. J. Cole. **Memoir of Localities of Minerals of Economic Importance and Metalliferous Mines in Ireland.** Mining Heritage Society of Ireland (Avail: c/o Matthew Parkes, Geological Survey of Ireland, Beggars Bush, Haddington Rd., Dublin 4, Ireland), 1999. 155 pp. £ 11. Facsimile ed. of the 1922 survey is rich in detail and historical references. Includes forward, biography of the author, new and old photos of mine sites, and some plans and sections from mine records.
- Janet L. Finn. **Tracing the Veins: Of Copper, Culture, and Community from Butte to Chuquicamata.** Univ. of Calif. Pr., 1998. 309 pp., bibliog., index, maps. \$45; \$16.95 pap. Double history of two Anaconda mining communities: Chuquicamata, Chile, and Butte, Montana. Connections between people in company towns in the First and Third Worlds.
- J. S. Holliday. **Rush for Riches: Gold Fever and the Making of California.** Univ. of Calif. Pr., 1999. 336 pp., illus. \$50. Frames the gold rush years within the larger story of the state's transformation from a Mexican hinterland to the forefront of capitalism.
- A. Bernard Knapp, Vincent C. Pigott & Eugenia W. Herbert, eds. **Social Approaches to an Industrial Past: The Archaeology and Anthropology of Mining.** Routledge, 1998. 306 pp., bibliog., index. \$75.00. Iron production in Cyprus in the Iron Age, in Thailand, in the Alps in the Bronze Age, in pharaonic Egypt, and in Africa during the colonial period; and modern mining communities in Australia, the U.S., and Cornwall. Social life in mining communities with respect to gender issues, prostitution, religious institutions, class, and race.
- P. R. Moore and N. A. Ritchie. **In-Ground Ore-Roasting Kilns on the Hauraki Goldfield, Coromandel Peninsula, New Zealand.** *Australasian Historical Archaeology* v. 16, pp. 45-59.
- Frank Sanders, et al. **Wetlands Treat Mine Runoff.** *Civil Engineering*, Jan. 1999, pp. 52-55. Building a filtration system that incorporates local wetland plants for the treatment of runoff at the abandoned Mike Horse and Anaconda mines, northeast of Missoula.

### LOGGING & LUMBERING

- J. P. Bertrand. **Timber Wolves: Greed and Corruption in Northwestern Ontario's Timber Industry, 1875-1960.** Thunder Bay Historical Museum Soc. (Thunder Bay, ON), 1997. 162 pp., \$16.45 ppd. This is the "long-unpublished but oft-cited manuscript account" completed by the author in 1961. It weaves together stories of pioneer loggers, pulpwood operators, timber speculators, and mill promoters of the northern U.S. as well as Ontario. Bertrand was once a timber co. employee.
- Ken Drushka. **Tie Hackers to Timber Harvesters: The History of Logging the BC Interior.** Harbour Pub. (Box 219, Madeira Park, BC V0N 2H0, Canada), 1999. 240 pp., photos. \$44.95. Overview of logging and lumbering in eastern British Columbia, 1850s to present. Rev: *Timber Times* (Issue 21), p. 5.
- Steven R. Gatke. **Photos from the Blair Family Album, Stimson Lbr. Co. 1938/39.** *Timber Times* (Issue 21, June 1999), pp. 8-12. Photo history of family lumber business near Forest Grove, OR. Shows how a lumber camp was set up during the 1930s.
- Gilbert H. Hoffman. **Steam Whistles in the Piney Woods.** Longleaf Pr. (Box 15723, Harrisburg, MS 39404), ca. 1999. 194 pp., illus. \$53.95 ppd. Sawmills and logging railroads of Forrest and Lamar counties, Mississippi. Rev: *Timber Times* (Issue 21), p. 5.
- Thad J. Sitton and James H. Conrad. **Nameless Towns: Texas Sawmill Communities, 1880-1942.** Univ. of Texas Pr., 1998. 271 pp., photos. \$37.50; \$18.95 pap. Sawmill communities in Texas from oral history, company records, and other archives. The companies that ran the mills, the jobs involved in logging and milling, and the rough-hewn towns themselves.

### AGRICULTURE & FOOD PROCESSING

- Martin Carney. **A Cordial Factory at Parramatta, New South Wales.** *Australasian Historical Archaeology* v. 16, pp. 80-93.
- **Donation to Archives Center Reveals One Inventor's Life.** *Lemelson Center News* (Summer 1999), pp. 1-2. Avail: Lemelson Center, Smithsonian NMAH, 14th St. and Constitution Ave. NW, Washington, DC 20560. Everett H. Bickley (1888-1972), noteworthy as the developer of a photoelectric bean sorter widely used in canneries and storage elevators.
- Warwick Pearson. **Water-Powered Flourmilling on the New England Tablelands of New South Wales.** *Australasian Historical Archaeology* v. 16, pp. 30-44.
- **Seagram Company Ltd. and Bronfman Family.** Hagley Museum & Library (Box 3630, Wilmington, DE 19807; 302-658-2400), 2000. No charge. Guide to the Seagram archive recently opened for research.
- Brian Townsend. **The Lost Distilleries of Ireland.** Neil Wilson Pub. (303A, Pentagon Centre, Washington St., Glasgow, G3 8AZ, UK), 1997. Illus., \$24.95. A thoughtful look at one of Ireland's great industries and what is left of its

once numerous distilleries. The golden years of Irish distilling were just over 100 years ago, but during the first two decades of the 20th century, the industry was in chaos from loss of the American market to Prohibition and the English market to politics following the establishment of the Irish Free State. Only in recent years has the industry made a comeback.

## IRON & STEEL

- ▶ James R. Bennett. **Tannehill and the Growth of the Alabama Iron Industry.** Avail: Tannehill Ironworks, 12632 Confederate Parkway, McCalla, AL 35111; (205) 477-5711. 488 pp., illus., photos, maps. \$22.95 paper. \$38.95 hardback. Daniel Hillman's ironworks from 1830 to its destruction by Union soldiers in 1865.
- ▶ Charles R. Isleib and Jack Chard. **The West Point Foundry & Parrott Gun: A Short History.** Purple Mt. Press (1060 Main St., Box 309, Fleischmanns, NY 12430), 2000. 38 pp., illus., \$10 ppd., paper. Concise history of the Cold Spring, NY, foundry and its most famous product, Robert Parrot's gun, renowned for range and accuracy during the Civil War.
- ▶ Ken Kobus, ed. **Steel: The Diary of a Furnace Worker. The Original 1922 Edition by Charles Rumford Walker.** Iron & Steel Society (186 Thorn Hill Road, Warrendale, PA 15086; 724-776-1535), 1999. 175 pp. A young man's first-hand impressions of working at the Jones & Laughlin Steel Co.'s Aliquippa Works. Operations of the blast furnace, open hearth, Bessemer converter. Difficult work conditions, ethnic prejudices, and the need for reform. Preface and afterword by Kobus place the diary in context.

## TEXTILES

- ▶ Patricia Lowry. **Pittsburgh Wool Co.'s Factory: A Run for Posterity.** *Pittsburgh Post-Gazette*. Sunday, Jan. 9, 2000. SIA members Christopher Marston and Tom Behrens record America's last wool pulling factory for the Historic American Engineering Record. [See *SIAN* Fall 1999].
- ▶ **World Heritage Textile Industry Sites.** *TICCIH Bulletin 7* (Winter 1999), pp. 3-4. How sites of the textile industry might be assessed for inclusion on UNESCO's World Heritage List.
- ▶ Claudio Zanier. **The Valorisation of Silk Heritage in Italy. Building Viable Tourist Itineraries around Historical Uniqueness.** *Industrial Patrimony*, v. 2, pp. 9-14. Efforts to develop silk factories as tourist sites in Italy.

### CONTRIBUTORS TO THIS ISSUE

Arnold Carlson, Coventry, CT; Dennis J. Connors, Syracuse, NY; Steven Delibert, New York, NY; Eric DeLony, Washington, D.C.; Don Durfee, Houghton, MI; Ed Galvin, Brunswick, ME; Dale Goble, Moscow, ID; Mary Habstritt, New York, NY; Robert Hadlow, Salem, OR; Christopher Haga, Frederick, MD; Robert Howard, Wilmington, DE; Arlene Johnson, Houghton, MI; Matthew Kierstead, Pawtucket, RI; Kenneth J. Lavelle, North Royalton, OH; Alisa McCann, Philadelphia, PA; Patrick Martin, Houghton, MI; Carol Poh Miller, Cleveland, OH; David Poirier, Hartford, CT; Lynn Rakos, New York, NY; James B. Ricci, Haydenville, MA; David Simmons, Columbus, OH; Justin Spivey, Arlington, VA; David Thomas, Laurium, MI; Robert Vogel, Washington D.C.; Jurgen Weyer, Freiberg, Germany.

*With thanks*

## MISC. INDUSTRIES

- ▶ Stephen B. Adams and Orville R. Butler. **Manufacturing the Future: A History of Western Electric.** Cambridge Univ. Pr., 1999. 270 pp., illus. \$34.95. First full-length history of the Western Electric Co. Telegraphs, telephones, radios, and an early computing machine, demonstrate that vertical integration, after WE's acquisition by Bell Telephone in 1882, was a lengthy process rather than a single event; maturation of industrial psychology; civil rights in corporate America.
- ▶ Frederick Allen. **Rear Guard of the Information Revolution.** *I&T* (Fall 1999), pp. 6-7. Ko-Rec-Type Co. still makes fabric typewriter ribbons, old printer cartridges, carbon paper.
- ▶ Reginald Bennett. **The Mountains Look Down: A History of Chichester, A Company Town in the Catskills.** Purple Mt. Press (Box E3, Fleischmanns, NY 12430-0378; 914-254-4062; [www.catskill.net/purple](http://www.catskill.net/purple)), 1999. 143 pp., \$18.50 ppd., paper. An anecdotal history by a resident of a self-contained Catskill furniture-making town, which thrived in the late-19th century and fell on increasingly hard times in the 20th century, until the whole place was auctioned in 1939. The technology of the mills and the broader web of personal, social, and economic factors.
- ▶ Wayne Cocroft. **Dangerous Energy: The Archaeology of Gunpowder and Military Explosives Manufacture.** English Heritage, 1999. Sites and monuments associated with the explosives industry in Britain. Includes gazetteer of 385 sites. Generously illustrated. Rev: IAN (Autumn 1999), p. 15.
- ▶ Catherine Greenman. **An Old Craft Learns New Tricks.** *New York Times*, Thurs., June 10, 1999, Circuits section, p. G1. Steinway & Sons is incorporating computer technology into its traditional piano crafting, primarily in drying and storage of the wood.
- ▶ Richard Hayman and Wendy Horton. **Broseley Pipeworks.** *IAR*, v. 21:1 (June 1999), pp. 25-39. The only surviving clay pipe manufactory in Britain.
- ▶ Charles Petrillo. **Albert Lewis: The Bear Creek Lumber and Ice King.** (Avail. from the author, 95 Miner St., Wilkes-Barre, PA 18702), 1998. 237 pp. \$14.95 paper. After lumber played out in the 1880s, Lewis of Bear Creek, PA, turned to shipping ice. Primarily of local interest, but a good case study of the ice industry in Pennsylvania. Rev: RH (Spring 1999), p. 163.

## POWER GENERATION

- ▶ Charles V. Bagli. **In Manhattan, A Battle over Nine Acres w/Rvr Vu.** *New York Times*. Dec. 29, 1999, pp. A1, A22. Plans to demolish 1900 Con Ed Waterside Steam Plant.
- ▶ T. Lindsay Baker, ed. **Windmillers' Gazette.** Quarterly. Avail: Box 507, Rio Vista, TX 76093. Vol. 19, 2 (Spring 2000) includes *Windmills for Pumping Oil*; "Posed with the Windmill": *Windmills Used in Composition of Historic Photographs*; *Prefabricated Steel Towers for "Fairbury" Windmills*.
- ▶ Charles Bazerman. **The Languages of Edison's Electric Light.** MIT Press, 1999. 478 pp., illus. \$39.50. How Edison and his colleagues represented light and power to themselves and to others as the technology was transformed from an idea to a daily fact of life.

- Richard F. Hirsh. **Power Loss: The Origins of Deregulation and Restructure in the American Electric Utility Industry.** MIT Press, 1999. 448 pp., illus. \$50. Early 20th century efforts by utility companies to protect their industry from competition led to a regulated system. Unanticipated events beginning in the 1970s placed increasing pressure to deregulate.
- David Rhinelander. **This Inventor Knew Where the Wind Was Blowing.** *Hartford Courant*. Dec. 24, 1999. David Halladay of Coventry, CT, invents the self-governing windmill in 1854.
- Kathryn Young. **Wedded to Electricity.** *Ottawa Citizen*. Dec. 11, 1999. Friday Life Series. Impact of electricity on homes. Features Louise Trottier [SIA], Curator, National Museum of Science and Technology, Ottawa.

## BUILDINGS & STRUCTURES

- Rowland J. Mainstone. **Structure in Architecture: History, Design and Innovation.** Ashgate, 1999. 436 pp., illus. Innovation in structural design with a focus on architecture prior to the Industrial Revolution.
- Anne Elizabeth Powell. **Back from the Brink,** *Civil Engineering* (Oct. 1999), pp. 52-57. Two-decade-long decision-making process that finally ended in the successful move of the Cape Hatteras Lighthouse in the summer of 1999. The engineering challenges of the move itself are also discussed.
- Richard White. **Gentlemen Engineers: The Careers of Frank and Walter Shanley.** Univ. of Toronto Pr., 1999. 280 pp. The working lives of two well-known 19th-c. Canadian civil engineers and businessmen, who finally completed the Hoosac Tunnel (1876).

## WATER CONTROL & RECLAMATION

- Diane Galusha. **Liquid Assets: A History of New York City's Water System.** Purple Mt. Press (Box E3, Fleischmanns, NY 12430; 914-254-4062; [www.catskill.net/purple](http://www.catskill.net/purple)), 1999. 303 pp., \$40.50 ppd., hardbound. Amazingly, the history of New York City's immense water supply system has never before been recounted in a full-length book. The social, economic, political, engineering, and technological history of this vast three-century, multibillion-dollar enterprise, whose branches reach out across lower NY State.
- Lance Helwig, et al. **Safe Passage.** Re-design of the fish bypass system at the Bonneville Dam on the Columbia River. Although the dam incorporated a fish ladder when it was built in 1938, many improvements have been made over the years, of which this is but the latest.
- Barbara Vilander. **Hoover Dam: The Photographs of Ben Glaha.** Univ. of Arizona Pr., 1999. 168 pp., photos, \$24.95. Glaha was the project photographer assigned to record every aspect of the construction of Hoover Dam. His photos were used to demonstrate the progress and financial viability of the project, but he also produced photos that were exhibited as works of art in galleries and museum. His work is placed within the context of western landscape art.

- Anna Wong. **Colonial Sanitation, Urban Planning and Social Reform in Sydney, New South Wales, 1788-1857.** *Australasian Historical Archaeology* v. 17, pp. 58-69. And, "...the foul reality." **An Archaeological and Historical Study of Colonial Drainage Systems.** M. A. Thesis, University of Sydney, 1997.

## RAILROADS

- George Drury. **Union Pacific Across Sherman Hill: Big Boys, Challengers, and Streamliners.** Kalmbach Pub., 1999. 128 pp., photos, map. Sherman Hill, WY, provides a fitting backdrop for a photo essay on monster steam locomotives.
- Robert A. LeMassena. **David Moffat's Double Dilemma.** *R&LHS Newsletter* (Spring 2000), pp. 3-5. The Denver, Northwestern & Pacific RR conquers the continental divide west of Denver with an unorthodox arrangement of curves and loops in its line, 1903-09.
- **Steeling a Ride.** *Lake Superior Magazine* (April/May 1999). Burlington Northern-Santa Fe ore dock operations in Superior, WI.
- Jeff Wilson. **F Units: The Diesels That Did It.** Kalmbach Pub., 1999. 128 pp., illus., photos. \$19.95. Photo essay on the diesel locomotives that ran steam engines out of operation between 1945 and 1960.

## ABBREVIATIONS:

I&T	= American Heritage of Invention & Technology
IAN	= Industrial Archaeology News
IAR	= Industrial Archaeology Review (UK)
R&LHS	= Railway & Locomotive Historical Society
RH	= Railroad History
TICCIH	= The International Committee for the Conservation of the Industrial Heritage

**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 the **SIA Newsletter**, 305 Rodman Road, Wilmington, DE 19809.

We endeavor to make citations as complete as possible, but they are from a variety of sources, and are sometimes incomplete. If a date, publisher, price, or other statistic is missing, it simply means that it was unavailable, and, unfortunately, we do not have the time to track down these missing bits. The SIA, unless otherwise noted, is not a source for any of the cited works. Readers are encouraged to use their library, bookstore, or school for assistance with locating books or articles.

# A Brief History of the Parma Reservoir

An uncommon structure in Parma, a west side suburb of Cleveland, Ohio, is the 1933-37 Parma Reservoir. The 23-million gallon reservoir is formed by a 326 × 306-ft. earth-covered concrete tank, technically referred to as a basin, with a Gothic-style facade resembling a 14th-century English castle.

In the early part of the 20th century, Parma residents experienced water shortages. The detailed 1920s plans for the “Parma Reservoir Park” included a reservoir surrounded by a large, casually landscaped park with picnic areas, a lake, and horse trails, but the Depression caused the city to scale back plans and only one of two basins and the pump house were completed.

G. W. Hamilin was the engineer of the concrete basin, according to 1933 blueprints. The basin resembles a concrete tank with double walls. An inner concrete wall is not attached directly to an outer brick wall, thus creating an air space. This was done, it was said, to allow water drainage. There is a 3-in. weephole at the bottom of the brick wall at each of the four corners. The inner wall is 34-ft. high and varies from 2-ft. thick at the top to 4-ft. 6-in. thick at the base. The concrete footer for the wall extends outward some 32 ft.

Several individuals have said that they believe that the earthen roof was placed to avoid detection and bombing from enemy planes during wartime. Although an earth roof would be harder to detect from the air, there is no supporting evidence for this hypothesis. The earth roof was designed as insulation to keep the water cool in the summer months and warm in the winter months. Also, the covering may have aided in sanitation by keeping out airborne dirt, pollutants and bacteria.

The most outwardly striking aspect of the reservoir is the Gothic-style architectural features designed by Herman Kregelius. Crenelated stone towers and walls give the reservoir a fortress-like appearance, but there are details that speak to its water supply function, including stone carvings in the shapes of fish above the tower entrance doors. The architectural design of the reservoir anticipated that a second basin would be built at the first basin's southwest corner. Since the second basin was never built, the reservoir from a distance appears architecturally unbalanced.

The contractor for the Parma Reservoir was the Hunkin-Conkey Construction Co., but like many Depression-era public works projects, labor was provided by the Works Progress Administration (WPA) as a New Deal unemployment relief measure. There was some labor trouble during the construction of the outer wall in 1936. Paychecks were late, workers complained of cold weather, and government property was destroyed during a riot. On Jan. 26, 1936, the rioters lost their jobs and sheriffs deputies were assigned to protect the remaining workers.

Local residents have begun to appreciate the history of the reservoir, which is still providing water today. Since 1993, the facility has offered tours to the public during National Clean Water Week. The reservoir has been undergoing renovation, and it will be lighted at night beginning in 2003.

K.J.L.



A view on the roof of the reservoir.



Parma Reservoir.

Ken Lavelle photos.

## LETTER TO THE EDITOR

(continued from page 8)

on the ATP site. Like all of the ruins on the site, the gun mill is deteriorating daily. Stabilization of the ruins will allow for a preservation plan to be developed identifying the long-term treatment of this resource, including the removal of hazardous materials.

Given the critical condition of the remaining resources on the ATP site, the NPS is hopeful that a process can be agreed upon in the near future that will allow work to proceed on the ATP site that will meet the Secretary of the Interior's “Treatment for Historic Properties.” We look forward to the input of SIA members through-

out this process and during the review of documents produced by this process. Members interested in learning more about the project should contact Alisa McCann, Architectural Historian, NPS, Philadelphia Support Office, U.S. Custom House, 200 Chestnut Street, Philadelphia, PA 19106.

Alisa McCann  
Architectural Historian, NPS



# Elusive American Truss Bridges

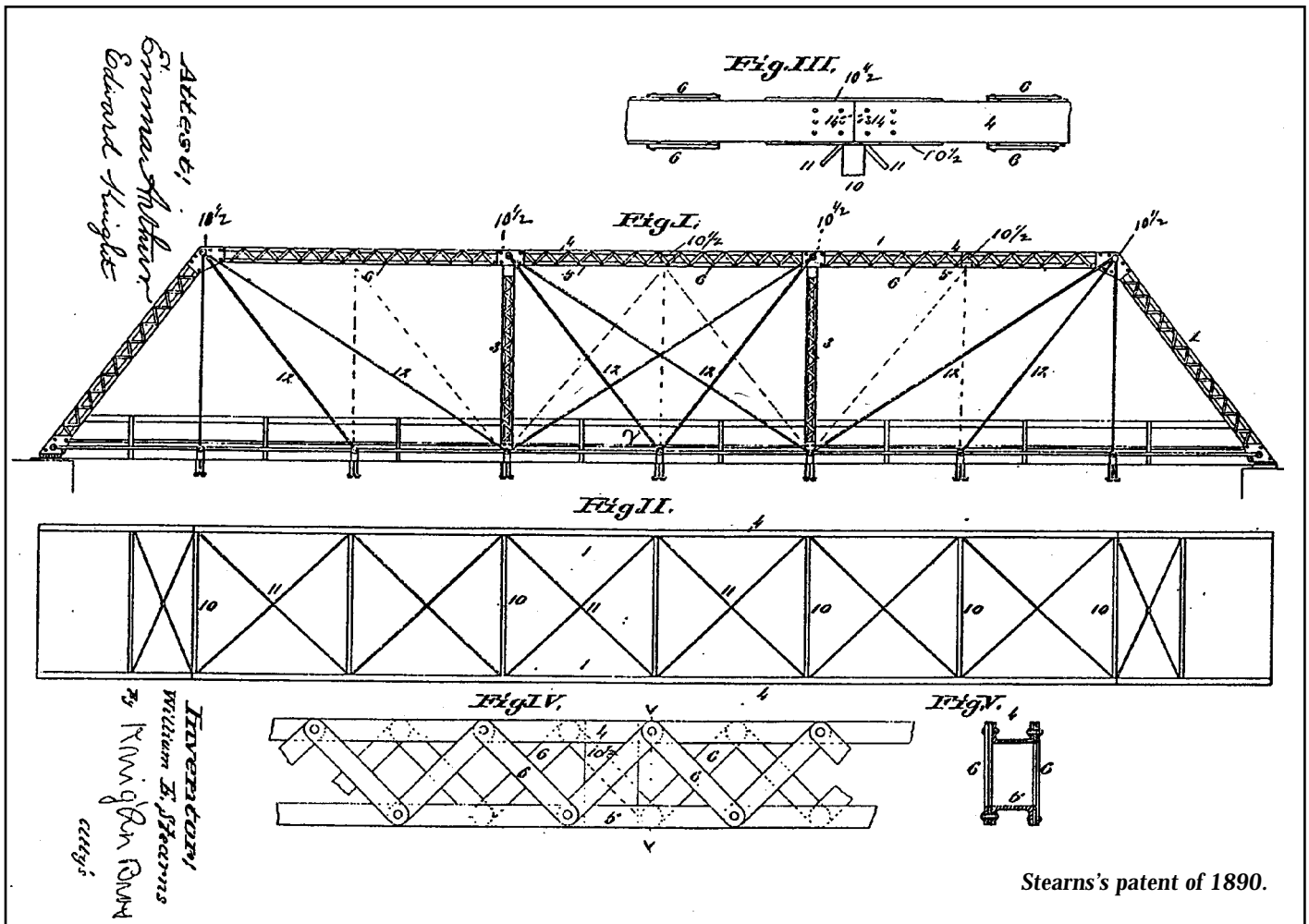
David Guise [SIA] is researching the evolution of the 19th-century American truss bridge for an upcoming book. His goal is to demonstrate why a large variety of truss designs were developed and examine how the introduction of new materials, progress in construction techniques, and expansion of theoretical knowledge, combined to cause a particular truss type to be superseded by a different, "better," configuration. In the second installment in a series to appear in SIAN, he shares his research to date on the Stearns truss [See Winter 1999 for the Kellogg Truss]. Articles on other elusive truss configurations will appear in subsequent newsletters. The series is intended to serve as a catalyst to elicit additional information, especially the location of historic photos, plans, descriptions or surviving examples.

## Stearns Truss

In 1890 William Stearns patented a light-weight variation on the popular Pratt truss. His design enjoyed a brief period of use for relatively short-span steel highway bridges. In his patent application, Stearns compared his truss to the Pratt, going as far as to show, by dotted lines, the Pratt vertical web members his design eliminated.

The rationale behind Stearns's concept was a desire to use less

material than the Pratt truss, and thus reduce weight and cost. In 1881, nine years before Stearns obtained his patent, another engineer, Frank Leers, appears to have hit upon a similar configuration, but apparently never patented or built it. Along with other engineers and bridge-building firms, both Leers and Stearns were trying to obtain an advantage in a very competitive market by eliminating some of the heavy vertical compression members in



the prevailing truss forms. All of these weight-saving attempts ultimately suffered a similar fate of extinction.

The web panels in a Stearns truss were double the length of a Pratt truss of same overall span length. Longer panels required the top chord to be beefier (again in comparison to a Pratt truss) in order to resist any tendency to buckle. Another ramification of the Stearns design was that in order to prevent the diagonals' degree of slope from becoming too horizontal (the greater the horizontalness, the higher the stress), the overall height of the truss had to be increased. This requirement made a Stearns truss as much as 25 percent higher than a Pratt truss.

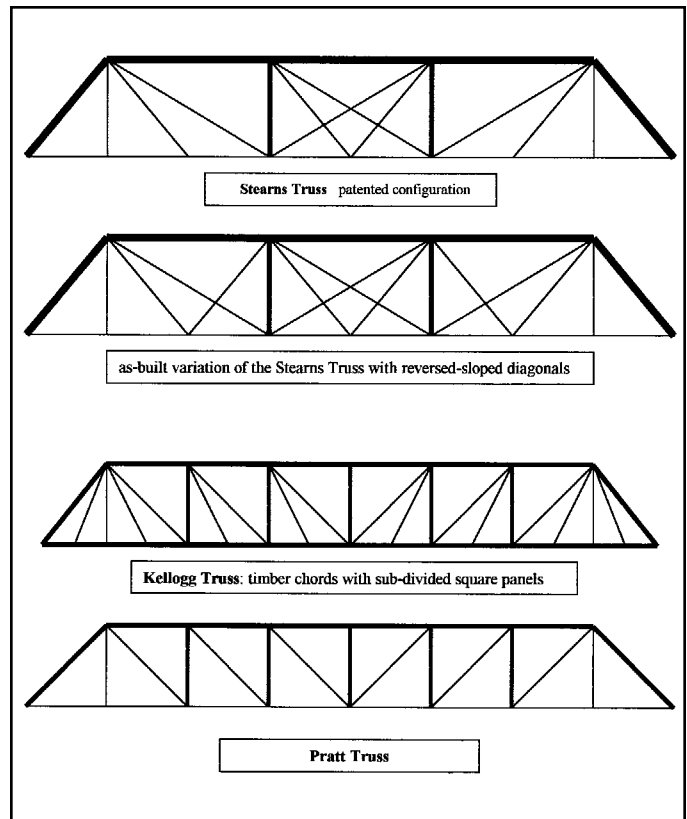
Stearns's metal truss and Charles Kellogg's timber chord truss (see *SIAN*, Winter 1999), which was patented 20 years earlier, appear to be similar in intent. Both eliminated compression verticals from their webs to save weight. Both added a tension diagonal within each panel. Kellogg subdivided the square panels of his truss with a tension diagonal secured to the bottom chord at a point midway between panel points. Stearns's horizontally elongated panels were similarly subdivided at their mid point; however, the much greater length of the rectangular panels forced the slope of the main diagonals to be flatter (and therefore less efficient) than Kellogg's.

Stearns's more daring approach (longer distances between vertical web-struts) was possible because his steel eye-bar bottom chords did not receive a direct load from the bridge deck (as was the case with the Kellogg truss). The Stearns deck was supported on joists placed parallel to the bridge, the joists transferring their load to the truss through floorbeams located at panel points at the web verticals and sub-panel points located half-way between the verticals. The timber bottom chords of the Kellogg were subjected to bending between support points because the deck joists were perpendicular to the length of the bridge and rested directly on the truss's bottom chord. Kellogg's second set of diagonals was needed to support the bending stresses in the chord. Stearns's truss avoided this particular issue.

Stearns claimed that by reducing the number of verticals he had made his design 12.5 percent lighter than the Pratt configuration. However, his assertion of weight reduction appears to be high, as it apparently did not take into account the weight gained by the thicker and taller remaining verticals and sloping end posts, the bulkier top chords, as well as all the additional cumulative length of the tensile diagonals.

Additional factors in the Stearns configuration caused concern. A photograph and drawing published in 1892 in *Engineering News* show a third, opposite-sloped diagonal added to the original patented end panel configuration. It produced a V-shaped support for the bottom chord. This configuration has become the image now associated with the Stearns truss. At what point in time, why, and by whom this diagonal was introduced remains unclear. The third diagonal is redundant, and engineers could only guess at the actual stress on it. Engineers at that time were also concerned that Stearns's heavy top chord (fabricated from members riveted together in a way that effectively made it a one piece continuous girder spanning the full length of the bridge) would be subjected to secondary stresses, or moments, which they could not accurately determine.

One of the most popular engineering texts of the era cautioned against using the Stearns truss. As in the case of the Kellogg



design, the truss did not prove to be usable except for short-span highway bridges. In longer situations, the lack of omitted verticals created insurmountable problems in its ability to resist vibrations. The attempt to save weight was admirable, but the amount actually saved appears to be less than anticipated, and the loss of stability proved fatal.

William Stearns was a member of the engineering staff at the Berlin Iron Bridge Company. One can't avoid speculating whether the truss would ever have been built if Berlin had not promoted the design. The only identified extant example located to date, of what is claimed to be a Stearns truss, is a 76-ft. long abandoned bridge in Pulaski County, Indiana. Erected by the Winamac Bridge Company in 1905, it possesses light verticals at the sub-panel points, making it unclear whether this structure is a modified Stearns, a unique variation of a Whipple truss, or a type that should be called a Winamac. It would be interesting to be able to determine definitively if any firm other than the Berlin Bridge Company actually built a "true" Stearns truss.

Neither Stearns's nor Kellogg's attempts to reduce weight and costs by eliminating verticals proved practical when subjected to the ultimate test of use. However, both designs provide fascinating insights into the trial and error, survival-of-the-fittest approach at the time. As the 19th century came to a close, the rational options for modest span steel truss configurations had been essentially narrowed to two choices, the Pratt and the Warren.

Info: David Guise, Box 132, Georgetown, ME 04548; (207) 371-2651; e-mail: davidguise@clinic.net. ■



## Kenneth Hudson, 1916–1999



*“Kenneth Hudson, questioning, questioning, always questioning.”*

How sad it is to report the death last December of one of the larger-than-life figures of the industrial archeological community. Kenneth Hudson will be known to most of you as the ‘inventor,’ the ‘patron saint,’ the ‘great exponent’ of our field, the first to really put it on the map of public consciousness through his innumerable books, articles, and public appearances—not to mention his generous, kind-spirited encouragement—very often amounting to mentorship—of any and all who exhibited a common interest in IA. The first of the books—the pioneering *Industrial Archaeology*—appeared in 1963, going far to capture the imagination of historians, curators, and a great number of others concerned with examining the history of industry and technology in general through surviving artifacts, from flint axe heads to railroad systems to massive steel-making complexes, and all in between. In 1964 he further solidified matters by becoming the founding editor of the *Journal of Industrial Archaeology*, the first serial publication in the field, predating our own IA by some ten years. It lives on in the form of its direct descendant, the Association for Industrial Archaeology’s *Industrial Archaeology Review*.

Kenneth’s capacity for intellectual productivity was nothing less than colossal. He once stunned me by mentioning that every morning he wrote some 5,000 words *before breakfast*. This was not a boast but a simple statement of fact, easy to believe when we realize that in his lifetime he produced no fewer than 54 books, at one high point turning out four a year. All were of very real substance, on a breathtaking variety of subjects (not all IA-related by any means).

So active a mind could not remain for long in one discipline. As fundamentally a social historian, Kenneth moved gradually

into the IA of the 20th Century which then led him to wonder why our museums—especially our technical museums—had so little to say about the human context of the machines displayed. Operating from that viewpoint he embraced with his customary zeal the world of museology (but quite consciously excluding what he regarded as the overheated sub-world of art museums). This became literally the driving force of the remainder of his life, justified, he once explained, “. . . because no one else is doing it.” It manifested itself in a number of highly constructive ways, the most widely known of which was to be the prodigious *World Directory of Museums* which first appeared in 1975. With his collaborator Ann Nicholls he updated it in 1980 and again in 1985. Lest it be thought that only “major” museums are included, let me cite a recent incident. Last fall, travelling in Northern Italy and stopping for several days in the small town of Stresa on Lake Maggiore, we learned of a museum of umbrellas and parasols in a hamlet up on the mountain top way above. Having nothing better to do, and being museum folk, it was natural that we visit, driving up the very long, very twisty, very steep road to this unlikely location of a former umbrella works, the reason for so unlikely a museum there. “Aha,” I think to myself. “Here’s one that the great international museum authority can’t possibly have known about and noted in his directory. What a coup to get one up on Hudson!’ On arriving home and checking the directory, there of course it was, properly indexed under ‘U.’

Kenneth’s other great accomplishment was the establishment in 1977 of the European Museum of the Year Award, the entire mechanism of which—including forming an international jurying committee and creating a framework of standards—sprang entirely from his own fertile mind. The annual awards have come to be highly prized by the recipient museums and highly regarded by the entire European museum community. The scheme has operated from the outset under the auspices of the Council of Europe, which in 1989 awarded Kenneth its Medal of Honor. His own nation awarded him the Order of the British Empire in 1997 for services to museums.

Kenneth Hudson was born in Harlesden in northwest London on July 4th, 1916, and died at his home in Ditcheat, Somerset, on December 28th, 1999. He is survived by Hope, his wife of 61 years, three children, and a world of friends who shall never see his like again.

R.M.V.

## HAER 30th Anniversary Exhibition

(continued from page 5)

National Park Service, in cooperation with the Library of Congress.

The NBM is uniquely suited to present this exhibition. Chartered by Congress in 1980 as a private, non-profit organization, the museum is the only institution in the country dedicated solely to educating the public about the built environment. The museum is funded through a combination of public and private sources and has individual members throughout the U.S. In a typical year, the museum presents more than a dozen exhibitions, as well as more than 1,500 education programs for children and adults.

HAER, established in 1969, documents America’s industrial, maritime, and engineering history, producing measured and interpretive drawings, historical reports, and large format photographs of significant sites nationwide. This information is housed and maintained in the HABS/HAER collection at the Library of Congress, Prints and Photographs Division, where they are made available to the public. Over the years, many SIA members have worked on HAER projects.

E.D.



# Central Mine Preservation Project

David Thomas of the Keweenaw County Historical Society (KCHS) updates progress at the Central Mine, Michigan, which was a tour stop of the 1997 SIA Annual Conference to the Upper Peninsula.

Soon after Douglass Houghton, Michigan's state geologist, reported finding copper in 1836, mining companies were organized along the Keweenaw Peninsula. Some were profitable, but many failed. In November 1854, the Central Mining Co. began operations, and it was the first mine to show a profit in its first year of operation. Central Mine, the name of the mine and the company town, grew to a population of 1,200, with a store, doctor, churches, post office, and school. In 1898, after extracting 54 million pounds of copper, the vein ran out, the mine closed, and the miners moved on to find work at other mines.

In 1907, many of the former miners and their families gathered at the Central Mine Methodist Episcopal Church and held a first annual reunion. This tradition has been maintained and on July 30, the church will hold its 94th reunion service. Descendants of those who lived and worked at Central Mine attend each year.

Over the years, the town's buildings have fallen into disrepair. Some were dismantled for the lumber, and others fell victim to neglect, storms, and heavy snow loads. Summer residents lease most of the remaining homes, and the reunion organizers maintain the church. During the 1960s, Universal Oil Products, successors to Calumet and Hecla, Inc., demolished all but one of the mine buildings.

Preservation efforts began early in the 1950s when the Stetter family began renovation of the mine agent's home, which they had leased since 1935. By 1965, they had opened it as a house museum commemorating the history of Central Mine. Charles Stetter successfully worked to have the Central Mine townsite listed on the National Register. The Stetter property along with two other dwellings and the ruin of a boiler house have since been bought by the Liddicoat family, who continue to have a keen interest in Central Mine's history.

In 1996, the KCHS acquired approximately 40 acres that included ten dwellings and the church. The historical society deeded the church to the Central Mine ME Church Corp. and leased seven of the ten houses. The three houses not presently leased are the focus of current preservation efforts. Fund raising started several years ago. Donations and receipts from sales of a book entitled, *Central Mine: Years of Hard Work—Lives of Pain and Hope*, have permitted KCHS to begin restoration of the unoccupied houses. Siding has been reattached or replaced, windows have been repaired, roofs secured, and exteriors painted. What remains of Central Mine is in good hands, but there is a long way to go.

During 2000, KCHS will open a visitor center and begin work on a series of projects to interpret Central Mine. The historical society is anxious to share the Central Mine's history with visitors. KCHS already owns and operates other historic sites on the peninsula, including the Eagle Harbor Lighthouse, the Rathbone School Museum in Eagle Harbor, and the Church of the Assumption Museum and the Bammert Blacksmith Shop



Neil Harri photo.

*Aerial view of Central Mine.*

Museum in Phoenix.

For a sample copy of the historical society's newsletter, "The Superior Signal," as well as information about supporting preservation efforts at Central Mine contact: Dave Thomas, c/o KCHS, HC-1, Box 265L, Eagle Harbor, MI 49950; (906) 337-4471. ■

## SITES & STRUCTURES

### Dean & Westbrook Phoenix-Column Pony Truss Available.

The U. S. Army Corps of Engineers NY District will begin construction of the Ramapo River Flood Protection Project in Oakland, Bergen County, NJ, in 2000. The historic Doty Road Bridge must be removed as it causes an obstruction in times of flooding. The Corps is seeking appropriate parties interested in acquiring the trusses. The bridge is a single-span, 80 ft.-long, single-lane, 5-panel, wrought-iron Pratt pony truss with Phoenix-column upper chord sections. The distinctive columns are made of four segments, flanged and riveted together to form a hollow circular member. Dean & Westbrook, highway bridge agents for the Phoenix Bridge Co., erected the bridge in 1891. The bridge was condemned in 1983 and a Baily bridge, which is removable, was inserted in 1984 to bear the traffic load. The bridge was determined eligible for the National Register in 1989. Due to deterioration of the deck and stone substructure, just the 1891 trusses are available for reuse, to be provided free. Cost to relocate them will depend on such factors as conditions at the relocation site and applicable state regulations. The bridge may contain lead paint. The corps may be able to provide limited assistance to the recipient. Info: Lynn Rakos, Project Archeologist, US Army Corps of Engineers, CENAN-PL-EA, 26 Federal Plaza, New York, NY 10278; (212) 264-0229; e-mail: [rakos@nan02.usace.army.mil](mailto:rakos@nan02.usace.army.mil).



U.S. Army Corps of Engineers photo.

**The 1891 Doty Road Bridge.**

**Thru Truss Available.** The County Commissioners of Garrett County, Maryland, are offering an 83'-long, single-span, single-lane, thru truss bridge to parties interested in moving and rehabilitating the bridge. The former River Road Bridge over the Casselman River was built ca. 1900. It has been removed in one piece from its abutments and temporarily stored. The recipient must agree to rehabilitate the structure to the Secretary of Interior's Standards, as well as agree to accept title, maintain the bridge and its historical significance, and assume all future liability and financial responsibility. Written proposals must be submitted by June 20. Info: Lee Thorne, Administrative Engineer, Garrett County Roads Department, 12778 Garrett Highway, Oakland, MD 21550; (301) 334-3988.

The National Historic Landmarks newsletter *Network* (Winter 1999) reports that 3 of 19 new National Historic Landmarks under consideration for designation are IA-related. **Shenandoah-Dives (Mayflower) Mill**, San Juan County, Colorado, is a late-19th-century stamp mill that used the innovative flotation process to efficiently and economically concentrate complex valuable minerals that were practically impossible to treat by earlier methods.

**Kennebec Arsenal**, Augusta, Maine, is the most intact early-19th-century munitions depot in the nation. It was built between 1828 and 1838 in direct response to the boundary dispute with Canada. The 1869 **Bollman Truss Bridge**, Savage, Maryland, is the country's sole surviving example of its type. The job of the National Historic Landmarks Survey (NHL), in partnership with other National Park Service offices, is to foster the nomination of nationally significant places and shepherd them through the designation process. Currently, over 2,770 places are National Historic Landmarks. Anyone can prepare an NHL nomination, and to assist the public in preparing nominations, the NHL has recently published *How To Prepare National Historic Landmark Nominations*. Free copies are available from (202) 343-8012 or [www.cr.nps.gov/nr/nrpubs](http://www.cr.nps.gov/nr/nrpubs). The NHL Web site is [www.nps.gov/nhl](http://www.nps.gov/nhl). Also of note is *National Landmarks, America's Treasures*, a comprehensive guide to NHLs published by the National Park Foundation and John Wiley & Sons, Inc. (800) 225-5945; e-mail: [custser@wiley.com](mailto:custser@wiley.com). SIA members and chapters are encouraged to consider nominating sites that deserve landmark status.

Barbara Ferris Van Liew [SIA] reports that the Society for the Preservation of Long Island (NY) Antiquities is assisting with an effort to nominate remaining sections of the 1907-11 **Long Island Motor Parkway** to the National Register. William K. Vanderbilt, Jr., and his motorist friends had the 65-mile-long road built as one of the nation's first attempts to create a limited-access, dust-free automobile highway. The narrow 16-ft.-wide parkway had 65 bridges for grade separation. Extant portions are found in Cunningham Park, Queens. There also are a few scattered remnants in Nassau County and a relatively intact 14-mile section in Suffolk County. ■

## IA EXHIBITS

**Making the Dirt Fly**, an exhibition at the Smithsonian's National Museum of American History, interprets the Panama Canal as a marvel of scientific and engineering achievement. Organized by the Smithsonian Institution Libraries and curator William E. Worthington, Jr., the exhibit is meant to place the canal in historic engineering context in this year when most of the focus has been on the politics and transfer of the canal from the United States to Panama. Sketches, photographs, books, and manuscripts make up the bulk of the exhibit, although visitors are greeted at the exhibit entrance by the dipper from one of the 70-ton steam shovels that worked on the canal. The exhibit runs through January 5, 2001. It can also be viewed on the Internet at [www.sil.si.edu/exhibitions/make-the-dirt-fly](http://www.sil.si.edu/exhibitions/make-the-dirt-fly).

**Historic Columbia River Highway, 1913-1922** is an exhibition of 27 architectural and interpretive drawings and a selection of photos from the 1995 HAER project. The exhibit opened in August 1997 at the Maryhill Museum of Art, Goldendale, WA. It will be at the Columbia Gorge Discovery Center, Dalles, OR, through mid-August when it will move to the Oregon State Capitol Galleria in Salem, in September. The exhibit is raising public awareness of and appreciation for the road as an important accomplishment in highway engineering and construction. Oregon DOT also has a Historic Columbia River Highway Web page: [www.odot.state.or.us/hcrh](http://www.odot.state.or.us/hcrh).

(continued on back page)

## NOTES & QUERIES

**Steel-Frame Gasholders.** The brick gasholder is the symbol of the SIA and an important part of the iconography of American IA. Recently, the more prosaic steel-framed gasholder entered the aesthetic consciousness as the symbol of the 1998 SIA Annual Conference in Indianapolis. However, the recent demolition of a pair of steel-frame gasholders in Pawtucket, Rhode Island, and the imminent demolition of two more in nearby Providence provokes the question: "How many of these things are actually left?" I am interested in assembling a complete list of the locations of survivors in the U.S. and Canada as soon as possible. Any supporting information would also be appreciated. Matthew Kierstead, President, Southern New England Chapter SIA, 22 Rosewood St., #3F, Pawtucket, RI 02860. *Editor's Note—The brick structures are, strictly speaking, not gasholders, but gasholder houses, in that they did not contain gas but enclosed (or housed) iron- or steel-frame gasholders.*

**Reel Lawn Mowers.** For the past several years, I have been working on a book project about the history of the reel lawn mower as manufactured in the U.S. This has included the collection of printed matter, and of course, hand-, horse-, and motor-powered mowers of the 19th and early 20th century. The reel, or cylinder, mower was patented in 1830 by Edwin Beard Budding of Stroud, Gloucestershire, England. The first American example was produced about 1856. Many companies were formed after the Civil War as the demand for lawn mowers increased. To date, I have identified about 150 companies. I am seeking information on the location of company records, photographs, trade catalogs and related ephemera. James B. Ricci, 30 North Farm Rd., Haydenville, MA 01039-9724; (413) 268-7863; e-mail: [jricci@reellawnmower.com](mailto:jricci@reellawnmower.com).

**IA in Philately.** An initiative was launched at the 11th International Windmillers' Trade Fair to recommend to the U.S. Citizen's Stamp Advisory Committee (CSAC) that the U.S. Postal Service issue a commemorative stamp for American windmills in 2004, the 150th anniversary of the invention of the first commercially successful self-governing windmill. In 1854, Daniel Halladay patented the "Halladay Standard" windmill, manufactured first in Connecticut and later in Illinois. This windmill could turn to face changing wind directions without human attention and could regulate its own speed of operation so that it did not destroy itself by running too fast. Halladay's invention and others based on similar principles were fabricated by the tens of thousands and played an important role in the settlement of the West. Arnold Carlson [SIA] of Coventry, Connecticut, where Halladay had his first windmill factory, writes that SIAers can support a windmill commemorative stamp by writing a letter or note of support to CSAC, c/o Stamp Development, USPS, 475 L'Enfant Plaza, SW, Room 4474E, Washington, D.C., 20260-2437.

**Early American Industries Association (EAIA)** is an international non-profit group founded in 1933. It provides a forum for anyone interested in early American technology, its roots and products. EAIA is welcoming new members who collect, use, display, or sell early tools or who investigate and teach about tool makers, early trades, and industries. Members receive the quarterly magazine *Chronicles* (see Publications of Interest), the newsletter *Shavings*, special book sale lists, access to the association library, and notices of meetings. Info: Elton W. Hall, Exec. Dir., 167 Bakerville Rd., S. Dartmouth, MA 02748; (508) 993-4198; Web site: [www.EAIAinfo.org](http://www.EAIAinfo.org).

**International Mining Heritage Tours.** Atalaya Tours have run study tours to major international mining regions since 1988. Itineraries cover aspects of mining history and archeology, both ancient and modern, and the geological setting. Tourists are accompanied by expert guides and, where possible, feature visits to working mines. This year, tours include southern Spain, Mexico, northern Spain and Portugal, Germany, western Britain, Peru, Greece, and Cyprus. For info and further details: Atalaya Tours, Ceinionfa, Capel Dewi, Aberystwyth, SY23 3HR, United Kingdom; phone/fax 011-44-1970-828989; Web site, [www.atalaya.co.uk](http://www.atalaya.co.uk).

**Call for Papers.** *American Society for Environmental History and the Forest History Society* invite panel and paper proposals for their joint meeting, Mar. 28-Apr. 1, 2001, Durham, NC. Papers that examine any aspect of human-environment interactions over time are welcome, but a special conference theme this year is "Making Environmental History Relevant in the 21st Century." Papers and panels might focus on examples of how environmental history informs public policy, resource management, pollution control, local and international development, social conflict, and the understanding of environmental problems. Proposals should include five copies of the following: (1) for panel proposals, a cover sheet with the title, full name and affiliation of each participant, and titles of each paper; (2) for each paper proposal (including those on organized panels), a 250-wd. abstract, and; (3) a 2-page (max) resume for each participant, including full name, address, phone, fax, and e-mail. Proposals should be post-marked no later than Aug. 1, 2000, to Dale Goble, College of Law, Univ. of Idaho, Moscow, ID 83844; (208) 855-4977; e-mail: [gobled@uidaho.edu](mailto:gobled@uidaho.edu). ■

## CHAPTER NEWS

**Roebling** (Greater NY-NJ) held its annual meeting at Drew University in January. The chapter has plans for a series of tours of New York Harbor defenses during the upcoming year. In April the chapter visited Fort Wadsworth at the western end of the Verrazano Narrows Bridge on Staten Island, and in May they visited Fort Tilden, east of Breezy Point in Queens. New York's harbor fortifications date from the War of 1812 to the Cold War, reflecting over 150 years of military engineering.

**Southern** (Birmingham, AL) toured the Gorgas Steam Plant and the Alabama Mining Museum earlier this spring. In May, the chapter sponsored a Shelby Ironworks Park work day to help set up a new air hammer and prepare the Catalan forge site for demonstrations.

**Oliver Evans** (Philadelphia) held a lecture in February on the Schuylkill Valley Metro, a light rail commuter system proposed for the historic industrial corridor along the Schuylkill River. At its annual banquet in March, Alexander S. MacK. Gibson spoke on the history of containerization of seaborne cargo since its beginnings in the 1950s. In April, Jane Mork Gibson presented an illustrated talk on the Kinne Collection of water turbines (See *SIAN*, Fall 1999).

**Northern and Southern New England**, in conjunction with Plymouth (NH) State College Institute for New Hampshire Studies, held a joint meeting in February. A day-long paper session on New England IA was followed by a tour of the college's Brown Paper Co. photo collection and archeology lab. ■

## CALENDAR

### 2000

**July 14-18: First International Conference, National Association of Mining History Organizations, Cornwall, England.** Sponsored by Carn Brea Mining Society and Camborne School of Mines. Info: Maureen Holmes, Rivergarth, Bar Meadows, Malpas, Truro TR1 1SS, UK; e-mail: [namho@csm.ac.uk](mailto:namho@csm.ac.uk).

**Aug. 17-20: Society for the History of Technology (SHOT) Annual Meeting, Munich, Germany.** Info: SHOT Office, Dept. of History, Auburn Univ., Auburn, AL 36849. Web site: <http://shot.press.jhu.edu/associations/shot>.

**Aug. 23-26: Society for Commercial Archeology Annual Conference, Manitou Springs, CO.** Conference theme: Automobile culture in the Rocky Mt. West. Web site: [www.sca-roadside.org](http://www.sca-roadside.org).

**Aug. 30-Sept. 7: TICCIH 2000: The Millennium Congress, London, England.** Three days of working sessions in London, followed by choice of 4 days of regional touring of industrial sites in either Cornwall, Wales, or Scotland. Info: TICCIH2000, 42 Devonshire Rd., Cambridge CB1 2BL, UK; e-mail: [cc@conference-contact.co.uk](mailto:cc@conference-contact.co.uk).

**Sept. 8-14: Association for Industrial Archaeology Conference 2000, Manchester, England.** Theme: "Manchester, the Archetypal City of the Industrial Revolution." Info: Conference Secretary, 62 Marley Rd., Rye, Sussex, TN31 7BD, UK.

**Sept. 16-24: 10th International Symposium on Molinology, Stratford, VA.** Info: Derek Ogden, TIMS America, HCR 5, Box 339, Madison, VA 22727; (540) 672-1303; fax 672-0218; e-mail: [butler\\_j@mediasoft.net](mailto:butler_j@mediasoft.net).

**Sept. 19-24: Association of Railway Museums, Annual Convention, Steamtown National Historic Site, Scranton, PA.** Info: Steamtown NHS, 150 S. Washington Ave., Scranton, PA 18503; (507) 340 5201.

**Sept. 20-23: American Association for State & Local History, Annual Meeting, New Orleans, LA.** Info: AASLH, 1717 Church St., Nashville, TN 37203; (615) 320-3203; fax, 327-9013; Web Site: [www.aaslh.org](http://www.aaslh.org).

**Oct. 11-13: Preserving the Recent Past II, Philadelphia, PA.** Info: Box 75207, Washington, D.C. 20013-5207. Web site: [www2.cr.nps.gov/tps/recentpast2.htm](http://www2.cr.nps.gov/tps/recentpast2.htm).

**Oct. 12-14: Pioneer American Society Annual Conference, Richmond, VA.** Theme: "19th-Century Industrial Development." Historic industrial sites tour, river cruise. Paper proposal deadline is Sept. 1. Info: Marshall E. Bowen, Geography Dept., Mary Washington College, Fredericksburg, VA 22401; (540) 654-1493; fax, 654-1074; e-mail: [mbowen@mcw.edu](mailto:mbowen@mcw.edu).

**Oct. 19-22: SIA Fall Tour, Sarnia, Ont.** The Ontario oil district, including Petrolia Discovery, the Oil Museum of Canada, the Don gas field, and Fairbank oil. Tour headquarters will be in Sarnia, across the Blue Water Bridge from Port Huron, MI. Info: Petrolia Discovery (519) 882-0897. Further info and registration materials will be sent to members over the summer. ■

## IA EXHIBITS

(continued from page 18)

**Rediscovering Portland's Willamette River Bridges**, an exhibit at the American Institute of Architects (AIA) gallery in downtown Portland, featured drawings and photographs of ten bridges, and a number of artifacts, including a trolley-type controller from the movable Burnside Bridge and a scale model of the Fremont Bridge. The exhibit, which was open only during February, was sponsored by Oregon DOT, the Portland Chapter of the AIA, HAER, and Multnomah County. The materials for the exhibit were the efforts of the HAER Willamette River Bridges Recording Project team. Plans are under way for the exhibit to travel to the Oregon Museum of Science and Industry later this year. ■

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