

# SOCIETY FOR INDUSTRIAL ARCHEOLOGY

## NEWSLETTER

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Fall & Winter 1984

### THE COLUMBUS IRON WORKS—AN URBAN TONIC IN THE SOUTH

*Editor's note: The following article is the fifth in a series on trends in the adaptive reuse of industrial buildings, by Eric DeLony.*

Traveling through many cities of the South can be a heartbreaking experience. Until 30 years ago, most were bustling retail, commercial, and industrial centers. The streets were alive with shoppers, businessmen, and farmers going about their work until the noon dinner hour. Afterward, street activity usually subsided with the afternoon heat. Today, many Southern cities look like ghost towns regardless of the time of day. Unable to compete with suburban shopping malls surrounding the central business districts, downtown stores are abandoned, boarded up, and decaying. The only functioning buildings typically are those providing municipal services, the city hall, police station, and courthouse. A few supporting activities also will survive, such as lawyers' offices, insurance agencies, lunch counters, and office supply stores.

Recognizing too late the hemorrhaging effect of the suburban shopping mall, civic leaders attempted urban revitalization by applying nostrums found useful in other parts of the country, such as "mallings" main streets with brick paving, planters, and designer street lights and furniture. These improvements were vain attempts to limit vehicular access, return the streets to the people, and retain the few businesses that had not fled to the suburban malls. Some

communities went even further by razing the old, abandoned commercial buildings and erecting civic centers, auditoriums, and coliseums with their attendant acres of asphalt parking lots. Such facilities usually are poorly designed and completely out of scale, and many are in dire financial straits because the communities cannot support them.

Like many other Southern cities, Columbus, Ga. [site of the 1979 SIA Annual Conference; *SIAN* May 79:3-6], began to lose its downtown vitality to the suburbs. But before taking radical action, the city asked itself what characteristics made this city different. The answer was its location on the Chattahoochee River where the river falls 125 feet within 2½ miles, producing a potential energy of 99,000 hp. This power potential made Columbus one of the leading industrial centers of the South, attracting investors and entrepreneurs as early as 1828. As the 19th C progressed into the 20th, textile mills, grain mills, and factories were built along the Chattahoochee's banks, allowing Columbus to share the claim, with Augusta, that it was a "Lowell of the South."

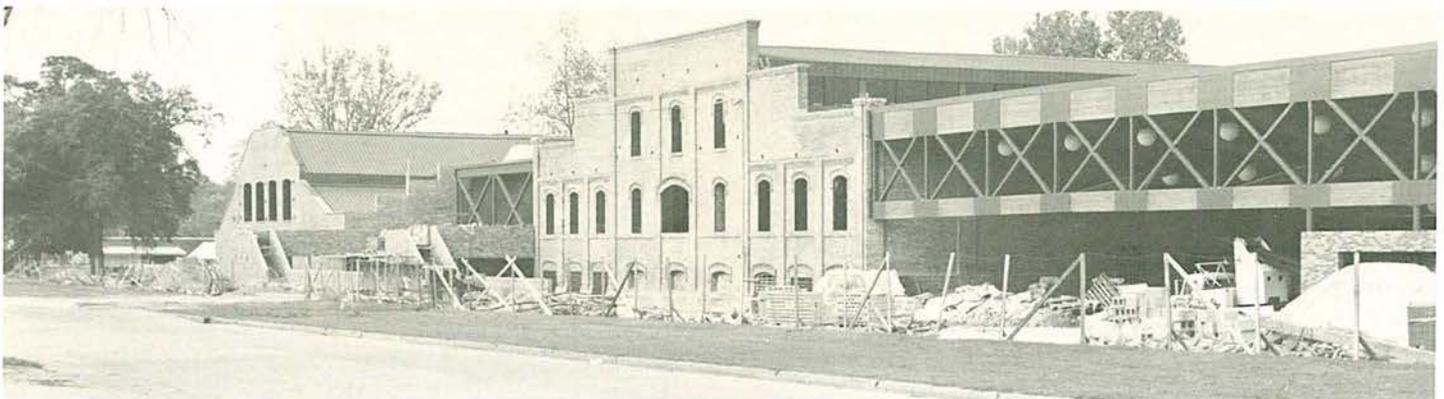
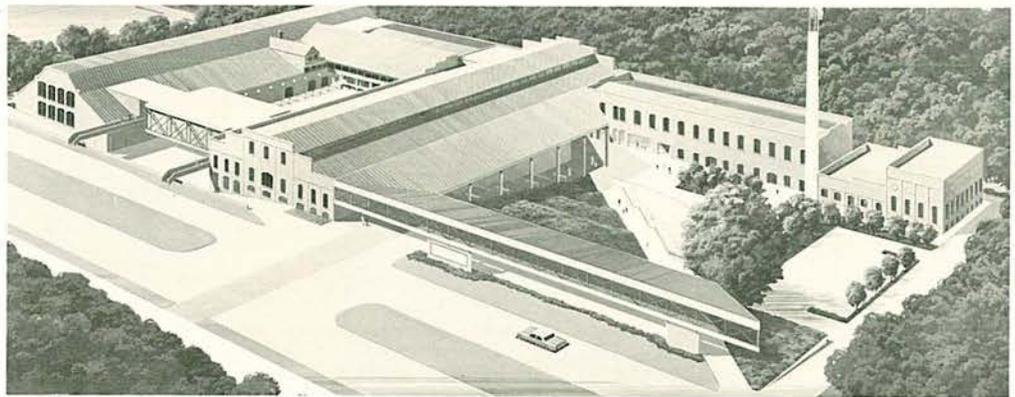
Unlike many New England mill towns, Columbus retains much of its industry along the river. When a HAER team arrived in the summer of 1977 to document these industries, it found a remarkable survival of the late 19th and early 20th-C industrial

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#### COLUMBUS IRON WORKS.

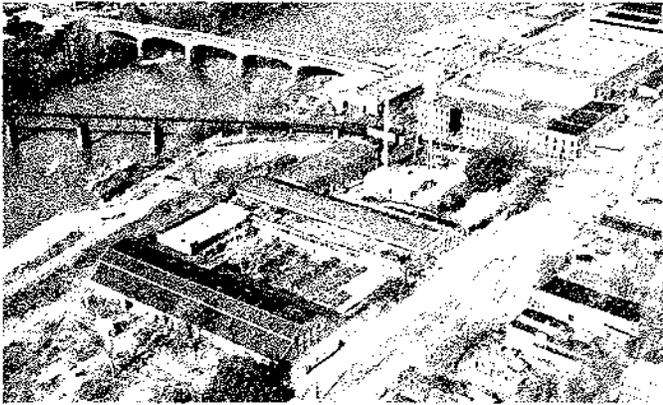
*Right: Architect's birdseye rendering of the completed Columbus Iron Works Trade and Convention Center. Pound, Flowers & Dedwylder Architects drawing.*

*Below: Front Street facades of the foundry buildings under rehabilitation. Van Jones Martin photograph.*

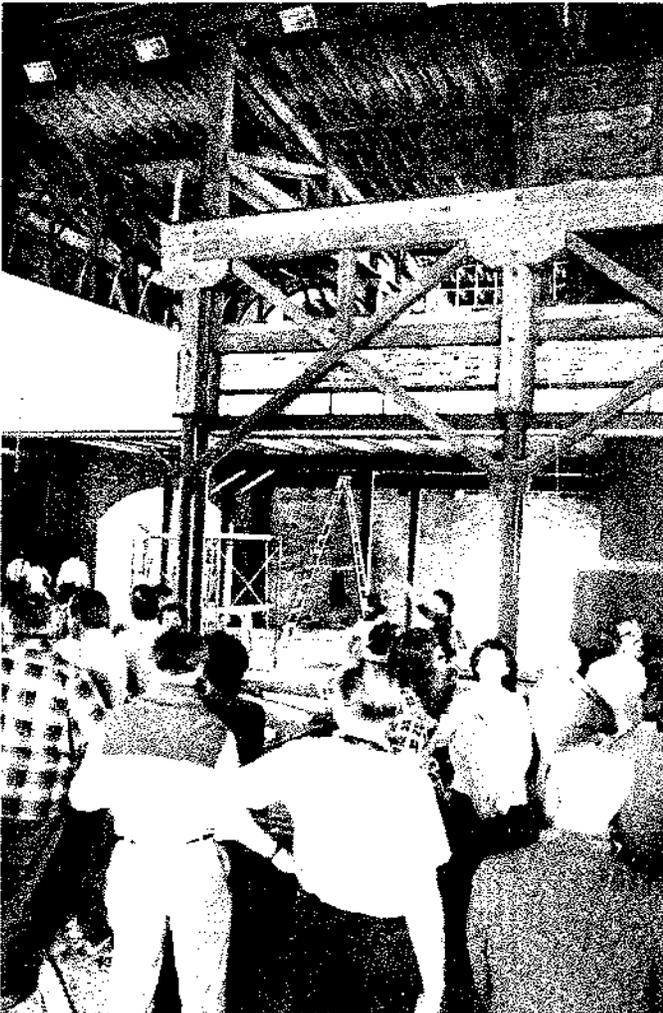


## IRONWORKS *Continued from page 1.*

sites, still powered by their turbines and generators. The mile of mills along Front St. facing the river remains intact, making Columbus one of the few cities in the South to retain its 19th-C industrial fabric. For this reason, this district was designated a National Historic Landmark in 1978 [SIAN Nov. 78:1]. The team also found an energetic and forward-looking preservation organization, Historic Columbus Foundation, that had been working since 1966 to identify and maintain the architectural features that contribute to the city's distinctive character. Though the foundation's focus was on residential and commercial buildings, it knew there was something special about Columbus's industrial heritage. The foundation also had worked to create a riverside park to link the in-



Above: Columbus Iron Works with the Chattahoochee River and other industrial buildings, comprising the Columbus Riverfront Historic Industrial District. Across the river is Phenix City, Ala. *Lawrence Smith photo for Columbus Ledger-Enquirer.*  
Below: Partially restored CIW interior, during 1979 SIA Annual Conf. tour.



dustrial district with the 19th-C residential neighborhood south of the central business district. The pivotal element in this thoughtfully conceived revitalization plan was a new trade and convention center, to be housed in the Columbus Iron Works.

Largely rebuilt in 1907 following a 1902 fire, CIW manufactured a wide range of agricultural implements, stoves, power transmission equipment, steam engines, and ice machines. During the Civil War, it supplied the Confederates with cannon and marine steam engines. From the 1880s until 1900 it was a major Southern producer of ammonia-absorption refrigeration and ice-making equipment. In 1963, W.C. Bradley Co., CIW's owners, abandoned the plant and relocated to modern facilities.

In 1975, the city purchased the foundry and machine shop for \$400,000. Local architects Pound, Flowers & Dedwylder prepared the plans to reuse the ironworks as a trade and convention center with 22,000 sq. ft. of usable space, including two main convention halls, banquet facilities for 1500, and a 900-seat dining room. It is projected that the center will attract 100 conventions annually, with the average number of delegates ranging up to 65,000. With a \$1.8-million Economic Development Administration (EDA) grant, construction costs were nearly \$8 million — \$3 million less than a new building of comparable area. Construction is underway of a new 275-room Hilton hotel across the street that will incorporate the 1885/1900 Empire Grist Mill.

Columbus has succeeded in establishing a major regional facility that promises to lift the city from the economic and spiritual decline of the past few decades to future vitality. Moreover, this was accomplished not by emulating the pat solutions of other cities but by identifying characteristics that make Columbus unique. Recognition of the value of such an approach to city planning is witnessed by the fact that the Convention and Trade Center won a Design Honor Award of the South Atlantic Region AIA for the architects, and the city won a National Trust Honor Award in 1981 for its role in the adaptive reuse of the Columbus Iron Works.

## COOPER HEWITT IRONWORKS, TRENTON, N.J.

While the Columbus Iron Works story concludes on an optimistic note, the future of Trenton's Cooper Hewitt Ironworks remains undecided. Cooper Hewitt manufactured the first wrought-



Machine & pattern shop (c1885), Cooper Hewitt Ironworks. *Terry Karschner photograph.*

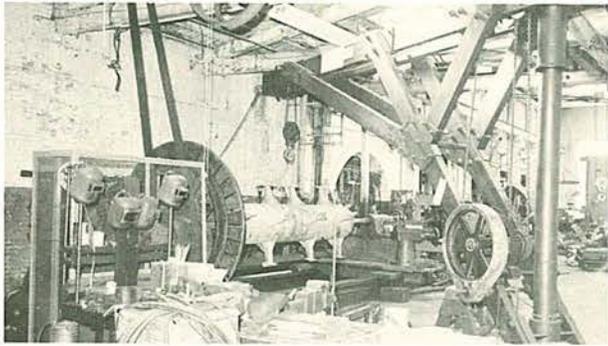
iron structural rolled beams in the U.S., in 1854. Today, only the two-story brick machine and pattern shop building (c1885) survives from the original complex. Its Delaware riverfront site is owned by U.S. Steel. Despite years of abandonment, the city planning office is anxious to see the building rehabilitated by private developers.

T.K.

The *SIA Newsletter* is published four times a year (Spring, Summer, Fall, and Winter) 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 \$20; couple, \$25; institutions, \$25; contributing, \$50; sustaining, \$100; student, \$15. Send check payable to SIA to Treasurer, Room 5020, National Museum of American History, Smithsonian Institution, Washington, D.C. 20560; all business correspondence should be sent to that office. Editorial correspondence should be sent to ROBERT M. FRAME III, Editor *SIA Newsletter*, P.O. Box 65158, St. Paul, Minn: 55165-0158.

The *SIA Newsletter* is included in the *Avery Index to Architectural Periodicals*, Avery Architectural & Fine Arts Library, Columbia University.

# SIA AFFAIRS



**THE WATTS, CAMPBELL MACHINE SHOP** (interior above) in Newark will be featured on the process tour for the **14TH ANNUAL CONF.**, May 9-12, Newark & NYC. Founded in the 1850s as a steam engine mfr., WC is N.J.'s oldest machine shop in continuous operation and remains under the same family ownership. Machinery now in use dates 1880s-1920s. *Conrad Milster photograph.*

**TOURS & CONFERENCES.** The 1985 Fall Tour has been planned for Oct. 24-27 at Sloss Furnace, Birmingham, Ala. The 15th Annual Conference has been scheduled for Cleveland, June 12-15, 1986. The theme will be "Industry and Urbanism in the Midwest," with Darwin Stapleton serving as coordinator.

**NEWS OF MEMBERS.** On Dec. 7 at their regular commencement exercises, Ohio State Univ. conferred on **Abba G. Lichtenstein**, P.E. (president of A.G. Lichtenstein & Assoc., Inc., Consulting Engineers, Fair Lawn, N.J.), the honorary Doctor of Engineering degree, in recognition of his long concern for the restoration and preservation of historic bridges and other civil engineering structures. He has undertaken to rehabilitate a number of important early metallic and masonry bridges, returning them to regular use, in the face of some degree of criticism and even scorn at the hands of less imaginative members of the civil-engineering community. Most recently, his firm made a detailed examination of the structural elements of Roebing's hallowed Delaware Aqueduct (1847-48) and designed a restoration program that will be used by the Nat. Park Service in bringing this important structure back to a useful life. The aqueduct, built to carry the Delaware & Hudson Canal across the Delaware River at Lackawaxen, Pa., is the oldest standing suspension bridge in the Western Hemisphere. *R.M.V.*

**Emory Kemp**, Prof. of History of Science & Technology and of Civil Engineering at W. Va. Univ., has been elected to a three-year term on the Board of Trustees, Public Works Historical Soc. Kemp recently ended a year's Regents Fellowship at the Nat. Mus. of Am. Hist., Smithsonian, where he completed the bulk of work on a major history of the suspension bridge to 1870. In 1983 he was named Outstanding West Virginian.

Also elected to the PWHs board was **Phyllis Rose**, founder and president of the Ontario Soc. for Industrial Archeology and a founding member of the Ontario Engineering Heritage Records Foundation. The first Canadian elected to the board, Rose is a teaching asst. at the Univ. of Toronto's Inst. for the History & Philosophy of Science & Technology.

**Richard M. Candee**, former SIA president, has been appointed Director of the Preservation Studies Program at Boston Univ.

**Thomas Leary** has been appointed Director of Interpretation, Buffalo & Erie County [N.Y.] Historical Society. Leary was curator at Slater Mill Historic Site, Pawtucket, R.I., and recently completed his Ph.D. dissertation in Am. Civ. at Brown Univ.

At Texas Tech Univ. in Lubbock, **Joseph E. King** has been named director of the Center for History of Engineering & Technology. The center sponsors research in engineering history and historic preservation and work this academic year includes a study of highway and RR bridges in Central Texas.

**IRON WORKSHOP REPORT.** The three-day SIA Iron Workshop convened Nov. 9 at Greenwood Lake, N.Y., with 40 iron researchers in attendance for the following presentations:

"Charcoal & Iron in the Early 19th-C N.J. Iron Industry," by David Mudge; "The Archeology & History of Recent Iron Smelting in Malawi, East-Central Africa," by David Killick; "Vermont's Charcoal Iron Industry: The IA of Kiln Remains," by Victor Rolando; "Experiments in Making Wrought Iron," by Edward Heite; "Partial Recording of the Ore Roasting Ovens at the Mine Hill Iron- & Steel-Making Complex, Roxbury, Conn.," by Michael Raber; "Daniel & Samuel Hughes: Iron Masters of Western Md.," by Susan Frye; "The St. Francis Iron Works, Quebec," by David McDougall; "Preserving an Industrial Legacy: The Processes & Records of the Bethlehem Steel Corp.," by Lance Metz; "The Copy Book of William M. Weaver, Supt., Macungie Furnace, Lehigh Co., Pa., Dec. 1879 - Dec. 1880," by Craig Bartholomew.

"Recording a Small Contemporary Iron Foundry," by David Weitzman; "Vanishing Iron Works of the Ramapo: A Retrospective," by James Ransom; "Illustrations on Highlands Iron from *Harpers Magazine*," by Edward S. Rutsch; "Saving the Ford-Faesch Iron Masters House, Mt. Hope, Morris Co., N.J.," by Bernard Koechlin; "A Synthetic Interpretation of an Industrial Complex: A Case Study of the O'Neal-Forshee Iron Mining Settlement," by Edward Bell; "Denbrook Forge & Mill Sites: Archeological Investigations, Morris Co., N.J." by James D'Angelo; "Amesbury Furnace, c1754, Clinton Twp., N.J.," by Raymond Jachowski; "The Economics of Charcoal Iron-Making in N.J.," by Theodore Kury; "The Village of Long Pond Furnace 1870-1920," by Edward Lenik; and "Iron-Making at the Long Pond Furnace Site," by Edward S. Rutsch.

Attendees visited the Clove Furnace Site in Arden, N.Y., and the Long Pond Iron Works site in New Milford, N.J.

Another iron workshop, on bloomery iron, is planned for Williamsburg, Va., tentatively on Mar. 30. Registrants will visit the new Williamsburg forge and participate in its operation. Info.: Edw. Rutsch, Box 111, RD 3, Newton NJ (201-383-6355).

## LOCAL CHAPTERS

**ROEBLING CHAPTER.** A spectacular process tour of the Colgate Palmolive plant in Jersey City was scheduled for early Dec., followed in Jan. by the first 1985 meeting of the chapter's "IA Salon," an industrial show-&-tell. The chapter's annual meeting is Jan. 22.

The 4th Annual IA Symposium at Drew Univ. in Oct. had 107 registrations. Major presentations included "Ford Motor's Edgewater Assembly Plant: History & Reuse," by James C.A. Thompson; "Brooklyn's Bush Terminal: The Apex of Integrated Warehousing Design," by Thomas Flagg; "Prallsville Mills — Stockton on the Delaware," by Edward Rutsch; "The Delaware & Raritan Canal: Its Sesquicentennial & the Future," by Brian Morrell; "Recent Discoveries of Delaware & Raritan Canal Vessels," by William McKelvey; "Bethlehem Steel's Blowing Engines: Operating on Film," by Lance Metz & Edward Steers; "Pemberton & the New Mills Co.," by Herb Githins; "Process & Product: The Making of Steel & Iron," by Jack Chard; and "NYC Transit Power Stations 1902-60," by Gerald Weinstein. The 5th Symposium is tentatively planned for next Oct. 26. *A.E., T.T. & T.F.*

**SOUTHERN NEW ENGLAND CHAPTER.** Officers for 1985 are Jeff Howry, president; Herb Darbee, secretary; Fred Roe, treasurer; and Anne Booth, program chairperson. *P.S.*

# SIA/OSIA FALL TOUR

## NIAGARA PENINSULA

### OCTOBER 12-14, 1984



At the Welland Canal flight locks. *Eric DeLony photograph.*

With SIA members joining those of the Ontario Society for Industrial Archeology, there were 98 registrants for a highly successful combined Fall Tour of the Niagara Peninsula. Organized by representatives from the OSIA, St. Catharines Historical Museum, and the Welland Canals Preservation Assn., the October event focused on canals and hydroelectric sites.

The Niagara Peninsula lies between lakes Ontario and Erie, west of the Niagara River, and was among the first areas of Ontario settled by newcomers from Europe and the American colonies in the late 18th and early 19th Cs. Its most dramatic feature, and the one most frustrating to its settlers, is an escarpment running west and east that culminates in one of North America's most spectacular natural wonders, Niagara Falls, over which flow the waters of four of the Great Lakes.

Now a tourist attraction of worldwide importance, the Falls remains both an immense obstacle to Great Lakes navigation and a

tremendous energy source. Some of the continent's most interesting navigation, hydraulic, and hydroelectric facilities were engineered here. Only fragmentary elements of some remain, while many continue to dominate the peninsula's landscape and working life.

Our weekend began on Friday evening with a reception at the St. Catharines Historical Museum, where Chris Andrae outlined tour highlights and we enjoyed a wide selection of Ontario wine and cheese (Ontarians accustomed to downplaying their home-grown viticulture were pleasantly surprised!). The night was foggy and our entire weekend was suffused with a misty atmosphere that added to the ambience, albeit often preventing full enjoyment of the view.

Bright and early Saturday morning, we set out from St. Catharines, guidebooks in hand. Prepared by Mark Fram, the guidebook provided information and amusement throughout the

weekend and must be seen to be appreciated. Our morning bus route criss-crossed many segments of the Welland Canal, which is actually four different canals: the original 1829 canal was rebuilt three times, each with larger locks and some route variations. Vestiges of the three earlier canals can be found close to the present Welland Ship Canal, together with remnants of early industries.

**De Cew Falls Generating Station** (1897-98) at Power Glen was our first stop. Built by Cataract Power Co. of Hamilton to provide power for the radial railways, the plant was Canada's first to exploit successfully the commercial potential of hydroelectric technology developed by George Westinghouse. The station is located below the escarpment, and the water flows down through six penstocks from a reservoir with 254-ft. operating head. The village of Power Glen, home of the workers, has attractive reminders of its association with the generating station: decorative concrete street lamp standards, unfortunately no longer operative.

Next stop was the **Morningstar Mill** at De Cew Falls, originally built in 1872. The stone structure was gutted by fire in 1895, and the owner, Morningstar, rebuilt the interior, equipping it with machinery of his own design. Still in a remarkable state of repair today, the mill houses three operating systems: a run of French buhrstones, steel roller-mills, and a chopping mill. Next to the mill is the **De Cew Falls Water Treatment Plant**, a handsome 1920s building.

On we drove to Merrittown Mountain Locks Park to explore remnants of the **second Welland Canal** (1842). Lock 15 at the bottom of the flight is almost completely buried, but the cutstone walls of 16 and 17 are visible. Our guide pointed out remains of the ponding system and two weir structures. We also checked out the **Beaver Cotton/Independent Rubber Co.**, an 1860s building, as we walked through the park.

Port Dalhousie, now part of St. Catharines and the site of Lock 1 on the second canal, was our next stop. Lock 1 has been stabilized



Right: Tour-goers hear about the history & architecture of Port Dalhousie from Arden Phair. St. Catharines Historical Museum [right center, with beard]. Below: A down-bound "salty" in Lock 3, Welland Canal. *Eric DeLony photos.*

determining the power choice.

Lunch was in the former **Muir Bros. Dry Dock** building, now the offices of the Welland Canals Preservation Assn., a regional group responsible for much of the preservation of the first three canals.

In the afternoon we visited two of the locks on the operating Ship Canal. We watched two ships inch through the long and narrow Lock 3. At the flight locks (4, 5, and 6), we saw the system's spectacular centerpiece — three twinned flight locks with a combined lift of 138.5 ft. On our way to the flight locks, we stopped briefly on a bridge to overlook a stepped series of locks from the third canal, foamy water tumbling over them.

Another stop on the way to the flight locks was the **Grand Trunk Rwy. Tunnel**, which passes beneath the third canal. We slipped down a precipitous slope to find an 1881 stone masonry tunnel portal. It remains passable on foot (with rubber boots), but none were



At the 1881 portal of the Grand Trunk Rwy. tunnel under the Welland Canal. The tunnel was abandoned c1900. *Eric DeLony photo.*

willing to try.

That evening, an excellent repast was prepared for us at the palatial **Dundurn** (1835), home of the Great Western Rwy. financier Sir Allan MacNab (1798-1862), in Hamilton. Our host turned out to be Sir Allan reincarnate, accompanied by a Scottish piper. After dinner, we went to the **Hamilton Pumping Station** (1860), designed by Thomas Keefer. One of the two walking-beam engines there, built at the nearby Gartshore works in Dundas, was under steam, much to the delight of everyone, especially the steam fans. Those who could tear themselves away toured the interpretation center in the old boiler house and saw a collection of steam machinery in the former wood shed. The pumping station provided a dramatic nighttime exterior view, with its windows glowing and its great engine moving majestically.

On Sunday morning, we drove along the scenic parkway between Queenston and the city of Niagara Falls to view the fine collection of bridges and hydroelectric sites along the gorge. We also saw the **Maid-of-the-Mist Incline Rwy.** (1894) and the **Spanish Aero Car** aerial cableway (1916).

At Niagara, we toured two hydroelectric generating stations. First for our group was **Ontario Power**. We entered at the level of the parkway, going into a small, formerly elegant building and taking an elevator 130 ft. down to the powerhouse just below the Falls. Ontario Power was built in 1902-05 by a Buffalo-based company. The plant's intake structures are at Dufferin Islands above the upper rapids, and we viewed them from the bus. Three penstocks run for 6,500 ft. beneath the park and down to the powerhouse. The transformer station is located atop a bluff overlooking the park.

The powerhouse contains 16 units, of which four are permanently shut down. Each turbine unit consists of a pair of central-



and landscaped into an attractive urban park setting.

We toured **Lincoln Fabrics Plant**, constructed in 1900 by the Maple Leaf Rubber Co. and located across the street from Lock 1 and upstream from the famous [Canadian] Henley Rowing Course. Among the interesting features were remnants of the internal tramway system, including rails and several small turntables, and what appeared to be a combination steam engine and turbine system in the basement, the amount of available water

## FALL TOUR *Continued from page 5.*

**FALL-TOUR HIGH COMMAND:** Chris Andree, SIA/OSIA [blond, dark glasses], and continuing clockwise is Robert Shipley, Welland Canal Pres. Assn.; Bob Barnett, OSIA & Niagara Soc. for Indus. Hist.; David Rollinson, OSIA & Hamilton Mus. of Steam & Technology; and Arden Phair, OSIA & St. Catharines Hist. Mus. Missing is Mark Fram, OSIA/SIA. *Eric DeLony photograph.*



discharge Francis wheels, with a combined capacity of 12,000 hp. The turbines and generators have horizontal shafts and sit coupled together on the powerhouse floor. To complete our tour, we went

to the station roof, where we shared a spectacular view of the Falls not usually available to visitors.

Last stop on the tour was the **Canadian Niagara generating station**, built in 1901-05 just above the Falls. This is the only station on the Canadian side under U.S. ownership. It is operated by Niagara Mohawk. A submerged weir diverts water from the upper rapids into the station's intake through an ice rack, outer and inner forebay, and down a 570-ft.-long, 165-ft.-deep wheelpit, to the vertical-shaft turbines. All but one of the 11 turbines are the double-runner, central-discharge Francis-type, controlled by ring gates. The 11th is a single-runner unit with a wicket gate. The generators are at the top of the wheelpit in the main building.

IA'd out, we traipsed off to eat lunch, buy cheap souvenirs, and return — sated — to St. Catharines and our individual journeys home. *M.M.*

*Editor's note: Two Niagara Peninsula guidebooks are available. nIagara (119 p., photos, maps, engineering drawings, \$8) was prepared by Mark Fram especially for the Fall Tour. The Industrial Heritage of London and Area (36 pp., \$4) was produced by Chris Andree for a 1984 London museum exhibition. Order both together for only \$10 from SIA, NMAH 5020, Smithsonian, Wash. DC 20560.*



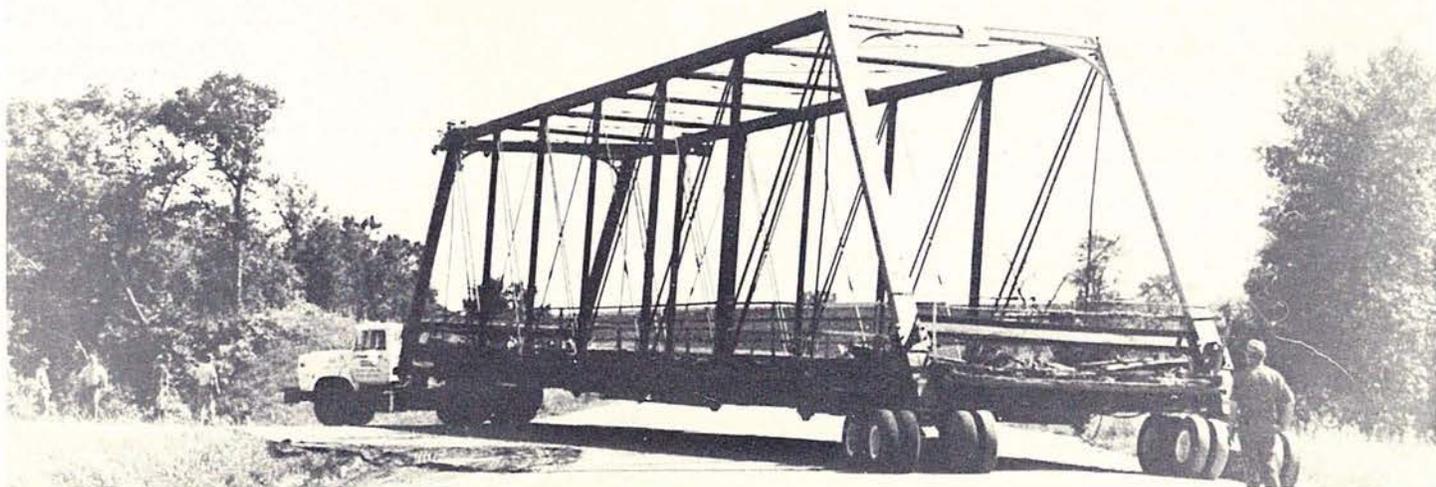
## 4846 KEEPS ON TRUCKIN'

Bridge No. 4846, the oldest extant Pratt truss in Minnesota, finally has completed a long journey from its original 1875 location over the Blue Earth River. 4846's fabricator remains unknown (the nameplate carries only the date).

In 1929, 4846 was replaced by a larger structure designed to handle increased river-crossing traffic. The old bridge then was relocated to carry a county road over a newly constructed state trunk highway, as seen in the photo above left. The relocation created the somewhat unusual sight of a truss bridge employed in a grade separation.

By 1984, 4846 was rated one of the ten worst bridges in the state and scheduled again for replacement. The bridge had been entered in the National Register, so a preservation plan was enacted. In the photo below, 4846 is being trucked intact to the temporary storage site pictured at left.

Recently, the 118-ft. bridge has been placed in a county park where it serves as a pedestrian and bicycle bridge. *Photo above left by Laurie Arias, others by Emerson Yess, for Minn. Dept. of Trans.*



## NOTES & QUERIES

**HAGLEY INDUSTRIAL CONFERENCE.** "Evolving Archeological Approaches to 19th-C Industrial Community," a conf. on historical and industrial archeology, will be held April 26 at the Hagley Museum & Library, Wilmington, Del. Featured speakers will be Edward S. Rutsch, Hist. Cons. & Interp. Inc., and Anthony Wallace, Univ. of Pa. David Ames, Univ. of Del., will chair the conf. and David Orr, Nat. Park Service, will provide comment. Robert Howard will conduct a pre-conf. tour of the Hagley industrial site and Frank McKelvey will present a luncheon lecture on the archeological contribution to site interpretation. Howard and McKelvey are Hagley Museum curators. [All of the above are SIA.] Info.: Hagley Center for Advanced Study, Box 3630, Greenville, Wilmington DE 19807 (302-658-2400 x236).

### **APT "SUCCESSFUL REHABILITATION" WORKSHOPS.**

Technical advice and practical information on rehabilitation projects that qualify for the 25% Federal tax credits for historic rehab will be presented by construction, architectural and government experts during the fourth series of "Successful Rehabilitation" workshops. Sponsored by the Assn. for Preservation Technology, in cooperation with the Natl. Park Service and the Natl. Trust for Historic Pres., the workshops will focus on rehab standards and guidelines, preservation technology, and the procedural requirements of the Federal tax act. Sites for the five sessions are San Antonio (Feb. 15-17), Charleston (Mar. 15-17), Albany (Apr. 12-14), Cincinnati (May 10-12), and Denver (June 14-16).

Each intensive three-day workshop will explain the preservation tax incentives and review recent legislation affecting their use.

There will be sessions on design, including compatible new additions and choosing appropriate interior treatments, on storefront rehabilitation, and on the repair and replacement of historic windows. Proper ways of cleaning and repairing the major types of building materials — wood, masonry, plasterwork, stucco, paint, architectural metalwork — will be examined, along with techniques that automatically trigger a rejection of certification, such as sandblasting.

The faculty will include Maximilian Ferro, AIA, RIBA, principal in the Preservation Partnership in Mass.; Hugh Miller, AIA, consultant on building conservation technology from Springfield, Va.; Baird Smith, AIA, of Geier Brown Renfrow Architects, Wash. D.C., along with state officials and tax experts who administer the program at the state level.

Workshop completion qualifies participants for Continuing Education Units from the American Inst. of Architects.

A special pre-registration fee of \$350, covering course materials, lunch for three days and an opening reception, is available if postmarked at least three weeks before the start of each seminar. Later registrations are \$400. Info.: APT, 345 Union St., New Bedford MA 02740 (617-996-3383 or 613-238-1972).

**SKYWAYS & TUNNELS CONF.** A conference on urban pedestrian skyways and tunnels is scheduled for April 13-14 at Walker Art Center and the Univ. of Minnesota in skyway-maniac Minneapolis. While not particularly IA-oriented, some workshops and panels will have a historical and architectural approach to these below- and above-grade urban systems. American, Canadian and European urbanists, designers, historians, developers, public officials, and planners are featured. Info.: Mildred Friedman, Walker Art Center, Vineland Pl., Minneapolis MN 55403 (612-375-7686).

**TEXTILE EXHIBIT.** "LaGrange [Ga.], 1828-1978: Evolution of a Textile Center," a travelling exhibit, is available from the Troup Co. Historical Society-Archives, 136 Min St., P.O. Box 1051, LaGrange, GA 30241. Using historic photos, the exhibit focuses on textile mill activities, workers, and machinery.

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**IA AT YALE.** A course titled "Archaeometallurgy & Industrial Archeology" is now being given by Robert Gordon (SIA) at Yale for advanced undergraduates and for graduate students in the archeology program. This course takes a broad view of industrial archeology, but is focused on metallurgy. Both lab methods and field works are included. The field work is being done at the Mine Hill steelworks site now owned by the Roxbury (Conn.) Land Trust.

R.B.G.

**COMPUTER APPLICATIONS FOR HISTORIANS** is a 12-page Special Supplement to the Nov. 1984 *Organization of American Historians Newsletter*. Written by historians, the articles cover programs and applications, on-line library catalogs, government records and databanks, and the OAH computer and software survey. The software discussions are of greater interest to computer novices than advanced users, who will find the database and word-processing review to be familiar territory, with limited consideration of new high-level programs and techniques. The paucity of microcomputer literature for IA-related professions, however, makes this OAH effort worthwhile. Reprints are \$2 from OAH, 112 N. Bryan St., Bloomington IN 47401. Meanwhile, SIA computer users should not hesitate to write notes on their experiences and projects for *SIAN*.

**RAILCAR ROOF FIX.** The Mid-Continent Rwy. Hist. Soc. was awarded a 1985 Conservation Project Support Matching Grant of \$15,750 from the Inst. of Museum Services to develop state-of-the-art roofing procedures on six wooden railcars c1898-1908. The new materials will last longer and have greater resistance to fire and locomotive exhaust acids than traditional doped-canvas roofs. Info.: MCRHS, P.O. Box 55, North Freedom WI 53951.

**IRON MINING.** Three 30-min. radio programs and a 15-min. slide-tape program will explore the history of iron mining in Minnesota, thanks to a \$7,465 grant from the Minn. Humanities Commn. to Northern Community Radio in Grand Rapids, Minn.

**MARITIME SURVEY.** A nationwide survey of endangered maritime resources has been announced by the Nat. Trust for Hist. Pres. The goal is to develop a nationwide inventory of significant large ships, intermediate vessels, small craft, and underwater artifacts, according to maritime preservation director Peter Neill. Conducting the survey will be White Elephant Management of Galveston, Tex., under the supervision of David C. Brink and Walter P. Rybka who were responsible for rebuilding the barque *Elissa*.

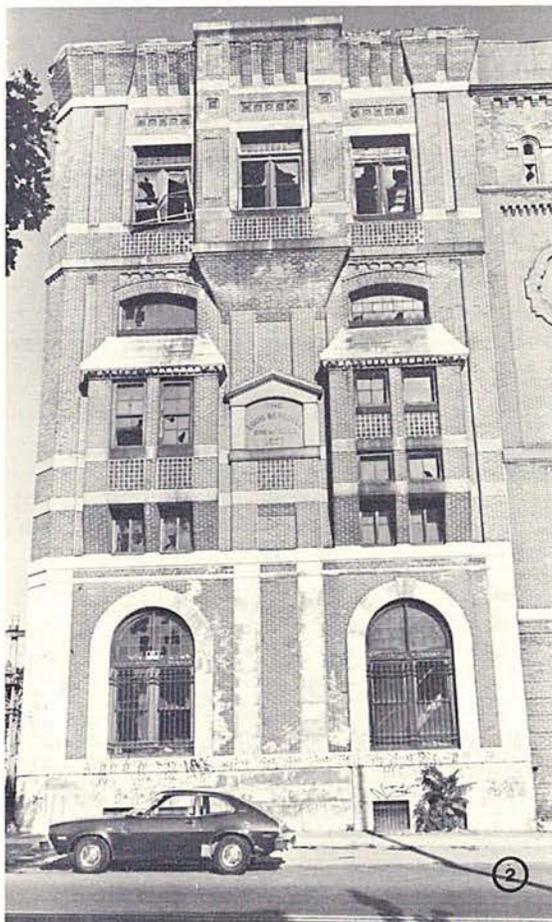
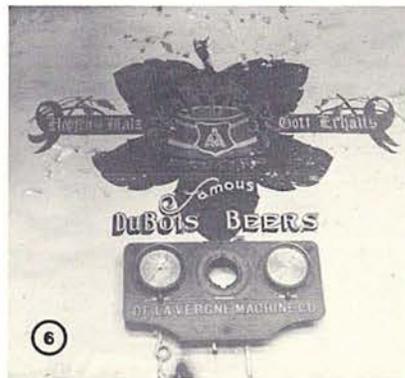
**PUBLIC WORKS HISTORY.** The Public Works Hist. Soc. has initiated a survey to establish a photographic inventory of public works equipment which, when completed, will provide a basis for documenting the history of equipment technology. Information has been contributed by manufacturers, contractors, and public agencies. Anyone with information on key developments in equipment history should contact Howard Rosen, PWHS, 1313 E. 60th St., Chicago, IL 60632. Rosen also is collecting syllabi for college-level courses that touch on aspects of public works history.

The Canadian Public Works Council will work towards producing a history of Canadian public works, reports the (U.S.) *Public Works Hist. Soc. Newsletter*. The project is an outgrowth of increased Canadian activity by the PWHS and its Canadian members.

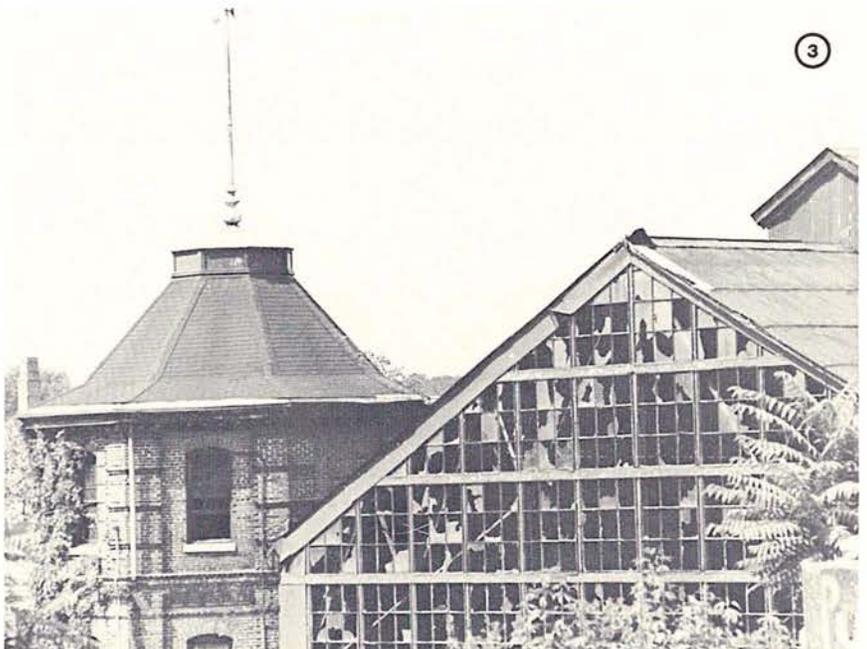
SIA members will be interested to learn of the newly inaugurated PWHS Bookclub, offering a 20-40% discount on a wide variety of IA-oriented titles. You must join PWHS to participate, but members can order directly from 26 different publishers. As an incentive PWHS is offering subscribers a free copy of the 736-page *History of Public Works in the U.S.*

# SUMMER SUDS STUDIES BECOME IA BREWERY PROJECT

Two young Pennsylvanians who, a few years ago, decided to tour breweries, have found their informal vacation activity developing into an ongoing inventory of the Keystone State's brewery sites. By the end of their second summer, Rich Wagner and Rich Dochter had documented over 60 standing brewery buildings and had begun more serious IA-oriented documentary work with county title searches and industrial atlas investigations. The state once supported over 715 breweries but only eight remain in operation. Today the two Riches report visiting and photographing some 135 buildings and sites. They also have begun publishing informal articles about the firms whose complexes they have seen and researched. They would like to share brewery information with interested SIA members and others. Contact Rich Wagner, 15 N. Broad St., Hatboro PA 19040 (215-675-3578) or Rich Dochter, P.O. Box 341, Lock Haven PA 17745 (717-753-5529).



PENNSYLVANIA BREWERIES. 1. Neuweiler Brewery, Allentown. 2. Lewis Bergdoll Brewery, Phila. 3. Adam Scheidt Brewing Co., Norristown. 4. D.G. Yeungling Brewery, Pottsville. 5. Scheidt Brewing Co. (Schmidt's "Valley Forge" plant), Norristown. 6. DuBois Brewery, DuBois. Rich Wagner & Rich Dochter photographs.



## THE LAST OF THE LACKAWANNA ELECTRICS

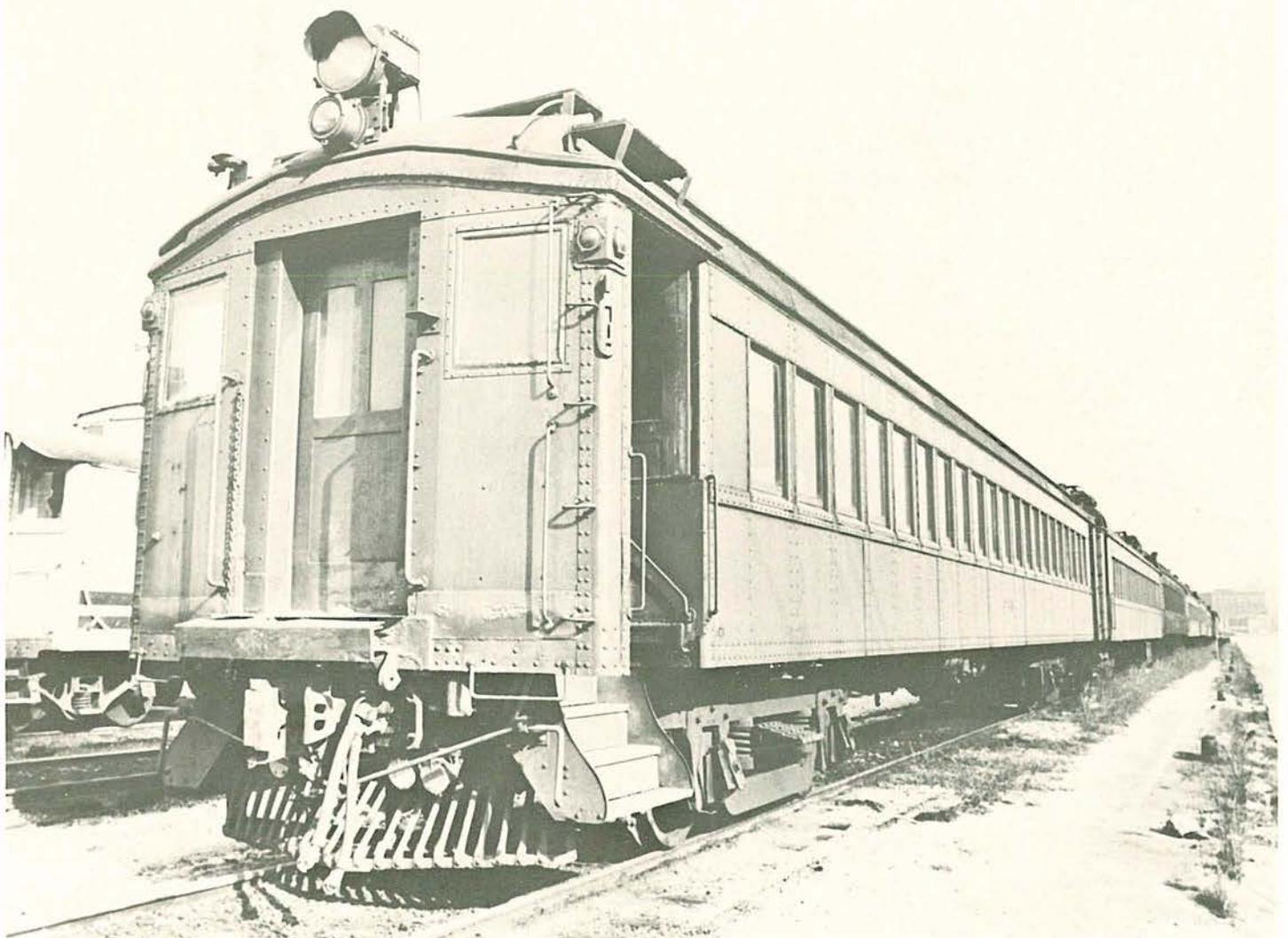
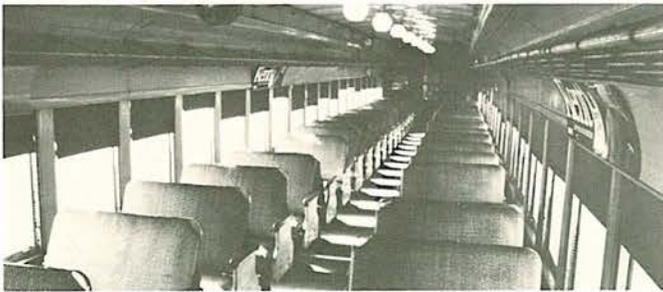
The last Lackawanna multiple-unit passenger car to operate under its own power made its final run out of Hoboken [N.J.] Terminal on Aug. 24, ending service inaugurated in 1930 by Thomas A. Edison. Almost immediately, conversion began from the old 3,000V DC system to the new 25,000 AC, to power a fleet of air-conditioned, steel and aluminum Jersey Arrow III cars.

The olive-green car accommodates 84 passengers on its rattan seats. Known as Pullman MUs, these cars were manufacturer 1929-30 for the Delaware, Lackawanna & Western by Pullman Car & Mfg. Co. [HAER], Chicago. Electrification work in the same years marked the first use of 3,000V DC transmitted through an overhead catenary system in American suburban RR service. It incorporated mercury arc rectifiers.

The firm of Jackson & Moreland furnished design engineering, and Gen. Electric supplied electrical apparatus for both the substations and MU cars. The DL&W erected 1,108 catenary structures and strung 161 miles of wire. A new signal system and power feeder network, including five substations, were incorporated.

According to NJ Transit, the best preserved of the remaining 141 electrics will go to transit museums and the others will be sold. T.K.

*Left above:* Photo sent to Thomas Edison of the Lackawanna's first electric train, Sept. 3, 1930, "which you [Edison] started and ran for half a mile through the tracks and switches of our terminal, observing all signals like the men whose duty it is to do this work daily." The "Lackawanna Electric," inside (left) and out (below). NJ Transit photographs.



## LAST TENDER'S HOUSE ON ERIE CANAL

*Editor's note: In the last SIAN, President Helena Wright called on all members to join her in promoting IA during the two years of her term. "Please let us hear from you," she urged, "either by letter or through SIAN." Inspired by Helena's comments, member Dennis J. Connors put pen to paper and submitted the following article. To other members, the message is loud and clear: Go thou and do likewise.*

A village historical society, a county parks dept., and the N.Y. State Dept. of Transportation are cooperating to save what many believe is the last lock-tender's "shack" on the old Erie Canal [i.e., the "improved" EC of the 1840s-50s — Ed.].

Lock 51, a massive limestone structure dated c1850, is located on the extreme western edge of Onondaga Co., in central N.Y. The 12 x 10-ft. frame building, owned by NYS DOT, was used as an operations office by the lock workers. It likely dates from about 1887, when the last major improvement — a lengthening — was completed at the lock. Although it appears to be the last of its kind, the



The lock-tender's house sits atop the Erie Canal's Lock 51 at Jordan, N.Y., in this c1895 view. The house looks much the same today. No. 51 is a limestone double-lock. *Onondaga Hist. Assn. photograph.*

building has been deteriorating for several years, thanks to the uncertain future of the lock and surrounding land.

Spurred by the efforts of Anthony Proe of nearby Syracuse, the Jordan Hist. Soc. is requesting DOT's assistance in moving the building under cover to slow its deterioration. The society also is asking the state to determine if it wishes to dispose of the parcel for possible addition to a linear park being planned by the County Parks Dept.

Just this year, the county acquired title from the state to a portion of the old EC's "Jordan Level." The original 12-mi. Jordan Level ran between Lock 50, near Syracuse, and Lock 51, at Jordan. The county project would link various village-, town-, and county-owned lands along the former towpath into a major recreational/interpretive trail encompassing two aqueducts, a major feeder structure, an amazingly intact waste weir (for canal overflow) and, at least, the remains of Lock 50. Lock 51 was not included because it lies beyond the center of Jordan, the proposed end of the trail.

Preliminary indications from DOT are that it has no future use for the land and likely may make it available. The county has indicated an unofficial interest, but must await formal notice from the state that the parcel is indeed available.

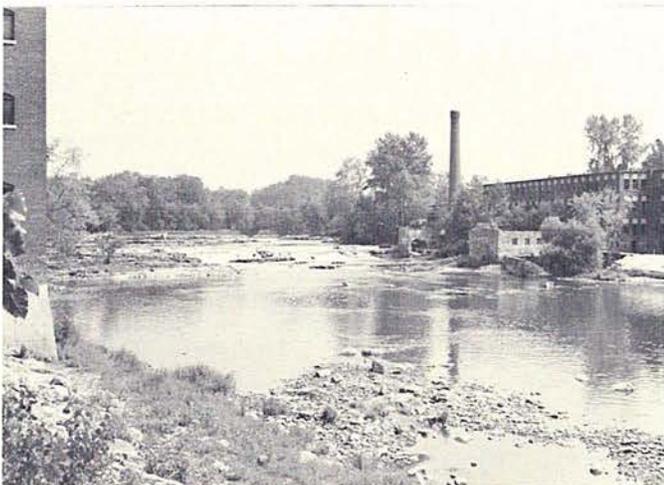
Meanwhile, a temporary shelter for the lock-tender's shack is being sought by the historical society until the future of the lock is determined. DOT officials are cooperating in this effort, as is the County Parks Dept.'s Office of Museums & Historic Sites, to insure that the structure is properly documented and stabilized. A determination of National Register eligibility is being sought by County Parks from the N.Y. SHPO. *Info: D.J. Connors, Director, Office of Museums & Historic Sites, Onandaga Co. Parks Dept., P.O. Box 146, Liverpool NY 13088 (315-457-2990).*

## CHAMPLAIN MILL MAKES NEWS IN WINOOSKI

The Champlain Mill in Winooski, Vt. has been transformed into an attractive shopping center through renovation and conversion — a good example of IA adaptive use.

Built in 1909-13 for the American Woolen Co., the mill produced fine worsted cloth and was a significant element in the New England textile industry. The building is 280 ft. x 100 ft., and its four-ft.-thick lower level walls protected it from destruction during the 1927 flood. Originally, flumes delivered water to two large turbines driving four combs, 295 broad looms, and 10,000 spindles. A water supply system similar to the Champlain's still remains across the river at the Chase Mill.

In 1954 American Woolen Co. became part of Textron and the Vermont mills were closed. Part of the building was used for a while for light industry, but from 1972 until revival in 1981 it stood



*Above: The Champlain Mill building (1909-13) in Winooski, Vt., converted to a shopping mall. Left: Mill ruins across the Winooski River from the Champlain Mill. William J. Ellenberger photographs.*

vacant. Now, three floors are devoted to restaurants, clothing shops, a bookstore, and specialty and variety stores. The original plan has been altered only by the addition of new stairways, elevators, and other modern essentials. Especially interesting is The Water Works Restaurant, located in the former wheel room, where the integrity of the space was retained with large exposed pine posts and beams supporting the mezzanine. A balcony overlooking the Winooski River invites patrons to eat outside in good weather.

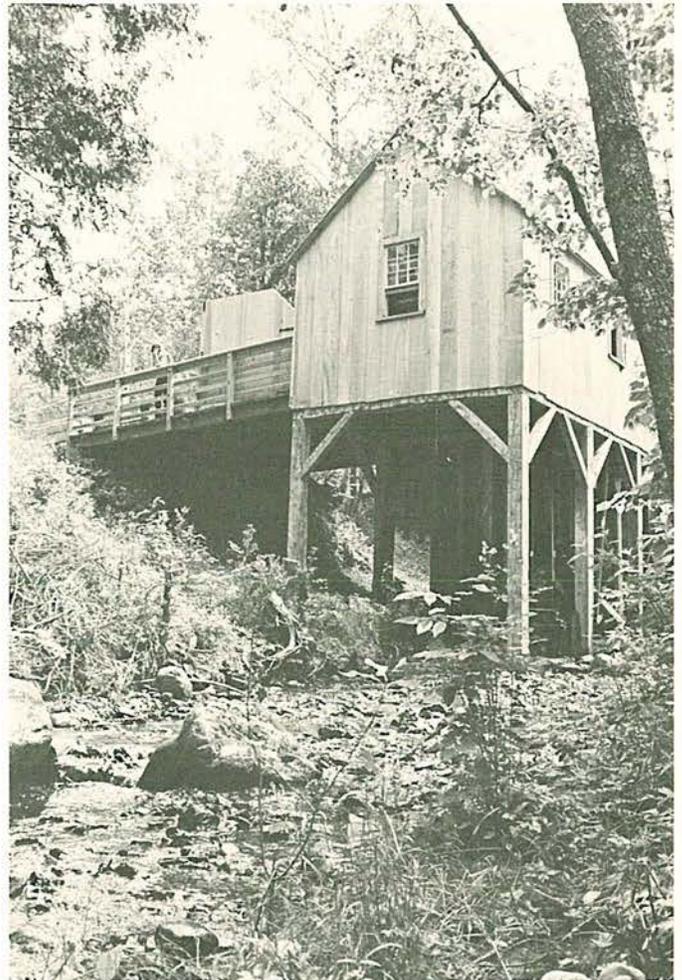
*W.J.E.*

# Michigan Archeology Leads To Reconstructed Sawmill



In 1972 amateur archeologists uncovered a number of late 18th and early 19th-C artifacts on the banks of a small creek near the Straits of Mackinac, Mich. Recognizing the importance of the finds, the discoverers contacted the Mackinac Island State Park Commn., and historical and archeological work was begun. Documents revealed that a saw and grist mill had operated on the site from at least 1796, into the 1830s. Although remains of the dam and associated buildings were located, no direct evidence of the mill building itself was found, due to late-19th-C quarrying in the most probably location.

To interpret the site, the Commission decided to construct a sawmill typical of the period. A new, wood-cribbed, plank-faced dam was built on the original dam site, and the mill was located about 60 ft. downstream, in the creek bed. Plans were based largely on surviving structural elements of the Spofford-Morse sawmill in the collections of the Henry Ford Museum and Greenfield Village, on Oliver Evans' book *The Young Millwright*, and on examination



of other extant mills. The saw is powered by a 60-in. flutter wheel under a 12-ft. head, with the carriage return powered by a 48-in. tub wheel.

Archeological investigations reveal that the site was an industrial center that included not only saw and grist mills, but a cooperage, blacksmith, some minor foundry operations, and a large form that helped supply the Fort Mackinac garrison and the growing village on Mackinac Island with produce.

Operating every half hour in season, from Memorial Day to mid-October the reconstructed sawmill now is the focal point of Michigan's newest historical park. When funding is available, a run of 32-in. millstones will be added. Info.: Mackinac Island State Park Commn., Box 30028, Lansing MI 48909 (517-322-1319).

Reconstructed sawmill in Mackinac Island State Park (above & right). Mackinac Island State Park Commn. photographs.

## NOTES

**FRENCH MILLS.** The Federation Francaise des Amis des Moulins now has a new headquarters in the restored Moulin de la Chaussee, a large five-story roller-mill on the river Marne, described in a recent issue of the Federation's *Bulletin*. A subscription costs 60 French francs: FFAM, Moulin de la Chaussee, 28 av. du Mal. Leclerc, 94410 St.-Maurice, France.

**ROYAL IA.** The Amerley Chalk Pits Museum in West Sussex, England, announced that His Royal Highness Prince Michael of Kent is their new president, thanks to an invitation from the Earl of March, a museum patron. They also reported that their industrial railway equipment will be used in filming *A View to Kill*, a James Bond epic.

**TANZANIAN IRON?** An unusual story linking ancient ironworking with Brown Univ. archeologists is reported in a recent *Ford Foundation Letter*. Following up on rumors heard a few years earlier, the Brown archeological team returned to the shores of Tanzania's Kagera River in the early 1970s to discover furnaces, pits, slag, bricks, and tuyeres — evidence of a 2,000-year-old ironworking complex. Impressed with the results of the dig, the Tanzanian government decided to increase its cultural preservation and archeological activities. Aiding the effort, the Ford Foundation has granted \$205,600 to the Foundation for African Prehistory and Archeology, an organization of African and American archeologists headquartered at Brown, where the money will buy archeological training for Tanzanians to conduct future digs at Kagera and other sites. *H. W.*

**BRIDGE AWARDS.** Several Ohio historic bridge preservation projects brought awards to their sponsoring agencies from the Ohio State Hist. Pres. Office in Sept. The Ohio Dept. of Trans. and the Fed. Hwy. Admin. received a Public Education & Awareness Award for the *Ohio Historic Bridge Inventory, Evaluation & Preservation Plan*, a 270-p. volume discussing the evaluation of 4000 structures. The Ohio Dept. of Natural Resources, ODOT, and Licking Co. Engineer Jerry Wray received Awards of Merit for cooperating to preserve a rare modified late-19th-C king-post bridge, believed to be the only one in the state. It was relocated to a bicycle path.

## AVAILABLE

**NEW NEWS FROM SHOT.** Hot off the press is the maiden issue of *Artifactory*, newsletter of the Soc. for the Hist. of Technology's Museums Special Interest Group. Published three times a year, it is available to non-members. This issue briefly describes the Mass. Inst. of Technology's museum collections. Info.: Joyce E. Bedi, IEEE Center for the Hist. of Electrical Engineering, 345 E. 47th St., New York, NY 10017.

**NEW HAER INVENTORY.** *Northwest New Jersey: An Inventory & History of Historic Engineering & Industry — The Warren & Sussex Counties Inventory* by H. Leedom Lefferts and David Peifer [both SIA] is now available at \$26.50 (paper) & \$4.50 (microfiche). Research for the 321-p., 350-site vol. was sponsored by the Historic American Engineering Record, Drew Univ., Andrew W. Mellon Found., and the Office of N.J. Heritage. Order Doc. #PB84-209493 from Nat. Tech. Info. Service, U.S. Dept. of Commerce, Springfield VA 22161. *H.L.F.*

**AMOSKEAG ENGINE #92 PRINT.** A fine four-color reproduction of an 1853 lithograph of Amoskeag engine #92 (4-4-0), commissioned from the Amoskeag Machine Shop by the Boston & Maine RR, is available for \$35 ea. Because the original litho was designed for advertising, the loco nameplate bears "Amoskeag" rather than the engine's name of "O.W. Bayley" (the Amoskeag agent, later manager of the Manchester Locomotive Co.). The reprint is 22 x 35 ins., on 65-lb. Dulcet cover stock. Avail.: Manchester Historic Assn., Loco Print, 129 Amherst St., Manchester NH 03105.

**EAI A GRANTS-IN-AID.** The Early American Industries Assn. announces annual grants up to \$1,000 to individuals or institutions engaged in research or publication projects relating to the study and better understanding of early American industries in homes, shops, farms, or on the sea. Grants are non-renewable and may be used to supplement existing financial aid, scholarships, fellowships, or other awards. Individuals may be sponsored by an institution or engaged in self-directed research. Applications for awards in 1985 will be accepted to Mar. 15. Info.: Charles F. Hummel, Chairman, Grants-in-Aid Committee, EAI A, c/o Winterthur Museum, Winterthur DE 19735.

**HAGLEY SUMMER INTERNSHIPS** for graduate students are available in a variety of museum, archival, and archeological areas. Interns receive a \$1,200 stipend for the 10-week program and participate in weekly seminars. Applications are due by Mar. 1. For a full description of each position and an application, write Biran Greenberg, Hagley Museum & Library, Box 3630, Wilmington DE 19807.

**HAER REPORT.** The Historic American Engineering Record long has been important to the SIA. Rarely, however, do we get a succinct overview of HAER's activities. Such is available in the combined *HABS/HAER 1984 Annual Report*, which includes project summaries, various statistics, and a staff roster with phone numbers. For a copy, write Robert J. Kapsch, Chief, HABS/HAER Div., Nat. Park Service, Wash. DC 20240.

**CRANE FOR SALE.** "Link-Belt Speeder crawler crane, Model LS-51, year 1952. A half-yard crane with Waukesha gasoline engine. Only 1,500 working hours of light use. We purchased this crane new in 1952 and have always stored it inside our warehouse. Mint condition with all original parts. I will loan this crane for display to a museum without charge if placed inside. Write for photos. \$17,500." Ken St. Clair, 2594 Lafayette Ave., Columbus IN 47201 (812-379-4205 after 6 p.m.).

**BUSINESS HISTORY FELLOWSHIPS.** Applicants are sought for three 1985-86 \$3,000 tax-free Rovensky Fellowships in American Business or Economic History, established by John E. Rovensky, long-time banker and chairman of the board of American Car & Foundry Co. (later ACF Industries). Rovensky died in 1970 and the fund now is administered by the Univ. of Illinois Foundation. Applicants must be U.S. or Canadian citizens who are working toward a Ph.D. in American business or economic history, are currently enrolled in a doctoral program, and preferably are preparing for a teaching and research career and have completed one year of graduate study. Application deadline is Mar. 1. Info.: Prof. C. Clyde Jones, Dept. of Management, Kansas St. Univ., Manhattan KS 66506.

**WHISTLE ON THE WIND** is the 1985 steam calendar from the Mid-Continent Rwy. Museum, featuring seasonal photos, both historic and contemporary, of engines in the Midwest. Historic RR events are noted for many of the dates. \$5. Avail.: MCRM, N. Freedom WI 53951.

## WANTED

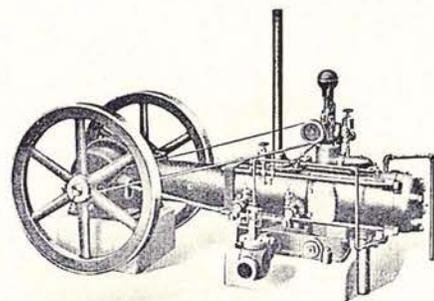
**IA INSTRUCTOR.** The Cooper Union for the Advancement of Science & Art is seeking a qualified New York City-area resident to present a course on industrial archeology in CU's continuing education program. For details, contact Marion Ferri, Coordinator, Continuing Education, Cooper Union, 41 Cooper Sq., New York NY 10003 (212-254-6300).

**ENDOWMENT \$\$.** The Rwy. & Locomotive Historical Society needs contributions to its new endowment program for its annual Railroad History Awards. The goal is to raise \$15,000 so that interest from this endowment fund will defray the society's out-of-pocket costs to present the awards. These run from \$1,000 to \$1,500 annually, and are the direct expenses of award preparation, calligraphy, framing, and shipping, plus certain expenses of the Awards Panel deliberations, such as reproduction of nominated articles in accordance with copyright laws for the panel's balloting. Time and incidental expenses of individual panelists are not reimbursed and are freely given.

Any contribution is welcome, and challenge grants are encouraged. At the donor's discretion, a major individual contribution may entail the naming in perpetuity of one of the awards in the donor's honor or as a memorial. Four annual awards are available, each of which may be named: Senior Achievement, Book Award, Article Award, and Photography Award. Contributions are tax-deductible. Info.: William L. Withuhn, Chair, RR Hist. Awards, c/o Div. of Trans., NMAH Smithsonian, Wash. DC 20560.

**INDUSTRIAL LINQUISTS.** A collaborative project is under way to produce a *Dictionary of American Industrial Language* and volunteer contributors are needed. The end product will be a one-volume reference work organized alphabetically, including job titles, work processes, tools, and machines. The entries will be brief — dictionary-style — and cross-referenced by industry. For information, contact William H. Mulligan, Jr., Clarke Historical Library, Central Michigan Univ., Mt. Pleasant MI 48859.

FRANKLIN GASOLINE-DRIVEN AIR COMPRESSOR, similar to this one from the Chicago Pneumatic Tool Co.'s 1910 catalog, is needed for restoration of Split Rock Light Station (1910) on Lake Superior. Also need 10hp. Novo stationary engine. Will buy. A. Galbraith, Minn. Hist. Soc., Ft. Snelling Hist. Cent., St. Paul, MN 55102 (612-726-1171).



# Big Stack Makes Tall Order for IA Preservationists

Industrial smokestacks, unlike textile mill buildings, do not readily lend themselves to such common adaptive reuses as senior-citizen homes, boutique malls, or high-tech assembly plants. With a strategically placed charge of explosive, they fall with the greatest of ease, and with some exceptions, smokestacks have not been graced with much stylistic ornament.

Despite such comparative drawbacks, a campaign is under way in Montana to save a masonry smokestack considered the world's largest, heaviest, and tallest free-standing stack. From its completion in 1919 by the Alphons Custodus Chimney Construction Co. (N.Y.), until its closing in 1980, the 585-ft. stack served Anaconda Copper's Washoe Smelter overlooking the town of Anaconda. The smelter's demolition last year, the landmark prominence of the surviving stack, the determination of the company to raze it, and the responsive determination of former smelter employees and Anacondans to save it, have made for a classic IA confrontation, pitting corporate concerns against the historical interests of a devoted and articulate congregation of believers.

This stack isn't pretty. It's composed of roughly 2.5 million perforated radial brick set in regular courses atop an octagonal concrete foundation. The lower masonry is encircled with iron bands, the top finished with a terra-cotta cap. Inside and out, the stack bears the scars and blemishes of 60-odd years of use in exhausting and electrically separating dusts and gases produced at the smelter. Suspended inside the 60-ft.-diameter stack were 111 miles of electrically charged chain through which exhaust would pass at a maximum rate of 4 million cubic feet per minute. Solid particles in the



THE STACK SUBLIME, in Anaconda Montana. At 585 ft., it's deceptively tall. *Save the Stack* photograph; *STS* motto: "Keep It Up!"

## IA IN ART



Our latest contribution to this occasional feature was seen recently in the heart of New York City's garment district, seated at the corner of 7th Ave. and 39th St. The ten-foot-tall bronze casting memorializes the city's garment worker, represented in the form of a male worker operating a motorized (not muscle-powered) sewing machine. "The Garment Worker," by sculptor Judith Weller, is a gift of 43 neighborhood garment manufacturers, designers, banks, and union locals. *D.H.S. Dith Pran photograph for The New York Times.*

exhaust would be repelled by the chain and simultaneously attracted by great plates that were oppositely charged and hung amidst the chain. When heavily coated with debris, the circuits would be cut and the accumulation would fall from the plates into hoppers beneath the stack for removal.

All surrounding facilities have since been leveled, leaving the stack naked atop its mile-high butte. Caustic gases have badly corroded the terra-cotta cap, and the two massive flues in the base now admit bad weather and occasional vagrants.

The small town of Anaconda (pop. 12,500) existed to serve the company and now faces economic disaster with the firm's departure. Still, enough local pride exists to have fueled Anacondans to form *Save the Stack*. In response to their pleas that the stack be saved, Anaconda Minerals, a part of Atlantic Richfield, presented the group with a list of costly repairs and security safeguards the company felt would be necessary if a responsible organization could be found to take financial charge of the stack and release the company from all future liability. At this writing, Anaconda Minerals has agreed to a year's delay in demolition while the Montana legislature debates the possibility of making the stack the centerpiece of, and excuse for, a new state park. *Save the Stack* has been busy seeking support from such groups as the SIA and "selling" stack bricks to raise funds. Others have been studying the difficulties of creating a state park on top of a certified hazardous waste disposal site.

Among the reasons cited for preservation is the stack's potential as a tourist attraction. The site could become one of the nation's, and certainly IA's, most unusual historic parks: a tall museum perhaps, capable of capturing not only the life of an important extractive industry, but also our heritage of chimney engineering.

*D.H.S.*

## SITES & STRUCTURES

**SOUTH BEND SURVEY.** Due to revived interest in reusing historic industrial buildings, the Hist. Pres. Commn. of South Bend & St. Joseph Co. (Ind.) has undertaken an industrial structures survey. The South Bend area includes late-19th-C brick and 20th-C reinforced-concrete mill buildings, including the original 1880s-1916 complex of Staley Mills and later Stephenson Underwear Mills. Most of the 47 structures surveyed are within an Urban Enterprise Zone designated in Jan. 1984. Documentary research is under way, aided by resources of Discovery Hall Museum.

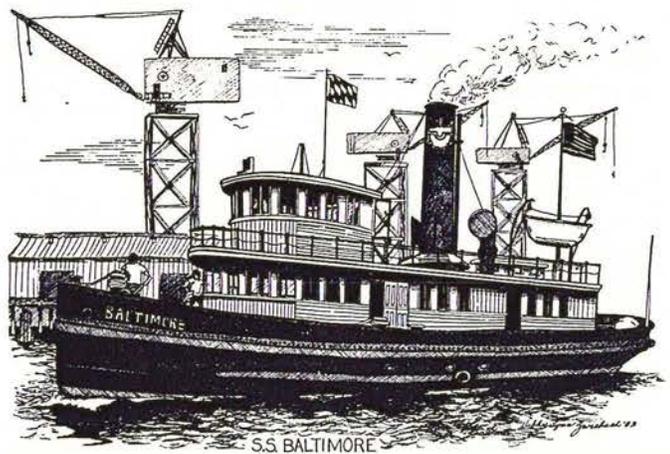
**OTTAWA AWARD.** Ottawa's restored Fleet Street Pumping Station won the city's 1983 Heritage Award for "sympathetic work in conserving the character" of the station despite major rehab. It was built in the early 1870s after a design by Thomas Coltrin Keefer, who utilized the available nine-meter head at Chaudiere Falls to drive turbines connected to large reciprocating pumps. A 750-m. covered aqueduct conveyed the water to the station, while a wood-stave pipeline at the bottom of the aqueduct supplied the river water to the pumps. Original turbines and pumps were replaced in the 1930s-40s, and in recent years the station has served as a high-lift facility. Although abandonment was considered in 1974, its continuing value was dramatically apparent during the energy crisis of the '70s, and the present rehab and restoration was begun. Not only has the station's historic integrity been preserved, but its output has been increased significantly and improvement continues.

R.M.V.

**ROCHESTER WAREHOUSE SAVED, MILL LOST.** A purchase and renovation proposal has emerged for the deteriorating "Old Stone Warehouse," built in 1822 and considered the oldest commercial structure in Rochester, N.Y. Once occupied by Rochester Carting Co., it was situated on the Erie Canal and Lehigh Valley RR. The Landmark Soc. of Western N.Y. had gained National Register listing and HABS documentation, but original high hopes were dimmed by a series of failed proposals, vacancy, and a serious 1981 fire. The city's final effort was a \$1 sale, producing the new effort and a \$100,000 loan commitment by LSWNY and the Nat. Trust, contingent on the developer's financial work.

Less happy is the demolition of Willsea Works, a c1860 brick industrial building originally powered by water from Brown's Race system. With the recent completion of the architectural and historical survey of the Genesee River corridor, LSWNY plans to recommend to the city Preservation Board that the Brown's Race area be designated a Preservation District — too late, however, to save Willsea Works.

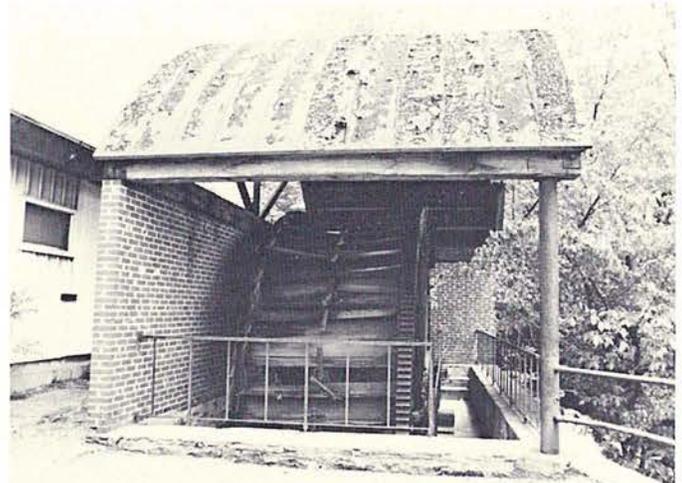
**POWER PLANT REHAB SUCCESS.** Attendees at the 1983 Annual Conf. in the Twin Cities will recall touring the large 1903 Twin City Rapid Transit Co. steam station, just prior to walking across the 1883 stone arch bridge at St. Anthony Falls in Minneapolis. At the time, the station was undergoing a conversion by the Univ. of Minn. to coal-fired steam turbine operation combined with a steam-heating system. The conversion was a U.S. Dept. of Energy Grid-ICES (grid-connected integrated community energy systems) project. Now, the low-sulfur Western coal system is fully operational, heating more than 100 university buildings, a nearby college, and two hospitals, and generating electricity for sale back to Northern States Power at a rate below the utility's own generation costs. The \$34 million (\$19 million of that from the state legislature) conversion will save \$9 million annually in heating costs. In a major announcement in Oct., U.S. Undersecretary of Energy William Collins pronounced the project one of its biggest success stories and announced the commissioning of a film to explain it to industry groups, cities, and the public. Eight northern European countries reportedly already have requested copies of the film. Throughout the work, as tour-goers remember, the univ. has retained some of the historic equipment and records. N.W.



**MORE ON THE BALTIMORE.** Structural restoration is complete on the 1906 steam tug and the deck crew is working on rail caps, guards and masts, reports Stephen Heaver, Jr. [SIA], restoration chairman at the Balt. Mus. of Industry. "Some of the auxiliaries have been finished so the engine gang continues to labor over the remaining ones, such as the generator engine and donkey pump. Most of the electrical system is finished and the boiler will be hydrostatically tested (and, we hope, steamed) in early summer 1985. Drydocking in June allowed us to survey the hull for deteriorated plates and fund raising will have to be undertaken before a third of her plates can be replaced." The 89-ft. wrought-iron-hulled vessel was built by Skinner of Balt. and had been sunk for almost three years before donation to the museum. She is one of nine operating (or potentially operating) steam tugs in the U.S.

**YARDLEY STATION BURNED.** In 1876, a series of stations were built along the Reading RR to accommodate commuters to the Centennial celebration in Phila. Closed since 1981, the diminutive woodframe building at Yardley (originally Yardleyville), N.J., was the last unaltered station on the line. It was totally destroyed in Aug., ending preservation plans and jeopardizing a community park and redevelopment project.

**TERRY WATER-WHEEL RESEARCH & FUND DRIVE.** The Eli Terry Jr. Water Wheel (*below*) in Terryville, Conn. has been offered for sale to the Plymouth [Conn.] Historical Society. A "Save a Water Wheel" committee has formed to research the wheel and raise funds for its purchase. The age and manufacturer of the 20-ft.-diam. rack & pinion wheel are unknown. Terry founded the Eli Terry Jr. Clock Shop in 1824, building a three-story factory. In the clock factory, he established Lewis McKee & Co., manufacturer of cabinet locks. In 1841 it became Lewis & Gaylord Co. and in 1854 was sold to the Eagle Lock Co. The wheel was installed to power the factory sometime in the 1840s. Send research assistance and contributions to Plymouth Hist. Soc., Plymouth CT 06782. Thomas F. Hennessy photograph.



## WANTED

**RESEARCH INQUIRY.** "I am interested in the interaction between personality and technical innovation (i.e., discovery and invention), in particular those instances in which stubborn adherence to wrong explanations motivates others to discover correct relationships. A case in point is the investigator who empirically discovers a workable solution to a real problem but misunderstands the reason why it works; but who, through misguided insistence on his own explanation, goads others who eventually discover the correct reason and thereby advance the technology. I would appreciate leads to either general discussions of this topic in the literature or to specific case studies." William P. Chamberlin, 1046 Shave Ct., Schenectady NY 12303.

**PUBLIC HISTORY CALL-FOR-PAPERS.** The Nat. Council on Public History will be meeting jointly with the Organization of American Historians in New York City, April 9-12, 1986. The NCPH Program Committee invites submissions of complete sessions or workshops and individual papers. Full panels of presentations on specific historical topics are encouraged. Proposals should include a two-page synopsis of the issues and argument. Sessions should include no more than five participants. Send three copies of proposals and vitae for all panelists by Mar. 1 to either of the program co-chairs: Deborah S. Gardner, Inst. for Research in History, 432 Park Ave. S., New York NY 10016 or Daniel J. Walkowitz, Hist. Dept., New York Univ., 19 Univ. Place, Rm. 400, New York NY 10003.

**LOWELL CONF. CALL-FOR-PAPERS.** March 31 is the deadline for proposals for the 6th Annual Lowell Conf. on Industrial History, Lowell, Mass., Nov. 1-3. With the theme of "The Popular Perception of Industrial History," the conf. will focus on the ways in which social and economic history, urban history, and the history of technology have been presented by various media (e.g., museums, historic sites, literature, film, TV, history texts, etc.), and how the public has in turn come to understand its industrial past.

Proposals are being accepted for individual papers and (preferably) full sessions, which are limited to five participants. Include a one-to-two page synopsis of each paper as well as the session itself (if applicable), with background on each participant. Accepted proposals will be published in the conf. annual proceedings. Applications for limited subsidies, covering travel and lodging for participants without institutional affiliation or whose institutions cannot supply funding, should be included with proposals. Info.: Robert Weible, Lowell Nat. Historical Park, 169 Merrimack St., Lowell MA 01852 (617-459-1027).

## NOTES

**RAILROAD RESEARCH LIBRARY.** The John W. Barriger III Railroad Library opened this fall as part of the St. Louis Mercantile Library Assn., which is located in a handsome 1889 business block at Broadway & Locust. Billed as "one of the world's largest private collections on transportation," it represents the personal library and papers of Barriger (1899-1976), who served as president of the Monon, the P. & L.E., the Katy and the Boston & Maine, and held a variety of transportation positions with the federal government. In the collection are over 10,000 volumes, 250,000 RR photos, albums, hundreds of RR track charts, traffic reports, timetables, and memorabilia, along with the Barriger Papers which include manuscripts, correspondence, and business items relating to companies and agencies he served.

The Mercantile is a 45,000-vol. membership library specializing in Western Americana. It also houses the National Waterways Library, a collection of over 2,000 reports, books, pamphlets, and papers on the inland waterways transportation lock and dam systems dating to the Civil War, all donated in 1983 by the *Waterways Journal*. Keep up on RR and waterways acquisitions with the library's *Newsletter*. Info.: St. Louis Mercantile Library Assn., 510 Locust, Box 633, St. Louis MO 63188 (314-621-0670).

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## LANDMARKS

**ASCE.** The Bailey Island cribstone bridge, constructed 1926-28 to span Wills Gut between Bailey and Orrs islands, Me., was officially dedicated a Nat. Historic Civil Engineering Landmark in July by the Am. Soc. of Civil Engineers. The unique split-stone crib work was conceived by Llewelyn N. Edwards, a Maine state bridge engineer. Engineers Max Wilder and Charles A. Whitten worked on the design, construction, and maintenance. The bridge was visited during this year's TICCIH North Coast Excursion [*SIAN* Summer 84:14], and a special report, including historic photos, appeared in the July 18 Brunswick, Me. *Times Record*. E.G.

**ASME.** In 1938 Chester Carlson, a NYC patent attorney with a physics background, first produced an electrophotographic image in Astoria, Queens. Carlson's patented process became known as xerography, and its development has been designated an Intl. Mechanical Engineering Landmark by the Am. Soc. of Mech. Engineers.

Also designated an ASME landmark was the 600-ft., 22,000-ton *N.S. Savannah* (1962-1970), the first nuclear-powered cargo-passenger ship. The ship was designed by George G. Sharp, Inc. of New York and built by the New York Shipbuilding Corp., Camden, N.J. Babcock & Wilcox designed and built the 74 thermal-megawatt pressurized water-reactor. Retired in 1971, the *Savannah* became a permanent exhibit a decade later at the Patriots Point Naval & Maritime Museum, Mt. Pleasant, S.C.

In a ceremony at Grafton, Mass., the Wyman-Gordon 50,000-ton Forging Press ("The Major") also was named an ASME landmark. Designed and built by the Loewy Construction Co., the press began turning out forgings in 1955 and was, at that time, the largest machine ever built, with foundations 100 feet into bedrock. It stands ten stories, with 48 feet above the shop floor, and can exert a pressure of 106 million pounds. It still is used to forge aircraft parts and is the largest fabrication tool of its type in the U.S.

**AWWA.** The Am. Water Works Assn. has designated a series of American and Canadian Water Landmarks, including the Branch Street Pumping Station (1878), Pawtucket, R.I.; Hillsborough River Water Treatment Plant (1926), Tampa, Fla.; Highfield Street Pumping Station (1913), Moncton, N.B.; Robie Street Reservoir (1913, 46), Halifax, N.S.; Petrolea Water Works (1896), Brights Grove, Ont.; and the Water Street Pumphouse & Dam (1909), Peterborough, Ont.

### CONTRIBUTORS TO THIS ISSUE

William J. Ellenberger, P.E., Wash. D.C.; Thomas Flagg & Aron Eisenpress, Roebing Chapter; Edward Galvin, Maine Central RR; Robert B. Gordon, Yale Univ.; Thomas F. Hennessy, Lock Mus. of Am.; Terry Karschner, Office of N.J. Heritage; Edward M. Kutsch, Douglassville, Pa.; L. Leedom Lefferts, Drew Univ.; Marilyn Miller & Chris Andreae, OSIA; Todd Shallat, Public Works Hist. Soc.; David H. Shayt, Robert M. Vogel, & Helena Wright, NMAH Smithsonian; Peter Stott, Mass. Hist. Commn.; Thorwald Torgersen, Hackettstown, N.J.; Nicholas Westbrook, Minn. Hist. Soc. With thanks.

### TO THE EDITOR:

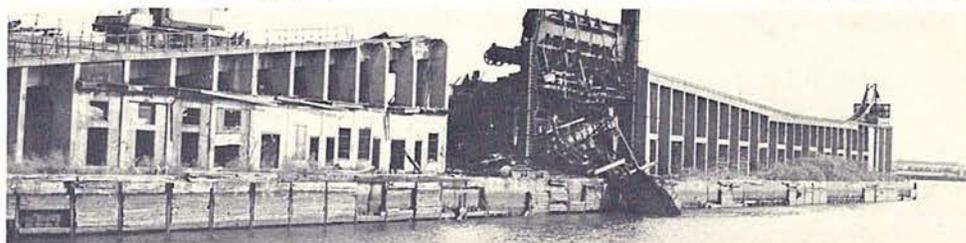
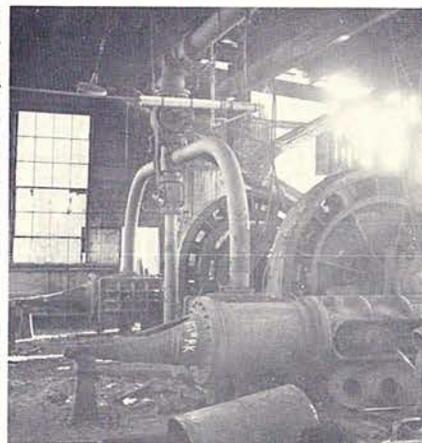
How does one use the word "restoration" in a loose manner? According to the American Canal Society *Bulletin*, it is possible to do this. It seems that an old lock was destroyed in Akron, Ohio. This historical lock was in good enough condition to take all dimensions and lots of pictures. Yet, someone got the idea that a lock should look thus-&-so. So, that is the way they built the new one. The new one was not a restoration — not even a loose restoration [reconstruction], whatever that is. What can we who are interested in honesty in archeology do about terminology such as the loose use of the word "restoration"?

B.W. Morant  
Sierra Madre, Calif.

## MCMYLER COAL DUMPER DEMOLISHED IN PHILADELPHIA



December 1984 saw the end of the former Reading Co.'s McMyler coal dumper on Pier 18 at Port Richmond, Phila., Pa. It was built 1923-24, and had a steam-powered hoisting cradle with a capacity of 120-ton-car-contents at an approximate rate of 40 cars-per-hour. A steam-operated barney moved cars up to the hoisting cradle and an electrically operated haulage machine moved vessels up and down the pier to bring hatches in line with the dumper. Three 1000-hp. boilers supplied steam to the engines and to the thawing house to thaw frozen coal cars in winter. After the Conrail takeover, use of the dumper declined and finally it was abandoned. The photo at left shows the dumper in 1979. Below, the dumper is being demolished in Nov. 1984. The interior view at right is the steam-operated hoisting-cradle engine. *E.M.K. Edward M. Kutsch photographs.*



## CALENDAR

*Have a meeting, conference, or event of interest to SIA members? Submit announcements to the Editor, SIAN.*

**April 3-7:** National Meeting, Popular Culture/American Culture associations, Louisville.

**To April 7:** Exhibit, "Chicago Furniture: Art, Craft & Industry, 1833-1983," Renwick Gallery of the Nat. Museum of Art., Wash., D.C.

**April 17-20:** Annual Meeting, Organization of American Historians, Minneapolis.

**April 17-21:** Annual Meeting, Society of Architectural Historians, Pittsburgh.

**April 26:** Conference, "Evolving Archeological Approaches to 19th-C Industrial Communities," Hagley Museum & Library, Wilmington, Del.\*

**May, thru Sept. 1986:** Traveling exhibit, "Rhode Island's Lighthouses: Past, Present, Future," opening at the Newport Tourism & Convention Center. Info. & schedule: Sarah Gleason, R.I. Office of Info. & Ed., 83 Park St., Providence RI 02903 (401-277-6800).

**May 1-5:** Annual Meeting, Vernacular Architecture Forum, San Francisco, Info.: Darana Hattersley-Drayton, Nat. Park Service, Ft. Mason, San Francisco CA 94123.

**May 9-12:** SIA 14TH ANNUAL CONFERENCE, NEWARK & NEW YORK CITY.

**May 21-24:** Annual Meeting, Canadian Museums Assn., Toronto.

**To June 5:** Exhibit, "The Liveable City: Dr. Abel Wolman & the Continuing Work of the Engineer," Baltimore Public Works Museum.

**June 9-13:** Annual Meeting, American Assn. of Museums, Detroit.

**July 7-Aug. 10:** Summer Institute in Hist. Archeology, Flowerdew Hundred, Va. Info.: Program Specialist, Flowerdew Hundred Found., 1617 Flowerdew Hundred Rd., Hopewell VA 23860 (804-541-8997).

**July 14-20:** 6th Symposium, The Int'l Molinological Society (TIMS), Gent, Belgium. Contact Paul Bauters, Batavierenstraat 51, B-1040 Brussels, Belgium.

**July 22:** " 'Mr. Watt's Stupendous Steam Engine' Bicentenary Celebrations," Sydney, Australia. Info.: Louise Crossley, Power House Museum, P.O. Box K346, Haymarket, Sydney, 2007.

**Aug. 22-25:** 36th Annual Old Thresherman's Reunion, near Lancaster, Pa. Info.: Rough & Tumble Engineers Hist. Assn., Kinzers PA 17535.

**Sept. 4-7:** Annual Meeting, Assn. for Preservation Technology, San Francisco.

**Sept. 10-13:** Annual Meeting, Am. Assn. for State & Local Hist., Topeka, Kan.

**Oct. 9-13:** Annual Meeting, Nat. Trust for Hist. Pres., Seattle.

**Oct. 24-27:** SIA FALL TOUR, SLOSS FURNACE, BIRMINGHAM, ALA.

**Nov. 1-3:** 6th Annual Lowell Conf. on Industrial History, on "The Popular Perception of Industrial History," Lowell, Mass.\*

**Dec. 27-30:** Annual Meeting, Am. Hist. Assn., New York City.

*\*Find details on this event elsewhere in this SIAN.*

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