

SOCIETY FOR INDUSTRIAL ARCHEOLOGY

NEWSLETTER

Volume 18

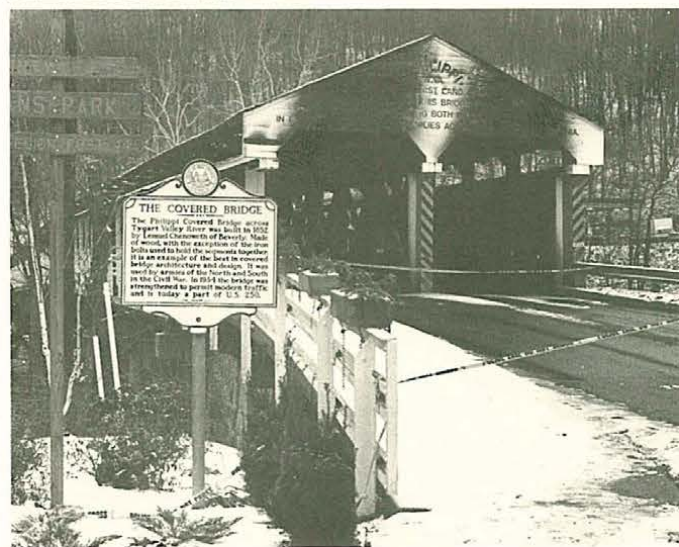
Spring 1989

Number 1

1852 Philippi Bridge uncovered, charred in bizarre blaze



Top left: The Feb. 2 blaze, here consuming the siding and roof. *Top right:* The charred remnants. *Left:* The east portal, before. *Bottom left:* The east portal, after. *Bottom right:* The bridge in happier days, Sept. 1982. *Lars Byrne photos courtesy The Barbour Democrat, Philippi.*



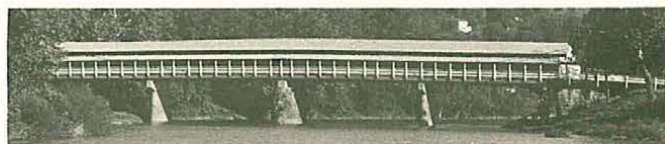
Built in 1852 across Tygart's Valley River in W.Va., the Philippi Covered Bridge is a two-span, 276'-long, double-barrel Burr arch truss. It is the work of Lemuel Chenoweth, prolific builder of covered bridges in the state. It is the site of one of the first skirmishes of the Civil War on June 3, 1861. In his *Great American Bridge & Dams* (Preservation Press, 1988), Donald Jackson [SIA] notes that, given the bridge's strategic location, it is remarkable that it survived the Civil War unburned.

The bridge's luck ran out on Feb. 2, when a disastrous fire destroyed the original siding and the modern roof structure. The main trusses, which are the essence of a covered bridge, were badly charred.

The fire had an unusual origin. A gasoline tank-truck overfilled the storage tank of a nearby service station, causing over 1,000 gals. of gasoline to flood onto the bridge. The catalytic converter of a passing automobile ignited the gasoline and set the wooden bridge ablaze.

Because of its historic significance, and the fact that it is perhaps the most visited historic structure in W.Va., it was decided to rebuild the bridge, retaining as much of its original elements as possible, and to restore it to its condition in 1861. Emory Kemp, SIA president, has been appointed by the W.Va. Dept. of Highways to take charge of this rebuilding.

The work will include a cleaning of the charred main structural members, preparation of measured drawings, an evaluation system for repair or replacement of main members, an analysis of the strength of the fire-damaged trusses, and the design of the siding, roof structure, and other components. The U.S. Forest Service is providing the yellow poplar from the Monongahela Natl. Forest, and the W.Va. Hardwood Producers Assn. will prepare the siding and roof sheathing. A substantial part of the rebuilding costs is expected to be covered by insurance.

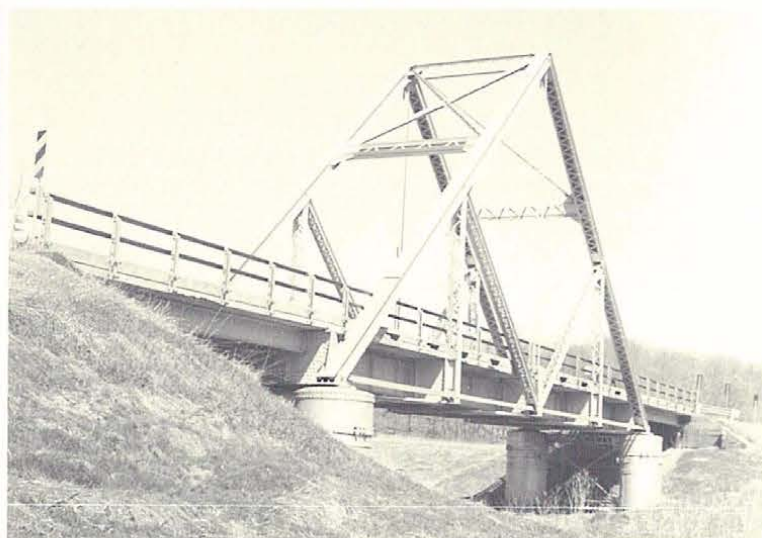


Waddell A-truss: 'Odd but not displeasing'

Community effort returns rare truss bridge to active service



The Missouri Waddell A-truss in its original 1898 site configuration, on a rail spur that was abandoned in 1939 and converted to highway use in 1953. The bridge was dismantled in 1982. The builder's plate is one of two originals, both now lost. *Corps of Engineers photos.*



A small Missouri town and the Kansas City engineering-construction community recently collaborated in re-erecting a Waddell A-truss bridge. The story started in 1985 when historic Parkville was concerned about pedestrian circulation in its riverside English Landing Park. The municipality could not absorb the cost of a needed bridge across a creek that traverses the park, and turned to the Univ. of Missouri-Kansas City for help, hoping that engineering students could design an elegant span to be built by local volunteers with surplus materials.

This looked like a good challenge for the eight seniors in my civil-engineering-systems class. But as they struggled against the odds, they discovered that a complete steel bridge of the proper length was available for the asking, free of charge. The span even had historic value! The only problem was to design foundations and approaches satisfactory to the U.S. Army Corps of Engineers, to plan the transportation and reassembly of the parts, and to convince the town that the undertaking was worthwhile.

Photos and drawings showed a truss bridge shaped like the letter "A," 100' (30 m.) long and 40' (12 m.) tall, cross-braced at the top. A Historic American Engineering Record [HAER] report identified it as an early design, patented in 1894, by J.A.L. Waddell (1854-1938), the famous Kansas City bridge engineer. The span had been erected in 1898 for a rail spur that was abandoned in 1939, then converted to highway use in 1953. When Smithville Dam was to be constructed in the late 1970s, however, the span was doomed, for it would have been submerged in the new lake. Consequently, the Corps dismantled the structure in 1982 and agreed to store the steel for five years.

The students developed and presented their solution. The City of Parkville opted for the historic bridge, all needed approvals were obtained, and the Corps awarded the prize to the town. One major obstacle remained: community volunteers would not be able to assemble and erect the heavy members of the 60-ton structure. Expertise was needed, as well as specialized equipment and considerable quantities of additional materials. As neither the Corps nor Parkville could afford the estimated cost of \$160,000, the funds—or donations in kind—had to come from private sources.

The five-year waiting period elapsed, and the Corps transferred the bridge to the State of Missouri, which deeded it to Parkville. A breakthrough came in 1987, when Howard Needles Tammen & Bergendoff agreed to help. One of the engineering firm's original partners, Ernest Howard, had begun his career in Waddell's office, and now one of its bridge designers marshalled HNTB's resources, trimmed the design, and managed to enlist the help of Bratton Steel, a local steel fabricator and erector.

A metropolitan coalition began to take shape. Construction and materials companies responded favorably, the Parkville business com-

munity mobilized, and a local ironworkers' union pledged its assistance. As word spread, dozens of firms agreed to contribute materials and equipment. I was one of the many volunteer workers who signed up.

During the autumn of 1987 we drove piles, tied reinforcing bars, erected forms, and cast concrete. The foundations, it is true, are weaker than the bridge, but joggers are lighter than steam locomotives. The steel parts were hauled to the site, sandblasted, and primed. The ironworkers helped assemble the trusses, using high-strength bolts in place of missing, irreplaceable rivets. At the main joints, the original 3" (76 mm.) pins were inserted with the help of specially made leg-sized wrenches. Once assembled, the trusses were tilted upright and, still in place on the creek bank, bolted to the five floor-beams. Cross bracing, both on top and in the floor system, was likewise attached, but the eight heavy stringers were omitted for the time being. The original base-plate assemblies were installed on the abutments, hinges at one end and roller beds at the other.

On Saturday, Nov. 21, 1987, the ironworkers and their helpers were joined by masses of spectators and reporters. At mid-morning, a 150-ton crane picked up the assembly at specially fabricated brackets and deposited it at the edge of the embankment. The hook of a 70-ton crane standing on the far bank now was attached to the superstructure, whereupon both cranes working in tandem lifted the bridge over the abutments, then gently lowered it into position on the waiting bearings. A few minor problems notwithstanding—such as a crane that needed more counterweight and a couple of anchor-bolt slots that had to be



The reassembled trusses and floor-system members, laid out at the new site in late 1987. *J. Friedman photo.*



enlarged—the operation proceeded smoothly enough. At high noon, the old bridge was settled in its new home.

The stringers now had to be slipped into place and the temporary brackets removed. A new deck was put down, made of railroad ties like the old, but covered with wood planking rather than steel rails. Hand-railings had to be added, and a pair of vanished bronze nameplates were replaced with faithful replicas. Earthen approach ramps were built, a path paved, and the final coats of white paint applied. The entire \$160,000 project ended up costing Parkville no more than a few hundred dollars.

The restored Waddell A-Truss now serves as a monument to a great bridge engineer, a handsome structure with a useful purpose, and a reminder of a great community effort. Nestled among the trees of English Landing Park, it looks, in the words of its original designer, "odd but not displeasing."

G.F.W.H.

George F.W. Hauck [SIA] is associate professor of civil engineering at the Univ. of Missouri-Kansas City. According to Hauck and Donald Jackson [SIA], this is one of two Waddell A-Trusses extant in the U.S.; the other is near Shreveport, La. Ed.

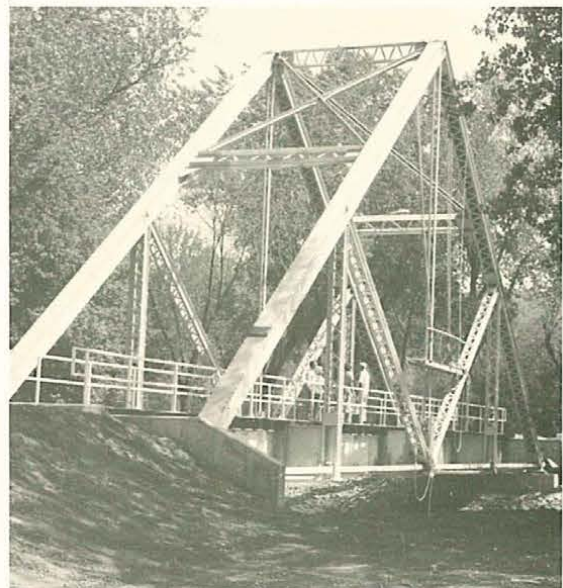


Nov. 21, 1987.

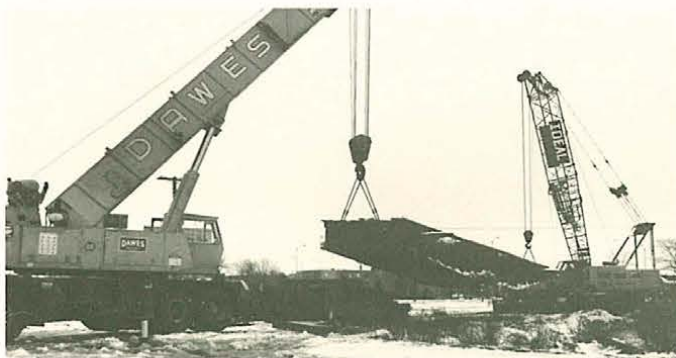
Top left: Cranes raise the trusses, which are tied together with struts and braces.

Top right: The superstructure is lifted onto the new abutments.

Right: The completed bridge. J. Friedman & G. Hauck photos.



1912 Turntable goes to Mid-Continent Rwy. Hist. Soc.



An 87', 1912 turntable, originally used at Council Bluffs, Iowa, has been acquired by the Mid-Continent Railway Historical Society, Inc., at North Freedom, Wis. It had been moved in 1944 to the Milwaukee Road yards at Madison, Wis., where it was at the center of a historic engine and shop site dating to 1854.

The Madison roundhouse was razed last Nov., and in Dec. the turntable was loaded on a flatbed truck for shipment to the museum site

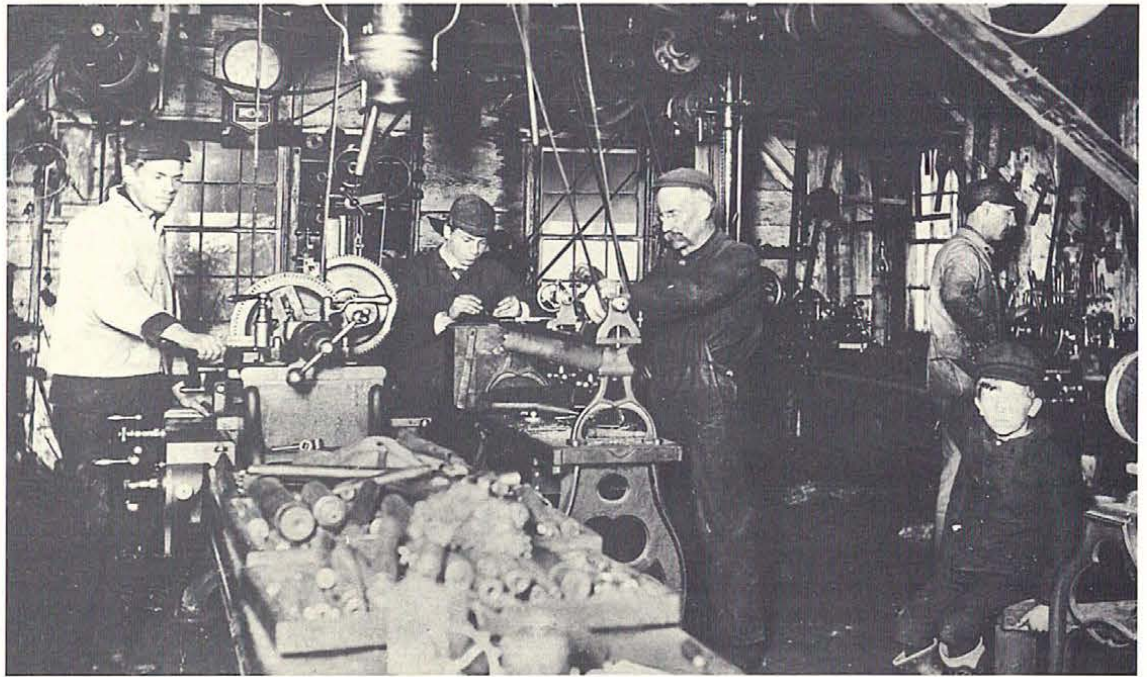
about a hour away. The turntable, which was preserved when the Univ. of Wis. purchased the railroad property in 1984, was donated by the companies developing the site.

Mid-Continent intends to restore the turntable to operating condition for service as part of long-range plans to increase its display areas. Considerable local volunteer assistance helped the move, including local engineering and construction firms and the Madison Seabee Battalion. Info.: John Gruber [SIA], M-CRHS, North Freedom WI 53951 (608-522-4261).

J.G.

JOB OPENING. Sloss Furnaces National Historic Landmark has opened a new position of Preservation Coordinator, involving planning, developing, and implementing conservation and preservation techniques for the site; researching the conservation of metals and masonry; and other projects. Basic requirements are a bachelor's degree in history, historic preservation, or related field, plus two years of experience in the preservation and restoration of historic structures and equipment. Salary range is \$22,360 to \$27,185. For info. about the position and application deadline contact Randall G. Lawrence [SIA], Director, Sloss Furnaces NHL, Birmingham AL 35222 (205-324-1911). For application forms contact the Personnel Board of Jefferson County, Rm. 301 Courthouse Annex, Birmingham AL 35200.

1872 LEOMINSTER MACHINE SHOP AVAILABLE



The Austin Smith machine shop, Leominster, Mass., in 1898. Smith himself is standing, third from left, with his sons and grandson. Photo courtesy Ralph Caisse.

Hidden behind an old clapboard facade on Lindell Ave. in Leominster, Mass., is the machine shop built by Austin Smith in 1872. The machinery was used to make comb parts to supply Leominster's fast-growing manufacturing plants. The shop still stands; the machines still work; and the cider press in the basement could still grind out cider (the first few batches might be a bit dusty).

From Gould & Eberhardt, Newark, N.J.: a shaper; from the Putnam Machine Shop, Fitchburg, Mass.: a gooseneck drill, a 24" extra-heavy iron planer, a 24" swing engine lathe, a 13" swing hand lathe, two other lathes (13" and 12"), and a steam engine. There's a Sears 1918 kerosene engine and a 110V D.C. generator. Most of the tools are driven from a

central line shaft, powered now by a "modern" (1940s) electric motor. Nooks and crannies are jammed with old tools, fly wheels, pulleys, an old forge, buzz saws, and a grindstone complete with a homemade water drip. Smith and his three sons, Irving, Arthur, and George, worked all their lives in the shop, in later years repairing lawn mowers, fixing cars, and making parts that no one could buy anymore.

The machines have not been operated for over 20 years, and the Smiths would like to see the equipment go to a good home—either by negotiation to a museum, or for sale to a private party. Address inquiries to Ralph Caisse, 4 Dartmouth St., Leominster MA 01453 (508-537-9941).

Arson claims Paramus, N.J., grist mill that was set for restoration

The Hopper-Van Riper-Baldwin-Blauvelt Grist Mill was a small wood-frame building constructed along the Saddle River in Paramus, N.J., in the early 19th C. Last Dec. 23, while the building was awaiting a new foundation as part of its restoration as a museum, it was destroyed by arson. One-hundred and fifty years of history and eight years of restoration were snuffed out in a 15-min. flame.

The mill was built c1832 by Albert G. Hopper, who operated it until his death in 1846; at that time, his son, Garret A. Hopper took over the mill and subsequently sold it to James Van Riper, his stepson. Van Riper operated the mill and added a sawmill as well. In 1857, he sold the property to David D. Baldwin. In 1881, Baldwin passed on the operation to his son-in-law, J. Henry Blauvelt, who continued the successful business well into the 20th C. In 1914, lack of grain stopped the grist mill, and in 1932, the sawmill was dismantled and the grist mill "refitted" to accommodate Blauvelt's new Paramus Bathing Beach outside. The mill pond became a pool, and Blauvelt built a new changing facility for the public, and converted the grist mill for use by the lifeguards. For the next 40 years the site was an important recreational focal point for the booming suburban population, but, strangely and luckily, the millwork all remained intact. Included were a complete hurst frame, two run of stone with furniture, two bolters, a receiving separator, a corn sheller, and a bag hoist.

In 1981 the Blauvelt family sold the entire site to Emerald Development Associates. Emerald subdivided the property and over the next

six years negotiated with the Bergen County Div. of Cultural & Historic Affairs to donate the grist mill and relocate it to the Wild Duck Pond County Park in Ridgewood, a half mile upstream along the river. In 1987 a historic-structure report and HAER documentation were undertaken and on Aug. 23 last year, the building was relocated to a parking lot adjacent to the pond where it was to be situated.

The grist mill was scheduled for systematic restoration. It was to be made fully operational, with power to drive a Leffel Old-Reliable type turbine coming from the head of water in the pond. The sawmill building was to be reconstructed based on old photos. It would have functioned as a visitors center and provided access to the second floor of the mill.

The mill was not unique in any technological sense; rather, it was a regionally significant structure that contained an interesting assemblage of operational machines. Once, many such mills lined the waterways of Bergen County, but with the destruction of this sole survivor, they are all now gone. Fortunately, the detailed historic structure report and extensive HAER drawings remain to tell the story.

J.R.B.

John Bowie emphasizes the importance of proper documentation of structures like the Bergen County mill. He points out that if the mill damage had been less severe, he would have been able to reconstruct it based on the drawings he completed for the HAER recording project. Ed.

Trenton & Mercer County Traction Corp. trolley alignment site

Archeological data recovery in a portion of the Princeton Battlefield Historic District was undertaken in May 1988 by RAM, Inc. (54 Woodbridge Ave., Highland Park NJ 08904). The study was performed in advance of the planned rehabilitation and replacement of a sanitary sewer trunkline, a segment of which passes through the historic district. The excavation and analysis were conducted under the supervision of Charles A. Bello [SIA].

Previous investigations performed by RAM in 1987 determined that the proposed sewer line intersects a portion of the Trenton & Mercer County Traction Corp. trolley alignment, a significant early 20th-C historic site. The site consists of the roadbed of the former electric line, which contains deposits of industrial refuse from two or more late 19th- to early 20th-C Trenton potteries. The investigators concluded that the proposed sewer improvements would adversely affect the site, and recommended further examination to mitigate that effect. A report details the background of the site and excavations performed as a result of the consultant's recommendation. (A shortened account of the excavation recently appeared in the *Newsletter of the Archaeological Society of N.J.*, No. 147.)

Excavation was carried out at the intersection of the proposed sewer and the trolley line. Its purpose was to provide information on the configuration of the roadbed and to sample its artifactual composition, mitigating the adverse effect construction would have on the site.

The sectional view obtained from the cut provided information on the site's composition. This stratigraphic information helped to establish a likely sequence of events starting with the opening of the line around the turn of the century, the removal of the tracks in 1932, and the present use of this portion of the line as a pathway in the Princeton Battlefield State Park.

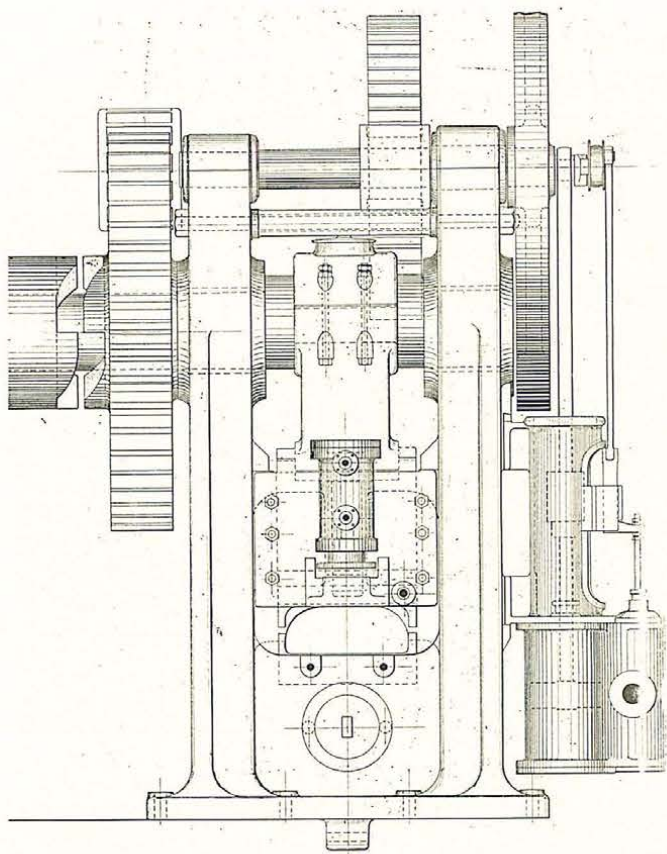
The roadbed consisted of a highly compacted black silty sand layer approximately 18' wide and 2'15" thick, clearly distinct from the soil above and below it. Contained within this fill were heavy amounts of coal, slag, large cobbles, and the pottery refuse mentioned above. The remainder of the deposit included structural, domestic, and miscellaneous refuse, but in much smaller amounts.

The bulk of the artifactual material could have derived from either the Anchor Pottery Co. (1885-1927) or the Trent Tile Co. (1882-1938), both located in Trenton and operated during the time of the trolley line's construction and much of its service.

The bulk of the pottery-related deposit consisted of debris from the manufacturing process and production pieces. The former was mostly fragmented and showed signs of heavy use, although a few specimens were complete and clearly suffered less wear. This group was made up of refractory-clay kiln fittings such as shelves, trivets, sagger pins, stilts, wads, and saggars. Also in this group were kiln firebricks and white earthenware-glaze test rings and tiles. The production pieces consisted of glazed and unglazed ironstone fragments (plates, cups, and bowls) and porcelain decorative tiles. Many of the earthenware artifacts were misshapen, discolored, or cracked—clearly defective products. These were mostly undecorated, with only a small percentage of molded and transfer-printed pieces present. Many of the small porcelain tiles were recovered unbroken, but were also obviously rendered defective by cracks, glaze deficiencies, and other irregularities. Many of the tiles were marked "Trent" (Trent Tile Co., Trenton).

A survey of the trolley alignment 2,500' east and 600' west of the investigation site suggested that the tracks were laid on a similar deposit of fill. Pottery-related artifacts such as trivets, wads, firebrick, unglazed earthenware, and porcelain tiles were seen in many spots where erosion or disturbance had broken through the upper stratum.

C.A.B.



Segment from drawing of "Bloom Shear 'General Arrangement,' [for] Watt's Steel & Iron Synd'. LT'D. Middlesborough, Ky. Jas. P. Witherow, Engineer & Cont'r, New Castle, Pa., Nov. 4, 1891." From the Pecor collection, Hugh Moore Hist. Park & Museums, Inc.

Iron & steel engineering drawings go to Hugh Moore Historical Park & Museums

As a part of its continuing effort to serve as an archive and repository dedicated to preserving the history of the American iron and steel industry, the Hugh Moore Historical Park & Museums, Inc. of Easton, Pa. has acquired the engineering drawings of the Pecor Div. of the Pa. Engineering Corp.

Since the 1880s, the New Castle-based Pecor and its predecessor firms have produced blast furnaces, open-hearth furnaces, Bessemer converters, shears, ladles, ladle cars, and blowing engines. Dating from 1885, its engineering archives include over 8,000 drawings, making it one of the most comprehensive records of the industry's technological development. Because many of the manufacturing facilities depicted in these drawings have been demolished, the collection's value is greatly increased.

The drawings will be conserved, catalogued, and stored at the Hugh Moore Historical Park & Museums climate-controlled museum-support center and archives building, where they will be available to researchers. Info.: HMHP&M, POB 877, Easton PA 18044.

L.E.M.

CONTRIBUTORS TO THIS ISSUE

Charles A. Bello, RAM, Inc.; John R. Bowie, Wallingford, Pa.; Alan Clarke, Northern Va. Community College; Eric N. DeLony, HAER; Luther Dietrich, Annandale, Va.; John Gruber, Madison, Wis.; George F.W. Hauck, Univ. of Missouri-Kansas City; Emory L. Kemp, W.Va. Univ.; Bill Lass, Mankato, Minn.; Lance E. Metz, Hugh Moore Hist. Park & Museums, Inc.; David Shayt, NMAH, Smithsonian Inst.; Tom Smith, Leominster, Mass.; Peter Stott, Newton Highlands, Mass.; Ronald E. Voogt, Preservation Grand Rapids, Mich.; and Gerry Weinstein, N.Y.C. With thanks.

SITES & STRUCTURES



MN'S OLDEST OPERATING MUNICIPAL WOOD WATER-TANK [NR, HAER MN-19] will be razed this summer and replaced with a 100,000-gal. steel, single-pedestal tower. Erected in 1895 by the U.S. Wind Engine & Pump Co. of Batavia, Ill., the 50,000-gal. tank was designed to serve the municipal waterworks of Elysian, Minn. It is constructed of wooden staves, tied with bolted, steel rings, and has a conical roof and flat bottom. It is carried on a trestle tower comprised of twelve steel Larimer columns arranged in a cruciform plan. When built, the tank's pump was powered by a Halladay Standard windmill mounted atop the tank. In 1902 the windmill was replaced by a Lewis Gas & Vapor Engine, located in a brick engine-house. The gas engine survived as a back-up power source although it was supplanted by an electric motor.

B.L.

REPAIRS SLATED FOR NYC LANDMARK WATER TOWER. Severely damaged in a 1984 fire [SIA/Summer 84:16], the 1872 granite High Bridge Water Tower may be rehabilitated this year at a projected cost of \$900,000. The tower is featured on the cover of the SIA membership brochure. In the fire, set by an arsonist, the tower lost its wood-frame signal station located atop the stone octagon, and ever since the upper sections have been littered with charred timbers. In its damaged condition the highly visible, 135' Harlem River Valley landmark has become a civic embarrassment, according to *The New York Times*. The new work includes removal of the deteriorated granite, cleaning of the exterior, and installation of a new roof and carillon. The interior will not be reopened.

G.W.

OHIO IA SITE HONORED. The Berry Brothers Bolt Works [NR] in Columbus received a 1988 Preservation Merit Award from the Ohio Historic Preservation Office. The firm was recognized for preserving the works for three generations. Completed in 1888 and expanded twice, the red-brick factory retains much of its original appearance.

GRAND RAPIDS FURNITURE FACTORY LOST. Following a lengthy preservation struggle, the brick 1873 Phoenix Furniture Co. building in Grand Rapids, Mich., was razed in Jan. by its current owner, Grand Valley State Univ. GVSU had acquired the structure through a donation in 1987. Ironically, the demolition followed a GVSU-funded \$20,000 study that recommended preservation and reuse. Phoenix Furniture was one of the handful of early, large, furniture establishments that earned Grand Rapids the title of "Furniture Capital of the World." It employed David W. Kendall, who was one of the first professional furniture designers in the industry (Kendall College of Art & Design was founded by his widow in his memory). It embodied the historical evolution of the industry, from the mechanized production of popular household furniture to an emphasis on high-quality design, and then to the manufacture of upscale office furniture.

R.E.V.

D&SNG RR ROUNDHOUSE FIRE. The 108-year-old roundhouse, of the Durango & Silverton Narrow Gauge RR in Durango, Colo., burned in Feb., along with a machine shop and six locomotives. The locomotives, operable 2-8-2s, included three K-28s (1923 Alcos), two K-36s (1925 Baldwins), and a K-37 (1930 Rio Grande rebuild of a standard-gauge 1902 Baldwin 2-8-0). Reportedly the locomotives can be restored. The D&S is a major regional tourist RR.

Reports in "Trains" & "Live Steam"

IA IN . . . HOCKEY? Last year the famous Boston Garden celebrated its 60th anniversary and, as part of the festivities, restored its original 1954 Zamboni Ice Resurfacer to operating condition. Known as machine E-21, this is the 21st resurfacer built by Frank Zamboni and is the oldest known resurfacer used by a National Hockey League team that remains operable. So what, you say? Well, does football, baseball, or basketball have a serious—not to say unusual—piece of self-propelled machinery as an integral part of every game? For the IA hockey fan, no match, or even the most minor practice, would be complete without the silent Zamboni's ritualistic circling, trailing its bubbling resurfacing gear.

IA PROJECTS MAKE PRESIDENT'S AWARD LIST. Several IA sites were among 28 projects honored in Nov. by President Reagan. The winners included 10 President's Historic Preservation Awards for excellence in privately funded historic preservation and 18 National Historic Preservation Awards, recognizing excellence in federally assisted preservation. Of IA interest are:

- Restoration of the 1902 Italianate **railroad depot at Livingston, Mont.** into the Livingston Depot Center for history and the arts.
- Rehabilitation of the Adams, Pierce & Preston mills, part of the former **Walter Baker Chocolate Factory**, Dorchester, Mass., for housing.
- Rehabilitation of the 1838 **Gaylord Building** [HAER], Lockport, Ill., a materials storehouse during the construction of the Ill. & Mich. Canal. This was the first major rehab in the National Heritage Corridor.
- Rehabilitation of the **Grand Opera House** (1871), Wilmington, Del., a fine example of cast-iron architecture.
- Preservation program for the 1915 **steamship Wapama** [HAER], Sausalito, Calif., the last of some 225 wooden steam schooners, now preserved, documented, and interpreted for the public.
- Restoration of the **Second St. Bridge**, Allegan, Mich., an 1886 double-intersection Pratt truss over the Kalamazoo River, which was moved off site, rebuilt, and moved back. The work was funded by U.S. DOT secondary road funds administered by Mich. DOT, and *renovation proved to be more cost effective than replacement*.
- Restoration of the 1892 **redwood covered bridge** over the San Lorenzo River in Felton, Calif. It is reportedly the tallest covered bridge in the U.S.
- Preservation Techniques, Inc.**, of Phila., was recognized for its educational programs disseminating information involving the trades and crafts. The nonprofit PTI is chaired by Gersil N. Kay [SIA].



SOCIETY FOR INDUSTRIAL ARCHEOLOGY NEWSLETTER

PUBLICATIONS OF INTEREST

A SUPPLEMENT TO VOL. 18 NO. 1

SPRING 1989

Compiled by John M. Wickre, Minnesota Historical Society

GENERAL SUBJECTS

R. Angus Buchanan, "History and Heritage: The Development of Industrial Archaeology in Britain." In *Public Historian* 11, Winter 1989, p5-16.

Gunther Garbrecht, ed., **Hydraulics and Hydraulic Research: A Historical Review.** A. A. Balkema (Rotterdam), 1987. 371p, illus., bibliog. \$85. Survey covering water systems and science in 16 countries over 5000 years, by the Intl. Assn. for Hydraulic Research. Rev.: *Technology & Culture* 29, Oct. 1988, p950-52. (Avail.: A.A. Balkema, POB 230, Accord MA 02018).

Barbara S. Griffith, **The Crisis of American Labor: Operation Dixie and the Defeat of the CIO.** Temple Univ. Pr. (Philadelphia), 1988. 255p. \$30. Failure to unionize the south, incl. textile industry, 1946-53. Rev.: *J. of Amer. Hist.* 75, Mar. 1989, p1373.

Heritage Directory 1989. Heritage Canada (Box 1358, Station B, Ottawa, Ont. K1P 5R4), 1989. \$25. Lists 100 organizations and govt. depts.

Robert Jay, **The Trade Card in 19th-C America.** Univ. of Mo. Pr. (Columbia), 1987. 120p. \$30. Rev.: *J. of Amer. Hist.* 75, Mar. 1989, p1315-17.

Patrick Joyce, ed., **The Historical Meanings of Work.** Cambridge Univ. Pr. (NY), 1987. 320p. \$45. Essays; mostly Britain and France, 18th & 19th C.

Norbert MacDonald, **Distant Neighbors: A Comparative History of Seattle and Vancouver.** Univ. of Neb. Pr. (Lincoln), 1987. 281p. \$28. Incl. mfg., seaports. Rev.: *J. of Amer. Hist.* 75, Mar. 1989, p1296-7.

A Material World. Smithsonian exhibit and catalog, 1988. **Permanent exhibit** by Robert C. Post [SIA] (curator) & Jeff E. Howard (designer). **Catalog** by Robert Friedel (Dept. of Public Programs, Natl. Museum of Amer. History, Smithsonian Institution, Wash. DC 20560). 64p, illus. \$6. Rev.: *Public Historian* 11, Winter 1989, p57-59.

Joseph Needham, **Science and Civilisation in China, Vol. 5: Chemistry and Chemical Technology. Part 7: Military Technology; the Gunpowder Epic.** Cambridge Univ. Pr. (NY), 1987. 736p, illus., tables, notes, appendixes, bibliog., index. \$100. Rev.: *Technology & Culture* 29, Oct. 1988, p943-6; *Amer. Hist. Rev.* 94, Apr. 1989, p501-2.

Diane Newell & Ralph Greenhill [both SIA], **Survivals: Aspects of Industrial Archaeology in Ontario.** Boston Mills Pr. (132 Main St., Erin, Ont. NOB 1T0), 1989. 240p, illus., bibliog. \$40. Incl. Rideau Canal, Grand Trunk Rwy. bridges and stations, Hamilton pumphouse, belt and line-shafting power transmission, jerker system for pumping oil, London and Guelph soap works, St. Clair tunnel, Whirlpool Rapids bridge, Peterborough lift lock.

George Ovitt, Jr., **The Restoration of Perfection: Labor and Technology in Medieval Culture.** Rutgers Univ. Pr., (New Brunswick NJ), 1987. 285p, notes, bibliog., index. \$32. Rev.: *Technology & Culture* 29, Oct. 1988, p913-5.

John V. Pickstone, **Medicine and Industrial Society: A History of Hospital Development in Manchester and Its Region, 1752-1946.** Manchester Univ. Pr. (Manchester), 1985. 380p, notes, bibliog., index. \$50. Rev.: *Technology & Culture* 29, Oct. 1988, p958-9.

Thomas J. Schlereth, **The Industrial Belt: An Annotated Bibliog.** Garland (NY), 265p. \$40. Western N.Y. - Pa. - Ohio - Ind. - Mich. - Ill. Rev.: *J. of Amer. Hist.* 75, Mar. 1989, p1395-6.

Bruce Sinclair, ed., **New Perspectives on Technology and American Culture.** Amer. Philosophical Soc. (Philadelphia PA), 1986. 90p, notes. \$5 pap. 5 essays: engineering education at MIT, the National Academy of Engineers, plastics in Amer. culture, popular visions of the future in space (1901-2001), Disney/EPCOT. Rev.: *Technology & Culture* 29, Oct. 1988, p968-70.

Suzanne M. Spencer-Wood, **Consumer Choice in Historical Archaeology.** Plenum Pr. (NY & London), 1987. 435p, illus., index. \$40. Rev.: *Public Historian* 11, Winter 1989, p74-6. Consumer behavior, incl. Detroit, Mich., & Paterson, N.J.; "... information derived from the archaeological and historical record is seen as complementary and not redundant."

Arthur M. Squires, **The Tender Ship: Governmental Management of Technological Change.** Birkhäuser Boston (Cambridge MA), 1986. 266p, appendix, bibliog., index. \$25. Incl. the *Wasa* [Swedish sailing ship], the English R100 and R101 dirigibles, the AR-15 and M-16 rifles, the Office of Saline Water, atomic-powered aircraft, and synthetic rubber aviation fuel production in WWII.

Darwin H. Stapleton [SIA], **The Transfer of Early Industrial Technologies to America.** Amer. Philosophical Soc. (Philadelphia PA), 1987. 226p. \$18. Mostly 18th and 19th C. Rev.: *J. of Amer. Hist.* 75, Mar. 1989, p1288.

Trade Catalogs on microfiche from UPA Academic Editions (44 N. Market St., Frederick MD 21701-5420):

— **Trade Catalogs from the Hagley Museum and Library: Transportation.** 907 fiche. \$2925 (\$3600 after July 31, 1989). Also avail. in subsets related to aircraft (\$150), autos (\$995), carriages and wagons (\$420), firefighting equipment and trucks (\$270), RR equipment and supplies (\$1690), and ships and boats (\$60). Printed guide, \$45.

— **Trade Catalogs from the Winterthur Museum.** 3605 fiche. \$8900.

— **Sweet's Architectural Catalogs, 1906-1949.** 2334 fiche. \$7500.

— **Trade Catalogs from the Avery Library at Columbia Univ.** 3477 fiche. \$9950.

— **Trade Catalogs from the Corning Museum of Glass.** 4485 fiche. \$10,500.

P. D. Ungerer, "The Ultimate Lathe." In *Popular Science* 234, Apr. 1989, p116-20. Color illus. Holtzapffel ornamental turning lathes (5000 produced 1794-1914), originals now selling for \$15-20,000; reproductions for \$8000. "... one of the most complex and brilliant inventions the world has ever seen." Sexist advice if you get one: "Retire and teach your wife to sharpen the cutters." Dover Publ. has reprinted 19th-C manuals.

U.S. military education, incl. evolution in arms technology; engineering education [dual rev. in *Technology & Culture* 29, Oct. 1988, p953-4]:

— James L. Morrison, "The Best School in the World": West Point, the Pre-Civil War Years, 1833-1866. Kent State Univ. Pr. (Kent OH), 1986. 267p, illus., notes, appendixes, bibliog., index. \$28.

— James C. Bradford, ed., **Captains of the Old Steam Navy: Makers of the American Naval Tradition, 1840-1880.** Naval Institute Pr. (Annapolis MD), 1986. 372p, illus., notes, bibliog., index. \$25.

Nina de Angeli Walls, **Trade Catalogs in the Hagley Museum and Library.** Hagley Museum (Wilmington DE), 1987. 104p, illus., index. \$9 pap. Notes holdings of other institutions as well as summarizing Hagley's 18,000 catalogs.

Margaret Ripley Wolfe, **Kingsport, Tennessee: A Planned American City.** Univ. Pr. of Ky. (Lexington), 1987. 271p. \$24. Isolated Southern industrial city, 1915-present. Rev.: *J. of Amer. Hist.* 75, Mar. 1989, p1353.

TRANSPORT

Ian R. Bartky, "Running on Time." In *Railroad History* No. 159, Autumn 1988, p18-38. RR timekeeping practices and accidents, 19th-C.

George F. Bass, ed., **Ships and Shipwrecks of the Americas; A History Based on Underwater Archaeology.** Thames & Hudson (NY), 1988. 272p, illus., glossary, bibliog., list of museums and research institutions. \$40. Rev.: *Historic Preservation* 41, Mar./Apr. 1989, p68.

Benson Bobrick, **Labyrinths of Iron: Subways in History, Myth, Art, Technology, and War.** Quill (NY), 1986. 352p, illus. \$11 pap. Not a comprehensive or engineering history, but a history of subways as an idea, with emphasis on how modern urban life made underground travel normal instead of unnatural. Brief history of tunnelling technology. Concise histories of the promotion of the London Underground, Paris Metro, and New York and Moscow subways. — *Aarne H. Frobom.*

J. David Conrad, **The Steam Locomotive Directory of North America: Vol. 1, Eastern U.S. and Canada; Vol. 2, Western U.S. and Mexico.** National Bus Trader (9698 W. Judson Rd., Polo, IL 61064), 1988. 363p, illus., \$51 ppd., pap. A directory, by location, of the approx. 1500 steam locomotives that survive on the continent, incl. basic dimensions, builder, and ownership history. Illus. with builder's and historic photos. Most steam-engine followers believe that not one existing locomotive has been eliminated from this book, excepting only those buried or under water. — *Aarne H. Frobom.*

Eric Hirsimaki, **Lima: The History.** Hundman Publ. (5115 Monticello Dr., Edmonds WA 98020), 1986. 351p, illus., \$39. Lima Locomotive Works, Lima, Ohio; best for pre-1916 history. Includes chapter on 'Heating Up the Forge' with photos of shop interiors and craftsmen at work. Rev. by William Withuhn [SIA] in *Railroad Hist.* No. 158, Spring 1988, p157-8.

William Hoffer, "Born Again." Cover story in *Popular Mechanics* 166, May 1989, p117-19+. Color illus. Restoration of steam locomotives and trains.

Don L. Hofsommer, "The History of the Great Northern History." In *Railroad History* No. 159, Autumn 1988, p14-17. Story of the "long-awaited" GN history orig. commissioned in 1954, eventually published 1988 with authors listed as "Ralph W. Hidy, Muriel E. Hidy, and Roy Scott, with Don L. Hofsommer" (**The Great Northern Railway: A History.** Harvard Business Sch. Pr. (Boston MA 02163), 1988. 375p, illus. \$50.).

Gene Huddleston, **Riding that New River Train.** Chesapeake & Ohio Historical Society Books (361 Imperial Ave., Painted Post, NY 14870), 1989. 120p, illus., maps, drawings. \$21. C&O in W. Va., 1872-1988.

Clifton E. Hull, **Shortline RRs of Arkansas.** Univ. of Central Ark. Pr. (Box S, Conway AR 72032), 1988. Orig. pub. by Univ. of Okla. Pr., 1968. 402p. \$25. Not scholarly, but the "almost-100 pages of shortline photographs of perhaps the biggest collection of operating railway junk ever gathered in one state are almost worth the book's price alone," according to rev. in *Railroad History* No. 159, Autumn 1988, p92-3. And where else are you going to learn about the Ultima Thule, Arkadelphia, & Mississippi River RR?

Robert Keiner, "Can We Save the Skipjacks?" In *Historic Preservation* 41, Mar./Apr. 1989, p30-39. Chesapeake Bay sail-powered oyster fleet; color photos; guide to museums and events.

Maury Klein, **Union Pacific: Birth of a Railroad, 1862-1893.** Doubleday (Garden City NY), 1987. 698p, illus. \$28. Source notes avail. as a 117p pamphlet from the Union Pacific Museum, Omaha. Rev.: *Amer. Hist. Rev.* 94, Apr. 1989, p526-7.

John Maddock, **A History of Road Trains in the Northern Territory, 1934 to 1988.** Kangaroo Pr. Pty Ltd. (POB 75 Kenthurst NSW 2156, Australia), 1988?. 176p, illus. \$32/22 pap. incl. air freight. Motor-truck road trains pulling 3-5 trailers in N. Australia. Rev.: *Wheels of Time*, Jan.-Feb. 1989, p32.

Mainline Modeler 10, Apr. 1989, includes articles on Pullman Leasing Co. (incl. grain, cement, potash and phosphate hoppers), and on LCL containers, 1920s-40s (part 1), as well as its usual list of RR historical groups, ads for structures (signal bridge, wood pile trestle, water columns, minehead [325], misc. industrial structures and depots) and rolling stock (1890-1903 Chinkapin Car & Foundry gondolas; HO steel coils for your steel coil cars). See esp. p78, for full info on **GG1 electric locomotive model, only \$5000:** 29" long, 21-lb. 1/32-scale brass model; only 139 to be built (same no. as original). Model, free brochure, and \$5 color portfolio on GG1 model and accessories avail. from several sources, incl. Marketing Corp. of Amer., 4838 Leafdale, Royal Oak, Mich. 48073. *Mainline Modeler* itself avail.: \$30/yr., 5115 Monticello Dr., Edmonds WA 98020.

Gilbert Mers, **Working the Waterfront: The Ups and Downs of a Rebel Longshoreman.** Univ. of Tex. Pr. (Austin), 1988. 298p. \$20.

Carla Rahn Phillips, **Six Galleons for the King of Spain: Imperial Defense in the Early 17th C.** Johns Hopkins Univ. Pr. (Baltimore MD), 1986. 332p, illus., tables, notes, bibliog., appendixes, index. \$38. Incl. ship-building technology. Rev.: *Technology & Culture* 29, Oct. 1988, p947-9.

William D. Phillips, "Spain's Northern Shipping Industry in the 16th Century." In *J. of European Economic Hist.* 17, Fall 1988, p267-301.

Lawrence Popplewell, ed., **A Gazetteer of the Rwy. Contractors and Engineers of Central England, 1830-1914.** Melledgen Pr. (71 Thornbury Rd., Southbourne, Bournemouth BH6 4HU U.K.), 1986. 48p. 5. pap. Rev.: *Railroad History* No. 159, Autumn 1988, p93-4.

Santa Fe Modeler, 4th Quarter 1988, focuses on AT&SF refrigerator cars, incl. icing operations. (Avail.: Santa Fe Modeler Organization, 3458 Webb Chapel Ext., Suite 120, Dallas TX 75220, with \$15 annual membership).

Valerie Stewart & Vivian Chadwick, **Changing Trains: Messages for Management from the ScotRail Challenge.** David & Charles (N. Pomfret VT 05053), 1987. 190p. \$26. Scotland; changing attitudes, from top to bottom; emphasis on customer; result: "the best-managed and most innovative of all British Rail's regions," according to rev. in *Railroad History* No. 159, Autumn 1988, p99-100.

John F. Stover, "The Illinois Central and the Growth of Illinois and Chicago in the 1850s." In *Railroad History* No. 159, Autumn 1988, p39-50.

Shelton Stromquist, **A Generation of Boomers: The Pattern of Railroad Labor Conflict in 19th-C America.** Univ. of Ill. Pr. (Champaign), 1987. 372p, illus., appendixes, bibliog., index. Rev.: *Technology & Culture* 29, Oct. 1988, p918-9.

Jesse Stuart, **A Ride with Huey the Engineer.** Jesse Stuart Foundation (POB 391, Ashland KY 41114), 1988?. \$12/6 pap. 2 vol. in 1: a juvenile story of a little boy's ride on the Eastern Ky Rwy., and a non-fiction memoir of the EK based on recollections of Stuart's father and grandfather.

Thomas T. Taber III, **Railroads of Pennsylvania: Encyclopedia and Atlas.** Published by the author (504 S. Main St., Muncy PA 17756), 1988. 500p. \$50. 2500 RRs. Rev.: *Railroad History* No. 159, Autumn 1988, p89-90.

MISC. INDUSTRIES

Bruce Ashcroft, "Gustav Albert Billing: Smelterman of the American West." In *Midwest Rev.* 10, Spring 1988, p1-13.

E. Ashtor, "Catalan Cloth on the Late Medieval Mediterranean Markets." In *J. of European Economic Hist.* 17, Fall 1988, p227-257. Woolen textiles, 14th-15th C.

Mildred Gwin Andrews, **The Men and the Mills: A History of the Southern Textile Industry.** Mercer Univ. Pr. (Macon GA), 1987. 383p. \$35.

James R. Barrett, **Work and Community in the Jungle: Chicago's Packinghouse Workers, 1894-1922.** Univ. of Ill. Pr. (Champaign), 1987. 306p, illus., appendixes, index. \$25. Rev.: *Technology & Culture* 29, Oct. 1988, p924-5.

John Bodnar, "Power and Memory in Oral History: Workers and Managers at Studebaker." In *J. of Amer. Hist.* 75, Mar. 1989, p1201-21. Auto mfg., South Bend, Ind., 1930s to end of production in 1963.

Cynthia Cockburn, **Brothers: Male Dominance and Technological Change.** Pluto Pr. (Dover NH), 1986. 264p, notes, index. \$9 pap. British printing industry, mostly 1950 - present; good on technological change. Rev.: *Technology & Culture* 29, Oct. 1988, p937-9.

Downey Inc.: Mechanical Contractors / Engineers; a Tradition of Quality Since 1863. Downey Inc. (2207 W. Wisconsin Ave., P.O. Box 1155, Milwaukee WI 53201-1155), 1988? 24p, illus., no price given.

R. K. Fleischman, **Conditions of Life Among the Cotton Workers of Southeastern Lancashire, 1780-1850.** Garland Publishing (NY), 1985. ??p. England.

Alan Fowler & Terry Wyke, eds., **The Barefoot Aristocrats: A History of the Amalgamated Association of Operative Cotton Spinners.** George Kelsall (Littleborough UK), 1987. 286p. £13. British. Rev.: *Amer. Hist. Rev.* 94, Apr. 1989, p442-3.

Gay L. Gullickson, **Spinners and Weavers of Auffyay: Rural Industry and the Sexual Division of Labor in a French Village, 1750-1850.** Cambridge Univ. Pr. (NY), 1986. 266p, tables, notes, appendix, bibliog., index. \$35. Rev.: *Technology & Culture* 29, Oct. 1988, p934-5.

Malou Haine, **Les facteurs d'instruments de musique à Paris au XIXe siècle: Des artisans face à l'industrialisation.** Université de Bruxelles (Brussels, Belgium), 1985. 472p. \$? Social history of small and large musical instrument makers and industrialization in 19th-C France. Rev.: *Amer. Hist. Rev.* 94, Feb. 1989, p163.

John Alfred Heitmann, **The Modernization of the Louisiana Sugar Industry, 1830-1910.** La. State Univ. (Baton Rouge), 1987. 310p. \$35. Rev.: *Amer. Hist. Rev.* 94, Feb. 1989, p218-19; *J. of Amer. Hist.* 75, Mar. 1989, p1327.

John P. Hoerr, **And the Wolf Finally Came: The Decline of the American Steel Industry.** Univ. of Pittsburgh Pr. (PA), 1988. 703p. \$40/15 pap.

Russell Kostrzak, **Tigerton Lumber Co., "One Hundred Years," 1887-1987.** Tigerton Lumber Co. (Tigerton WI 54486), 1987. 34p, illus., no price given.

Wayne Lewchuk, **American Technology and the British Vehicle Industry.** Cambridge Univ. Pr. (NY), 1987. Idea of "labor effort bargain"; British industry as a "low wage - low effort compromise"; failure to adopt Ford system. Rev.: *Amer. Hist. Rev.* 94, Apr. 1989, p451-2.

Carter Litchfield (SIA), **History of Oleomargarine Tax Stamps and Licenses in the U.S.** Olearius Editions (Drawer H-9, Kemblesville PA 19347), 1989? 128p, illus. \$29 ppd. Federal and state; incl. collecting.

John William Lozier, **Taunton and Mason: Cotton Machinery and Locomotive Manufacture in Taunton, Mass., 1811-1861.** Garland (NY), 1986. Reprint of 1978 Ph.D. dissertation. 549p. \$82. Mainly textile machinery, but also Taunton Locomotive Mfg. Co. (1846-); shop descriptions. Rev.: *Railroad History* No. 159, Autumn 1988, p86-7.

Kris Major, **"The Yankee Fork Dredge and Its Community."** In *Idaho Yesterdays* 32, Summer 1988, p22-34.

Carolyn Marvin, **When Old Technologies Were New: Thinking About Electric Communication in the Late 19th C.** Oxford Univ. Pr. (NY), 1988. 278p. \$35. Telephone and telegraph. Rev.: *J. of Amer. Hist.* 75, Mar. 1989, p1348-9.

Ruth Milkman, **Gender at Work: the Dynamics of Job Segregation by Sex during World War II.** Univ. of Ill. Pr. (Champaign), 1987. 228p, illus., tables, notes, index. \$33/9 pap. Esp. auto and electrical industries. Rev.: *Technology & Culture* 29, Oct. 1988, p936-7.

Patrick Nunnally, **"From Churns to 'Butter Factories': the Industrialization of Iowa's Dairying, 1860-1900."** In *Annals of Iowa* 49, Winter 1989, p555-69.

Roy Talbert, Jr., **FDR's Utopian: Arthur Morgan of the TVA.** Univ. Pr. of Miss. (Jackson), 1987. Tennessee Valley Authority; electric power industry, 1930s. Rev.: *Amer. Hist. Rev.* 94, Feb. 1989, p232-3.

Gene Tollefson, **BPA and the Struggle for Power at Cost.** U.S. Government Printing Office (Wash. DC), 1987. 439p, illus., maps, bibliog., index. \$36. Bonneville Power Administration, Columbia River, Wash./Oregon. Rev. in *Public Historian* 11, Winter 1989, p81-83 compares it unfavorably to William F. Willingham, **Water Power in the "Wilderness": the History of Bonneville Lock and Dam** (U.S. Army Corps of Engineers, Portland District, Ore., 1987, 73p, \$4 pap.), previously noted.

Anne H. Tripp, **The I.W.W. and the Paterson Silk Strike of 1913.** Univ. of Ill. Pr. (Champaign), 1987. 331p, illus., appendix, bibliog., index. \$30. Paterson, N.J. Painstaking account of strike, but little on technology or workers, according to rev. in *Technology & Culture* 29, Oct. 1988, p928-9; *Amer. Hist. Rev.* 94, Feb. 1989, p231.

STRUCTURE

American Architecture. Subject of *Cobblestone; the History Magazine for Young People* 9, Aug. 1988. 48p. (Avail.: 20 Grove St., Peterborough NH 03458).

Bernd Becher & Hilla Becher, **Watertowers.** MIT Pr. (Cambridge MA), 1988. 223 duotone photos. Brief text by Reyner Banham & Weston Naef. \$50. The Bechers' traditional stark, deliberately undramatized records of a variety of these utilitarian structures in the U.S. and Europe (heavily Germany) but making clear the strong connection between purely functional industrial structures and architecture. The duotones, incidentally, are nothing less than exquisite. — *R.M.V.*

Nan Bolling & Henrietta Watson, **"Spanning Time: Touring West Virginia's Covered Bridge."** In *Goldenseal* 14, Summer 1988, p32-9.

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Zeynep Çelik, **The Remaking of Istanbul: Portrait of an Ottoman City in the 19th-C.** Univ. of Wash. Pr. (Seattle), 1986. 201p., illus., maps, dwgs. \$25. Westernization of a Turkish city; incl. bridges, ferries, RRs, grand schemes never built (Bosporus bridge). Rev.: *Amer. Historical Rev.* 93, Oct. 1988, p1094-5.

[City surveys:] Franklin Toker, **Pittsburgh: An Urban Portrait.** Pa. State Univ. Pr. (University Park), 1986. 351p, illus. \$17 pap. and William Dendy and William Kilbourn, **Toronto Observed: Its Architecture, Patrons and History.** Oxford Univ. Pr. (Toronto), 1986. 327p, illus. \$35 Canadian. Rev. together in *J. of the Soc. of Architectural Historians* 47, Mar. 1988, p94-5.

Ira G. Clark, **Water in New Mexico: A History of Its Management and Use.** Univ. of N.M. Pr. (Albuquerque), 1987. 839p. \$50. Incl. Elephant Butte dam and reservoir.

Daniel Cohen, **"Back on Track in New Jersey."** In *Historic Preservation* 41, Mar./Apr. 1989, p42-49. RR depot preservation efforts; color photos.

Robert P. Emlen, **Shaker Village Views: Illus. Maps and Landscape Drawings by Shaker Artists of the 19th C.** Univ. Pr. of New England (Hanover NH), 1987. 207p, illus. (some color). \$35. Rev.: *Amer. Hist. Rev.* 94, Feb. 1989, p216-7.

Mark Erlich, **With Our Hands: The Story of Carpenters in Mass.** Temple Univ. Pr. (Phila. PA), 1986. 239p, illus. \$30. Incl. United Brotherhood of Carpenters and Joiners, 1700s-present; women and minorities. Rev.: *Oral Hist. Rev.* 16, Spring 1988, p166-8.

Bruce W. Fry, **'An Appearance of Strength': The Fortification of Louisburg.** Parks Canada, Natl. Historic Parks & Sites Br. (Ottawa, Ontario), Studies in Archaeology, Architecture, and History, 1984. 226p, illus., glossary. \$23 pap./\$27 outside Canada. French fort at Cape Breton, Newfoundland, 1719-1760, restored 1961-1969. Rev.: *Historical Archaeology* 22, No. 1, 1988, p112-14.

Stephen C. Gordon, **"House Building by Machinery: the Cincinnati Experience, 1850-1870."** In *Pioneer America Society Transactions* 11, 1988, p33-43.

Alan Hensher and Larry Vredenburg, **Ghost Towns of the Upper Mojave Desert: A Special Research Report.** Publ. by the author (Los Angeles; no further info), 1987. 209p, illus., maps, bibliog., index. \$22 pap. Life in a high desert mining community; "cheaply photocopied and bound with brass brads." Rev.: *J. of the West* 27, Apr. 1988, p101-02.

Carol Highsmith & Ted Landphair, **Union Station: A Decorative History of Washington's Grand Terminal.** Chelsea Publ. (1300 G St. NW, Washington DC 20005), 1988. 96p. \$20. The history of Burnham's magnificent Wash., D.C., terminal from the initial planning (1903) through construction, opening, and operation, to the recent chapters: the fiasco of the Bicentennial 'visitor's center' and the recent rescue and restoration in initial grandeur. Heavily illus. with period and recent photos, some in color. The highlights of the saga are noted, particularly the celebrated runaway that dropped the engine (GG1) of the Federal Express through the concourse floor when it failed to stop at track's end. First-rate. — *R.M.V.*

Thomas C. Hubka, **Big House, Little House, Back House, Barn; the Connected Farm Buildings of New England.** Univ. Pr. of New England (Hanover NH?), 1984. 240p, illus. \$35. 19th-C., s.w. Maine. Rev. by David R. Starbuck (SIA) in *Historical Archaeology* 22, No. 1, 1988, p114-15.

J. of the Soc. of Architectural Historians 47 includes reviews of 5 general histories of architecture (Mar. 1988, p74-80), 3 books on Swedish architecture (June 1988, p203-5), and 4 books on Amer. domestic architecture (June 1988, p208-12). See other entries in this section for further *JSAH* entries of IA interest.

David Koshman, **"Stabilizing Ruins: Coal Mining Ruins at Leitch Collieries."** In *APT Bulletin; the Journal of Preservation Technology* 20, No. 4, 1988, p55-61.

Michael Kline et al, **"We're Here to Take You Out! Evictions of Lewis County, W. Va., Farmers for the Stonewall County Dam; a Radio Documentary."** In *Oral Hist. Rev.* 15, Fall 1987, p1-41. Dam constr. c.1978-1985. [Related 54-min. program avail. from "The Home Place," Augusta Heritage Center, Davis & Elkins College, Elkins WV 26241.]

Hilton Kramer, **"Sublime Meets Ridiculous."** In *Art & Antiques*, December 1988, p109-10. The "over-grandiose" 1898-1900 Gare d'Orsay "railway station-palace," Paris, France, now the Musée d'Orsay, home of "some of the worst art produced in the 19th-C;" transformed into a museum by Gae Aulenti, "whose ideas have done much to make the Orsay an even more ludicrous experience than it might otherwise be."

Glenn V. Longacre, Barbara J. Howe, Emory L. Kemp, & Jeffrey Harpold, **Covered Bridges in West Virginia**. Brochure, gratis. Historical background, incl. wooden truss types; location and data on 17 extant bridges. Avail.: W. Va. Dept. of Commerce, 2101 Washington St. E., Building 17, Charleston WV 25305.

Mansfield Merriam, "The Strength and Weathering Qualities of Roofing Slates." Excerpted from *Transactions of the Amer. Soc. of Civil Engineers* 27, Sept. 1892, p331-348, in *Technology & Conservation* 9, Nos. 3-4, 1985-88 [sic], p12-17. Soft slates of Northampton County, Pa.

David B. Miller, "Monumental Building as an Indicator of Economic Trends in Northern Rus' in the Late Kievan and Mongol Periods, 1138-1462." In *Amer. Hist. Rev.* 94, Apr. 1989, p360-90. Russia; masonry & brick construction.

David Neufeld [SIA], "Security, Approval and Mastery—Symbols of Saskatoon: The Cultural Baggage of Some Settlers in Western Canada." In *Prairie Forum* 13, Fall 1988, p159-172. Saskatoon, Saskatchewan, late 19th-C-1930s, incl. riverfront greenery vs. RR development, 5 bridges over Saskatchewan River.

Jeffrey Karl Ochsner, "Architecture for the Boston and Albany Railroad: 1881-1894." *J. of the Soc. of Architectural Historians* 47, June 1988, p109-131. Incl. photos and drawings; lists of commissions of H. H. Richardson and of Shepley, Rutan and Coolidge.

Tim Palmer, **Endangered Rivers and the Conservation Movement**. Univ. of Cal. Pr. (Berkeley), 1986. 331p, illus., notes, index. \$25/13 pap. Dam-building conflicts, mostly 20th C, esp. since 1960. Fails to ask "probing, insightful questions" according to rev. in *Technology & Culture* 29, Oct. 1988, p973-4.

Darl Rastorfer, "Reroofing a Landmark." In *Architectural Record*, Feb. 1989, p124-27. Replicating the orig. tinplate on the pavilions of the Univ. of Va., designed by Thomas Jefferson (1817-1826).

Roman aqueducts: 2 items by George F. W. Hauck [SIA], related to the aqueduct at Nemausus (now Nîmes) that is carried across the Gardon Valley on the Pont du Gard; built in 19 B.C. as part of a 50-km. water system:
— **The Aqueduct of Nemausus**. McFarland & Co. (Box 611, Jefferson NC 28640), 1988. 224p, illus., glossary, notes, bibliog., index. \$26.
— Hauck & Richard A. Novak, "Water Flow in the Castellum at Nîmes." In *Amer. J. of Archaeology* 92, 1988, p393-407. Esp. distribution basin and gate mechanism; mathematical.

Ann H. Schiller, "Charles F. McKim and His Francis Blake House." In *J. of the Soc. of Architectural Historians* 47, Mar. 1988, p5-13. Early McKim clapboard- and shingle-siding wood-frame residence, constr. 1873-1875, Weston, MA; incl. architectural dwgs.

Rebecca Read Shanor, **The City That Never Was**. Viking Penguin (NY), 1988. 271p, illus., notes, bibliog., index. \$35. Subtitled: "200 years of . . . plans that might have changed the face of New York City." Chapters on streets, public buildings, transportation, bridges, parks, monuments.

J. B. Smallwood, Jr., "Grassroots Oral History: Environmentalist Opposition in Two Texas Water Controversies." In *Oral Hist. Rev.* 15, Fall 1987, p97-114. Abortive attempts to make seaports of Fort Worth and Dallas by constructing the Trinity River Barge Canal to connect them with the Gulf of Mexico from 1850s, but mostly 1960s; and to transfer water 2000-4000 ft. uphill from E. Tex. to W. Texas High Plains, 1970s.

Nancy Shatzman Steinhardt, "Toward the Definition of a Yuan Dynasty Hall." In *J. of the Soc. of Architectural Historians* 47, Mar. 1988, p57-73. China, c.1271-1368; heavy timber frame constr.

Katherine Cole Stevenson and H. Ward Jandl, **Houses by Mail: A Guide to Houses from Sears, Roebuck and Co.** Preservation Pr. (Wash. DC), 1986. 368p, illus. \$25. Rev.: *J. of the Soc. of Architectural Historians* 47, June 1988, p212-13.

The Stone Carvers. Video, color, 16mm film and 3/4" tape, by Marjorie Hunt and Paul Wagner in cooperation with the Smithsonian Institution Office of Folklife Programs (Wash. DC), 1984. Italian-Amer. stonecarvers; National Cathedral, Wash., D.C., under constr. since 1907. (Avail.: Distributor Direct Cinema Ltd., P.O. Box 69589, Los Angeles, CA 90069). Rev.: *Oral Hist. Rev.* 16, Spring 1988, p198-200.

Harry B. Titus, Jr., "The Auxerre Cathedral Chevet and Burgundian Gothic Architecture." In *J. of the Soc. of Architectural Historians* 47, Mar. 1988, p45-56. France, 1215-1300s; stone fabric altered and modernized while under constr.

Dell Upton, ed., **America's Architectural Roots: Ethnic Groups That Built America**. Preservation Pr. (Washington DC), 1986. ??p, illus., bibliog., index. \$10 pap. Incl. specific technologies and building types. Rev.: *Public Historian* 11, Winter 1989, p78-9.

Robert M. Vogel [SIA], **A Museum Case Study: The Acquisition of a Small Residential Hydraulic Elevator**. Smithsonian Studies in Hist. & Tech., No. 50. Smithsonian Institution Pr. (Wash. DC), 1988. 41p. Gratis, while they last. Documentation and removal to NMAH of an elevator powered by city water pressure.

A. K. Zielinski, **Conservation of Cemeteries; the Treatment, Repair, and Maintenance of Cemetery Objects and Their Environment**. Roberts Seymour & Associates Limited (Suite 6, 6068 Netherhart Road, Mississauga, Ontario L5T 1M6), 1989. 2d ed. 126p, illus. Avail. in 2 formats: Designer / Professional, 3-ring bound, 110-lb. stock, \$62 ppd.; and 3-ring or soft bound, 25-lb. stock, \$33 ppd. Incl. stonework.

MATERIALS

William Ashworth, **The History of the British Coal Industry, Vol. 5, 1946-1982: The Nationalized Industry**. Oxford Univ. Pr. (NY), 1986. 731p, illus., tables, notes, appendixes, bibliog., index. \$98. Rev.: *Technology & Culture* 29, Oct. 1988, p975-7.

Wayne L. Balle, "I Owe My Soul": An Architectural and Social History of Kenilworth, Utah." In *Utah Historical Q.* 56, Summer 1988, p250-77. Coal mining town.

[Diamonds]: two books reviewed together both in *J. of Economic History*, June 1988, p482-484, and *Labor History*, Spring 1988, p285-287:

Robert Vicat Turrell, **Capital and Labour on the Kimberley Diamond Fields, 1871-1890**. Cambridge Univ. Pr. (NY), 1987. 315p. \$43.

William H. Worger, **South Africa's City of Diamonds: Mine Workers and Monopoly Capitalism in Kimberley, 1867-1895**. Yale Univ. Pr. (New Haven CT), 1987. 346p. \$30.

Michael Dintenfass, "Entrepreneurial Failure Reconsidered: The Case of the Interwar British Coal Industry." In *Business History Rev.* 62, Spring 1988, p1-34. Concludes that mismanagement was an important cause of the industry's misfortunes in the 1920s and 1930s because managers did not use available innovations in extraction, organization, and marketing.

G. Robert Ganis, "Iron-mining Store Scrip in Pa." In *Pa. Geology* 19, June 1988, p2-5. Bibliog. Scrip redeemable at the company store of small rural iron works, 1850s, often printed with an engraving of the furnaces. Four examples reproduced on cover and in article.

Robert B. Gordon [SIA], et al, **Toward a New Iron Age? Quantitative Modeling of Resource Exhaustion**. Harvard Univ. Pr. (Cambridge MA), 1987. Computer simulation of the competitive market for copper over the next 150 years; extraction rates; use of low-grade ore; recycling and substitution of other materials (aluminum; optical fibers). Rev.: *Technology & Culture* 29, Oct. 1988, p974-5.

Doris M. Ladd, **The Making of a Strike: Mexican Silver Workers' Struggles in Real del Monte, 1766-1775**. 18th-C. Mexico. Rev.: *J. of Amer. Hist.* 75, Mar. 1989, p1306-7.

Carlyn Saltman, et al, **The Blooms of Benjeli: Technology and Gender in West African Iron-Making**. Videocassette, Saltman Productions (Somerville MA), 1986, 28 min., color, VHS or 3/4" **Resource Guide**, 1987, 20p, bibliog., paper. \$275 purchase; \$45 rental; unspecified charge for extra Guides. Avail.: Documentary Educational Resources, 101 Morse St., Watertown, MA 02172. Rev.: *Technology & Culture* 29, Oct. 1988, p932-4.

Steven Tolliday, **Business, Banking, and Politics: The Case of British Steel, 1918-1939**. Harvard Studies in Business History, No. 39. Harvard Univ. Pr. (Cambridge, MA), 1987. 439p. \$42. Rev.: *Amer. Hist. Rev.* 94, Feb. 1989, p144-145.

Robert David Ward & William Warren Rogers, **Convicts, Coal, and the Banner Mine Tragedy**. Univ. of Ala. Pr. (Tuscaloosa), 1987. 169p, illus., appendixes, notes, index. \$20. Mine explosion, 1911; the state continued to lease prison labor (mostly blacks) until 1927. Rev.: *Georgia Historical Quarterly* 72, Spring 1988, p184-5.

Ulrich Wengenroth, **Unternehmensstrategien und technischer Fortschritt: Die deutsche und die britische Stahlindustrie 1865-1895**. Vandenhoeck und Ruprecht (Göttingen), 1986. 316p. DM68. German and British steel industries. Rev.: *Amer. Hist. Rev.* 94, Apr. 1989, p432-3.

Readers are urged to send all notices of pertinent publications to John M. Wickre, Compiler, Publications of Interest, SIA Newsletter, P.O. Box 65158, St. Paul MN 55165-0158 (612-296-6980).

L&RP marks third year, looks to wider IA readership

With issue No. 18, Jan.-Feb. 1989, the bi-monthly *Locomotive & Railway Preservation* celebrates its third anniversary. L&RP is an institutional member of SIA and editor and publisher Mark Smith reports that he views railway preservation in its broadest terms, incorporating IA material whenever possible. Going further, in fact, Smith says that he tries to place "railroading in L&RP in a larger social, economic and even political context." Most SIA members would be happy enough with any serious attention given to sites and structures, and in response Smith states flatly that "L&RP is more IA-oriented than any other rail publication."

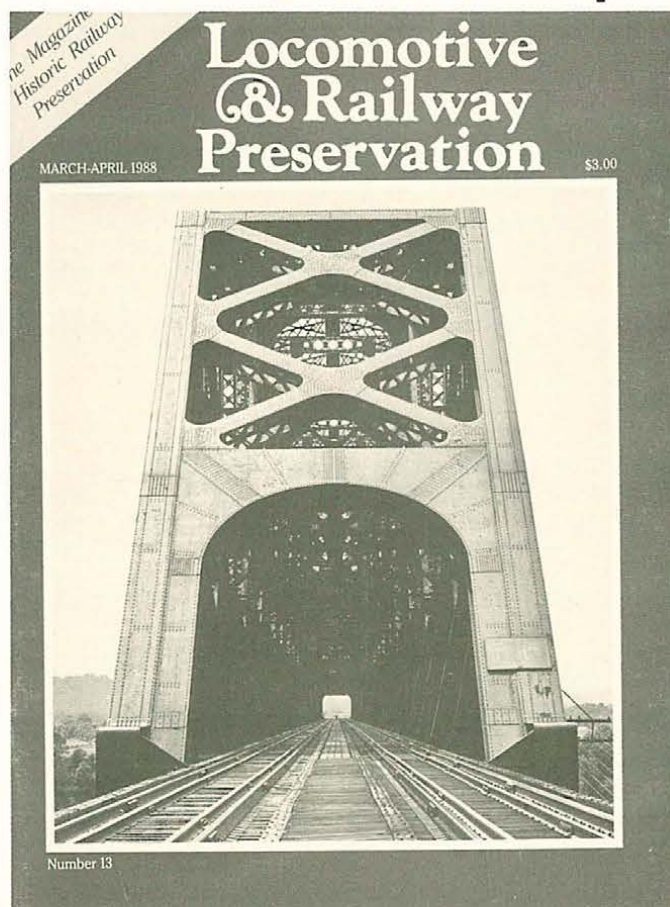
Every issue includes a "Preservation News" column (it's not the only rail magazine to do so) that includes reports on historic structures, and articles and news notes often focus on rail-oriented museums and on what might be called "rail museology."

Probably the most IA-oriented number was the special bridge issue (No. 13, Mar-April 1988), which was inspired by the publication of Richard Cook's book, *The Beauty of Railroad Bridges, Then & Now*. One of L&RP's strengths is its emphasis on fine photography, and the issue did justice to photographer Cook's bridge work, including some breath-taking views. Bridges remained the focus and were not relegated to scenic backgrounds for rolling stock.

L&RP, acronymed "Eleanor P." at the editorial office, was founded by Mark Smith, then a professor of educational psychology at the Univ. of Vermont with an interest in history and railroads. He was joined by Michelle Giroux, now executive editor, who had an interest in literature and, in Smith's words, "sees railroading as an expression of culture rather than a collection of nuts and bolts."

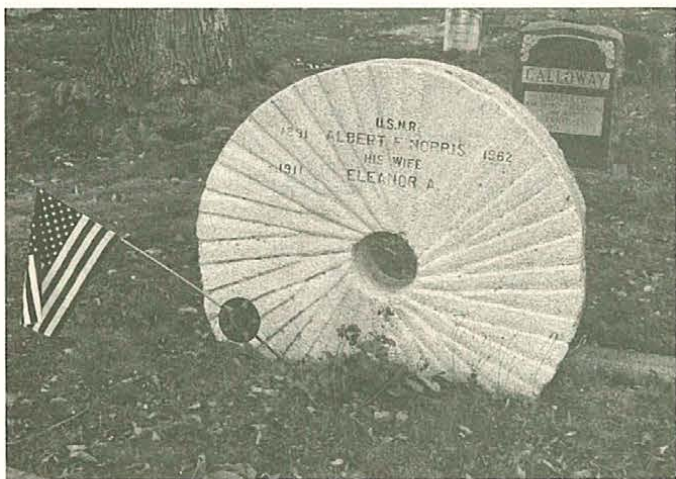
Circulation began at 3,500 and now approaches 15,000, increasing at about 500 a month. There are some 9,000 subscribers and close to 6,000 copies sold in hobby shops. Smith's guess at future circulation is 30,000 to 40,000 in five to ten years. Currently, he reports, 60% of all new subscribers purchase every back issue.

The editors would welcome articles from SIA members, they say, and seek diversity in article selection, with topics ranging from railroad art to bridges, with a focus on steam. They also like "to tell any story of technical evolution, including engines, cars, buildings, etc." Length runs from 300 to 3,000 words and L&RP pays five to eight cents per word



on acceptance. Top-notch photography also is solicited, and earns \$10 to \$30 for black and white, with color starting at \$30. A cover earns \$120. For submission guidelines contact Mark Smith, Editor & Publisher, L&RP, POB 95, Richmond VT 05477 (802-434-2351).

UNEXPECTED IA



David Shayt photo.

MILLSTONE GRAVESTONE marks the burial site of Albert F. Norris in the Norwell, Mass., town cemetery. Norris owned a nearby grist-mill and foundry. This is the lower (bed) stone of a two-stone "run," and is granite. The stone's cut is a straight, left-hand, radial dress. Millstones used as grave markers are not necessarily unknown, but 1962 is an unusually recent date for the practice. D.S.



CANCELLED IA. Bridge Station at Fort Benton, Mont. (59442), produced this special cancellation to observe the centenary of the Fort Benton Bridge, Montana's first all-iron vehicular truss, and the oldest surviving bridge of any type in the state (according to Fred Quivik [SIA]). The original bridge, built by the Milwaukee Bridge & Iron Works for the Gt. Northern Rwy., consisted of one Pratt (75') and three Baltimore (175' each) through-truss spans, with a 225' Pratt truss swing span. In 1925 the swing span was replaced with a Parker through-truss (foreground in the cancellation).

L.D.

NOTES & QUERIES

ADVISORY COUNCIL REPORT AVAIL. Free copies of the Advisory Council on Historic Preservation's annual *Report to the President & Congress* for 1988 (94 p.) are available upon request from the Office of Communications & Publications, ACHP, 1100 Pennsylvania Ave. NW., Suite 809, Wash. DC 20004. Along with the annual review of Section 106 activities, the report includes lists of value to preservationists, such as the name-address-phone lists of the designated preservation officers for all federal agencies and of all state historic preservation officers. Also available is "Fact Sheet: General Information," listing all publications provided by the ACHP, most of which are free.

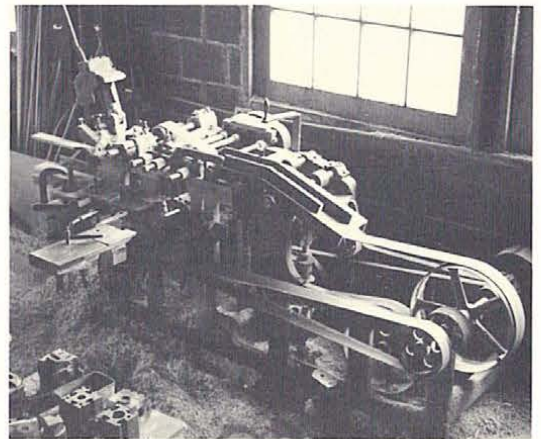
1990-91 NEH FELLOWSHIPS. There are two competitions. "Fellowships for College Teachers & Independent Scholars" is intended for faculty and staff of two- and four-year colleges that do *not* grant the Ph.D., individuals affiliated with museums, libraries, and historical societies, and scholars and writers working independently. "Fellowships for University Teachers" is for faculty and staff of Ph.D.-granting universities and of postgraduate professional schools. The programs are designed to support a range of people from those who have made significant contributions to the humanities to those who stand at the beginning of their careers. Work may contribute to scholarly knowledge, to the conception and substance of individual courses in the humanities, or to the general public's understanding of the humanities. Projects may address broad topics or consist of study and research in a single field. Tenure: 6 to 12 mos.; max. stipend: \$27,500; application deadline: June 1, 1989; notification: mid-Dec., 1989. Info.: Div. of Fellowships & Seminars, Rm. 316, NEH, 1100 Pennsylvania Ave. NW., Wash. DC 20506 (202-786-0466).

U. OF VT. ARCHAEOLOGY FIELD SCHOOL at Mt. Independence in Orwell, Vt., July 3-Aug. 11, will be taught by David Starbuck [SIA; *JA* editor]. Mt. Independence is considered to be the most intact major Revolutionary War military site and, since reverting to forest and pasture, has remained largely untouched. Info.: Continuing Ed., U. of Vt., 322 S. Prospect St., Burlington VT 05401-3505 (802-656-2085).

"UNDER THE SKIN: THE CHANGING ANATOMY OF THE AMERICAN AUTOMOBILE" opened in Mar. at the Detroit Historical Museum. The exhibit examines the development of the automobile chassis, from the earliest horseless carriages to the latest front-wheel drive cars. Featured are the 1901 Huntingburg (one-wheel drive), 1909 Brush (wooden frame & axles), 1934 Chrysler Airflow (one of the most advanced chassis of its day), and the 1984 Fiero. Info.: DHS, 5402 Woodward Ave. (at Kirby), Detroit MI 48202 (313-833-1419).

TEXTILE HISTORY RESEARCH SUPPORT. Graduate students writing doctoral dissertations related to the role of textile manufacturing in American history are eligible to apply for financial support from the Museum of American Textile History. One or more Sullivan Fellowships is awarded annually after proposals are reviewed. Info.: Editorial & Research Committee, MATH, 800 Massachusetts Ave., N. Andover MA 01845 (617-686-0191).

"COAL PATCH: A WORKSHOP ON HISTORIC COAL COMPANY TOWNS" will be held June 22-24 in Johnstown, Pa., site of a day-long tour during the 1988 SIA annual conf. Papers will discuss the similarities and differences of coal-company towns in the Appalachian region, including physical layout and structures, paternalism, labor relations, and culture. Issues of research, survey, National Register listing, and interpretation also will be addressed. Sponsored by America's Industrial Heritage Project and HABS/HAER, and hosted by the Johnstown Flood Museum, the workshop will include a field trip to nearby company towns. Info.: Coal Patch, HABS, NPS, POB 37127, Wash. DC 20013-7127, or call Kim Hoagland at 202-343-9601.



One of Monitor Millwork's sash stickers, an American No. 3½, saved from the scrapper. Donovan Harding photo.

MACHINERY WANTED. Monitor Millwork in Mount Angel, Oregon, is interested in acquiring, for restoration and use in a working museum-type setting, late 19th-C sash & door manufacturing machinery, e.g. sash or door stickers, tenoners, morticers, small planers, matchers, and moulders. Machines can be in any condition, but must be complete. MM also is interested in literature about tooling of the period. Contact Donovan Harding, Belts & Babbetts, c/o Monitor Millwork, POB 482, Mount Angel OR 97362 (503-634-2260).

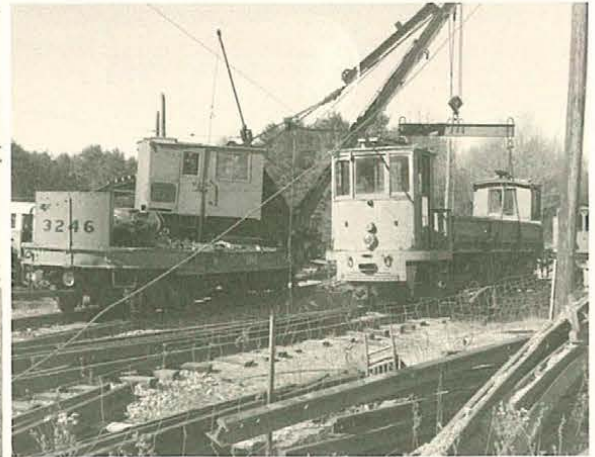
RECENT DESIGNATIONS. The **Hocking Valley Railway Historic District**, southeast of Columbus, Ohio, along the 13-mile right-of-way of the Hocking Valley Scenic Rwy., has been listed on the National Register. The largely rural district includes steel bridges across the Hocking River and tributaries; the Haydenville depot; the Nelsonville yard office, coal dock, and engine house; and the RR car shops and baggage building in Logan. Even the HVSR's wooden caboose, built in the Logan shops, and 1916 Baldwin steam locomotive are listed as part of the district. The HVR comprised a single-track main line and a series of branch lines built in the 1860s as the Columbus & Hocking Valley RR. In the 1870s the Columbus & Toledo connected, increasing rail traffic and ensuring the flow of Hocking Valley coal to booming markets in northwestern Ohio. Locally manufactured clay products, including building and paving brick, tile, and sewer pipes, were transported by the HVR. In the 1930s the line was incorporated in the C&O Rwy. Thomas Dixon [SIA] of the C&O RR Hist. Soc. contributed info. to the NR nomination.

A container-handling crane for the shipping industry was redesignated as an Intl. Historic Mechanical Engineering Landmark by the American Soc. of Mechanical Engineers (ASME) at its new home in the Port of Nanjing, China, where representatives of the Chinese Mechanical Engineering Society participated in the presentation of a bilingual plaque. The **world's first high-speed, dockside container handling crane** was last used in the U.S. at the Encinal Terminal in Alameda, Calif., where it originally received U.S. designation in 1983. Before this type of crane became the industrial norm, teams of longshoremen handled approximately nine tons of cargo per hour using the ships' burtoning gear. The first high-speed container crane handled a 20-ton container every three mins. This accelerated productivity to 400 tons per hour.

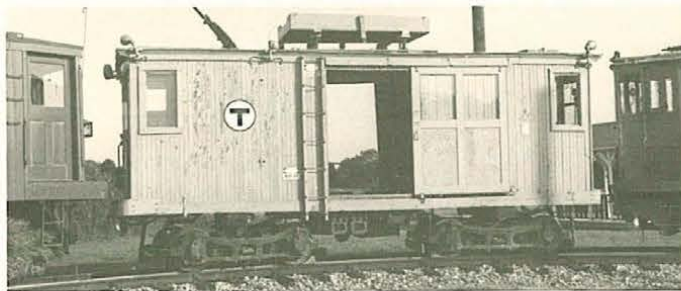
The **railroad bridge across the Mississippi at Memphis**, still used by the Burlington Northern, has been designated a Natl. Historic Civil Engineering Landmark. Designed by George S. Morison and opened in 1892, it was the third longest railroad bridge in the world. The huge steel cantilever has one 790', and two 660', spans.

THE TOOLS & TRADES HISTORY SOCIETY was founded in 1983 "to further the knowledge and understanding of hand tools and the trades and people that used them." The society publishes an annual journal, *Tools & Trades* (a recent study was "The Tools of the Quebec Cooper, 1684-1752"), and a quarterly newsletter. Info.: The Secretary, TATHS, 275 Sandridge Lane, Bromham, Chippenham, Wilts, England SN15 2JW.

Seashore Trolley Museum celebrates 50th, displays work cars, others



OF IA INTEREST AT THE SEASHORE TROLLEY MUSEUM. *Left & above:* No. 3246, trolley crane built by Industrial for Boston Elevated Rwy. in 1916. *Left below:* Wire-repair, roof-platform trolley no. 4, converted from a passenger car. Built for Claremont (N.H.) Rwy., date unknown. Since retiring to Seashore, it has been borrowed by Boston transit for occasional work duty. *Below:* Subway crane from Boston Elevated Rwy. *Bottom:* No. 2016, trolley flatcar built in 1912 for Boston Elevated Rwy. Photos courtesy Seashore Trolley Museum.



This is the 50th anniversary of the Seashore Trolley Museum in Kennebunkport, Maine, which is planning a big July 4th bash to celebrate. The Museum is owned and operated by the not-for-profit New England Electric Railway Historical Society (its presence in Kennebunkport doubtless is the reason President Bush—a notorious IA buff—keeps a cottage there). As the world's largest electric-traction preservation society, Seashore owns some 180 vehicles from across the U.S. and around the world. Scheduled events of IA interest include:

- May 20: Subway Day—a guided tour of subway and elevated cars, including Phila. Art Deco Broad St. #1023, and others from N.Y.C. and Boston.
- June 3: Interurban Day
- June 10: New England Day—operating display of N.E. cars from the 1920s.
- June 17: Boston Day.
- June 24: Overseas Day—a tour and operating display of the foreign collection, including cars from Nagasaki, Hamburg, Sydney, Liverpool, and Rome.
- July 1-4: 50th Anniversary Celebration.
- July 8: Canada Day—operating trolleys from Canada, with half-price admission to Canadian visitors.
- July 15: Old Timer's Day—a selection of the earliest equipment.
- July 29: Old Timer's Day repeat.
- Aug. 12: Interurban Day repeat.
- Sept. 23: Trolley Freight & Work Equipment Day—demo. of selected equipment, including locomotives, crane cars, and mail & express car.

The museum, off U.S. 1, is open daily, 10 a.m. to 5:30 p.m., mid-June through Labor Day, with rides every half hour, and open weekends in spring and fall. Additional info.: NEERHS, Seashore Trolley Museum, P.O. Drawer A, Log Cabin Rd., Kennebunkport ME 04046-1690 (207-967-2712).



SIA AFFAIRS

LETTERS TO EDITOR

Dear Editor:

Congratulations on the tribute to Robert M. Vogel [SIAN Fall 88:4-8]. Vogel's "His own write," exceptionally modest and terse to the extreme, still conveyed his greatness. Confirmation by those notables from association is applause richly deserved. The National Trust award is inadequate. Let's commission a pertinent biography. Robert M. Vogel is one of a kind.

RICHARD H. MILLER
Cheshire, Conn.

Editor's Note: Regarding the tribute to himself in the Fall 1988 SIAN, Robert M. Vogel wishes to remind readers that the original concept for the formation of the SIA in 1971 emanated from Paul Rivard and Ted Sande. "I was little more than a cat's paw," Vogel recalls.

Dear Editor:

Regarding my letter on the "Derby locomotive" in the Fall 1988 SIAN, the reference to the number of Van Depoele- equipped electric railways should have been: "At the beginning of 1888. . . ." In 1881, the only electric rwy. in the U.S. was Edison's, at Menlo Park. In Jan. the U.S. Dept. of Trans. announced that their biennial award for Outstanding Service to Transportation and Historic Preservation was presented to the Branford Electric Railway Assn. for the preservation and restoration to running condition of the "Derby."

JOHN R. STEVENS
Greenlawn, N.Y.

LOCAL CHAPTERS

ROEBLING (Greater N.Y. area). New chapter officers are: Gerry Weinstein, president & newsletter editor; Charles Scott, vice president; Alan Spitz, treasurer; and Aron Eisenpress, secretary. Send newsletter material to Gerry's new Yupper West Side digs, 40 West 77th St., Apt. 17B, NY NY 10024 (H: 212-769-4946, O: 212-431-6100, studio: 212-219-1176).

KLEPETKO CHAP. (Mont.). While planning proceeds full-bore for the 1989 SIA Fall Tour in Butte, the chapter has found time to shoehorn-in its own Spring Tour in the state's Harlowtown area. The May 20-21 tour begins at the Martinsdale Hutterite Colony, with a special Sat. morning visit hosted by the self-sufficient residents. The afternoon will be spent at sites in the RR town of Harlowtown, and also include a nearby stone quarry and a small stud mill. Sunday's main event is a visit to a local missile silo, followed by a side trip to the townsite of Two Dot. The annual election of officers will be conducted during the weekend.

The Klepetko '88 Fall Tour was a wet-but-wonderful [according to the chapter newsletter account] trip to Great Falls, the "Electric City." The first site was the Rainbow dam complex, including the dam, regulating chamber, powerhouse, and northern region transmission control center. The powerhouse and dam were completed c1908-10, making it the oldest operating hydroelectric generating facility on the Missouri River. It has six original horizontal generators, driven by two "undershot" hydro-turbines; two more were added in 1916. Rainbow was built for the Butte mines and Anaconda smelter, and the twin 100 KV transmission lines were carried on c1910 steel towers, most of which survive. These are among the oldest steel-tower transmission lines still used in N. America. Next came the Ryan (formerly "Volta") plant, built in 1914 just above the Missouri River's Great Falls, for the Milwaukee Road's Rocky Mt. Div. electrification.

DETAILS SET FOR 18TH ANNUAL CONF., QUEBEC

—Thurs., June 1: Registration and official conf. opening, with address, "Introduction à l'histoire de la ville de Québec."

—Fri., June 2: Industrial Heritage Tour of the immediate Québec City region, including Papeterie Daishowa Itée (1926 mill), Tannerie Maranda et Labrecque, Sept-Chutes hydroelectric power plant (1916, 18.7 MW, Ambursen dam), The Gare du Palais, and The Pont de Québec (1917; world's largest cantilever bridge). Special evening session on maritime industrial heritage.

—Sat., June 3: Paper sessions & workshops, followed by conf. banquet at the Musée de la civilisation.

—Sun., June 4: Industrial Heritage Tours. Tour A: Saguenay/Lac Saint-Jean, including the abandoned Town of Val-Jalbert (pulp & paper, 1900-42), Jonquière & Shipshaw dam (Aluminerie Alcan, world's largest power plant in 1941), aluminum bridge (world's first, 1950), Chicoutimi pulp mill (1896). Tour B: La Mauricie, including Parc des forges du Saint-Maurice (1730-1883), Shawinigan industrial city, and Trois Rivières paper production center.

Language. The conf. will be in French & English. All printed material will be bilingual, guides and administrative personnel will offer services in two languages, and the Sat. paper sessions will have simultaneous translation.

Info. Organizing Committee, SIA Québec 1989, 12 rue Sainte-Anne, 2e etage, Québec City, Canada G1R 3X2 (conf. coordinator is M. Jean Lavoie, 418-646-4273).

NEWS OF MEMBERS

Apparently responding to the vast cosmic forces that govern the geographical distribution and balance of IA members in the universe, **SIA Vice President David L. Salay** has departed Pennsylvania and the east to assume the executive directorship of the Oklahoma Historical Society. Meanwhile, **SIA Secretary Nicholas Westbrook**, seemingly rooted permanently in Minnesota and the Midwest, now finds himself in Ticonderoga, N.Y., as executive director of Fort Ticonderoga. At a recent SIA board meeting the two were heard to remark in unison, regarding their dizzying transposition and respective elevations, "We're not in Kansas any more!"

GEORGE WATKINS, 1904-1989

George Watkins [SIA] of Bristol, England, one of the world's foremost authorities on stationary steam-engines, died on Jan. 13 at age 85. I first encountered George in 1971 at the Center for the Study of the History of Technology, Bath Univ. of Technology, where he held an Emeritus Fellowship from the Liverhulme Trust to create the Watkins Collection of mounted, annotated photographs of engines.

Prior to his 1965 appointment at Bath, George's life revolved around steam engines, and for over 50 years he made motorcycle forays across England to photograph his beloved engines with a large-format camera. In addition to his remarkable photographic record, he authored *The Stationary Steam Engine*, *The Textile Mill Engine* (vols. 1 & 2), and *The Industrial Archaeology of the Stationary Steam Engine* (with Angus Buchanan).

George was directly responsible for the American Stationary Steam Engine Inventory (ASSEI), begun at the Historic American Engineering Record (HAER) in 1972. In 1988 ASSEI became the nucleus of the Stationary Engine Society's *Inventory of Stationary & Marine Steam Engines in the U.S. & Canada*. Although he never visited the U.S., George Watkins's enthusiasm contributed to the growing appreciation of stationary steam in America.

E.N.D.

Mining, metals, & sheepshears all on agenda for 1989 Fall Tour in Butte



A giant shovel loads a haul truck in the East Continental Pit of Montana Resources, Inc., at Butte. The pit, and MRI's copper and molybdenum concentrator, will be seen during the Fri., Oct. 13, process tours. *Photo courtesy Montana Resources, Inc.*

The Society's 1989 Fall Tour in Butte, Mont., Oct. 12-15, hosted by the Klepetko Chapter, will feature sites associated with the mining industry in Butte and Anaconda. On Fri., Oct. 13, there will be process tours of two facilities in each city.

Anaconda tours will include AFFCO and the Rarus Rwy. shops. AFFCO operates the foundry and metal-fabricating complex formerly owned by the Anaconda Copper Mining Co. (ACM), which used the plant to manufacture mining, milling, and smelting equipment for its own operations, as well as for other companies throughout the mining West. Much of the equipment dates to the early 20th C, and several of the major buildings were built in 1889, when the facility opened. The Rarus Rwy. operates a shops complex formerly owned by the Butte, Anaconda & Pacific Rwy., a wholly-owned subsidiary of the ACM. Major buildings date to 1895 and include a roundhouse that the Natl. Park Service says is the only surviving 19th-C roundhouse west of the Mississippi [see photo in *SIAN* Spring 86:11].

Butte process tours will include Montana Resources, Inc.'s (MRI) open-pit mine and concentrator, and the sheep-shear manufacturing plant of the Butte Sheepshearers' Union. MRI's mine and concentrator formerly were owned and operated by ACM and produce copper and

molybdenum. The Butte Sheepshearers' Union operates the only plant in the U.S. still making sheep shears, which they market domestically as well as in Australia, New Zealand, and England.

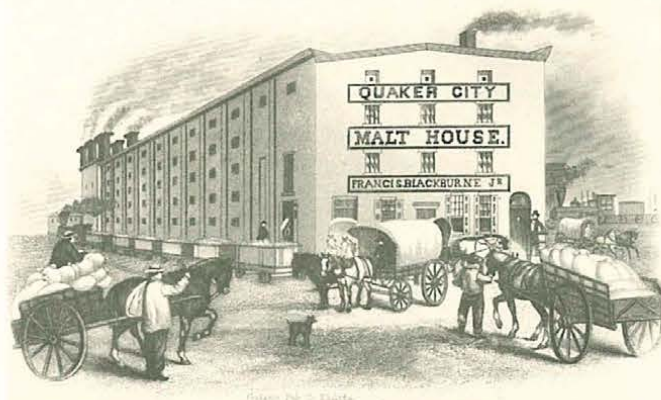
On Sat., Oct. 14, tourers will visit other sites associated with the mining industry in Butte and Anaconda. Anaconda sites include the stack of the Washoe smelter and the Upper Works. At 585', the stack is the tallest freestanding masonry structure in the world [see photo in *SIAN* Fall/Winter 84:13]. Built in 1884, the Upper Works was the first metallurgical facility built in Anaconda by the ACM, and the ruins of the Upper Works present an impressive display of early metallurgical practice. In Butte, the group will ride a tour train along tracks that linked the many underground mines on the Butte Hill [*SIAN* Spring 87:3]. Tours also be conducted at several historic mine yards, including the Anselmo, which is being preserved for use as an interpretive facility; the Steward, which still has a steam-powered hoist; and the Kelley, which served the ACM's last phase of underground mining. On Sun., participants will have the option of visiting the World Museum of Mining or taking several walking tours of Butte's historic business district and neighborhoods. Info.: Fredric Quivik [SIA], 511 Metals Bank Building, Butte MT 59701 (406-782-0494).

Annual Conf. at Phila. in 1990

Call for papers

The 19th SIA Annual Conference will be held May 31 to June 3, 1990, at the Sheraton University City Hotel in Philadelphia. Now is the time to start thinking about a paper you would like to present at that meeting.

A first call for research papers and reports on works-in-progress for the Saturday program was issued by Carter Litchfield [SIA], Technical Program Chairman. Papers on all aspects of the material culture of our technological and industrial past are welcome. Two special sessions are planned, "The Engineering Legacy of Oliver Evans" and "Phila. Area IA." The deadline for abstracts (150 words) is Dec. 1, 1989. Send inquiries and abstracts to Litchfield, Olearius Editions, Drawer H, Kemblesville PA 19347 (215-255-4335).



Quaker City Malt House, Philadelphia, 1875. *Courtesy Hagley Museum & Library.*

CALENDAR

JUNE 1-4: SIA 18TH ANNUAL CONFERENCE, QUEBEC, CANADA. Info.: QUEBEC SIA 1989, 12 rue Sainte-Anne, Quebec PQ Canada G1R 3X2 (418-643-8378).

June 5-7: 5th Canadian Masonry Symposium, Vancouver, B.C. Topics include architectural & engineering design, and masonry restoration. Info.: D.L. Anderson, Dept. of Civil Engng., Univ. of B.C., Vancouver BC Canada V6T 1W5.

June 7-10: "Water & the City," an international urban water management conf., Chicago. Info. & paper proposal details: Conf. mgr., Public Works Historical Society, 1313 E. 60th St., Chicago IL 60637 (312-667-2200).

June 8-10: Workshop: "Getting to the Waterfront: Solutions to Public Access Issues for the Urban Waterfront," Chicago, sponsored by Waterfront Center and Friends of the Chicago River. Includes tour of Tunnel & Reservoir Project (Deep Tunnel), Lockport Power House, and Ill. & Mich. Canal Natl. Heritage Corridor. Info.: Waterfront Center, 1536 44th St. NW., Wash. DC 20007 (202-337-0356).

June 15-18: 4th Annual American Railroad History Conf., Penn State's Altoona Campus. Info.: Penn State Continuing Ed., Ivyside Park, Altoona PA 16601-3760 (814-949-5045).

June 22-24: "Coal Patch: A Workshop on Historic Coal Company Towns," Johnstown, Pa. Includes paper sessions & field trip. Info.: Coal Patch, HABS, NPS, POB 37127, Wash. DC 20013-7127, or call Kim Hoagland at 202-343-9601.*

June 23-30: "Preserving & Interpreting the Industrial Landscape: A Workshop for Professionals," sponsored by the Natl. Council on Public History & the SIA, Chicago. Info.: Theodore Karamanski, Hist. Dept., Loyola U., Chicago IL 60626 (312-508-2221).

June 26-Aug. 11: 1st Annual Summer Field School in Architectural History, Old Sturbridge Village, held in conjunction with 11th Annual OSV Summer Field School in Historical Archeology. Application deadline is May 1. Info.: Myron O. Stachiw or Nora Pat Small, Research Dept., OSV, 1 Old Sturbridge Village Rd., Sturbridge MA 01566 (508-347-3362).

Aug. 13-19: 7th Annual Symposium of Molinology, Akademie Sankelmark, Germany. All-inclusive cost is 650 Deutsch Marks. Info.: Frenz Stüdtje, Muhle, 2392 Munkbrarup, West Germany.

Sept. 4-9: Annual Conf., Assn. for Preservation Technology (APT), Chicago. Info.: APT 1989 Program Chair, c/o Small Homes Council, 1 E. St. Mary's Rd., Champaign IL 61820.

Sept. 15-17: Annual Meeting, Assn. of Railway Museums, Edmonton,

Alberta. Info.: ARM, POB 3311, City of Industry CA 91744-0311.

Sept. 16-23: Intl. Conf. on History, Technology & Industrial Archeology of Glass, Lisbon, Portugal. Presented with the support of TICCIIH. Info.: Associacao Portuguesa de Arqueologia Industrial (APAI), Apartado 5374, 1708 LISBOA CODEX, PORTUGAL (telephone Portugal 01/555367).

Sept. 21-22: Special conf., "Building the West: Vernacular Architecture West of the Rockies," Reno, Nev. Co-hosted by Nev. SHPO & Nev. State Council on the Arts. Paper themes may involve Mormon, mining, ranching, ethnic, commercial, Native American, railroad, or company town architecture. Selected papers may be published in *Nev. Hist. Soc. Qlty.* Info.: Ronald M. James, Deputy SHPO, 201 S. Fall St., Carson City NV 89710 (702-885-5138).

OCT. 12-15: SIA FALL TOUR, BUTTE-ANACONDA, MONTANA. Info.: Fredric L. Quivik, Kleptko Chapter SIA, 511 Metals Bank Building, Butte MT 59701 (406-782-0494).

Oct. 12-15: Annual Meeting, Society for the History of Technology, Sacramento, Calif. Info.: Thomas J. Misa, SHOT Program Chair, Dept. of Humanities, Ill. Inst. of Tech., Chicago IL 60616 (312-567-3465).

Oct. 19-21: 11th Annual North American Labor History Conf., Wayne State Univ., Detroit. Paper proposals due June 1. Info.: Philip P. Mason, Walter P. Reuther Library, 5401 Cass, Detroit MI 48202 (313-577-4024).

Oct. 26-28: "After Hours: Life Outside of the Work Place," Lowell Conf. on Industrial Hist., Lowell, Mass. Info.: Edward Jay Pershey [SIA], Tsongas Industrial Hist. Center, Boott Mill #8, Foot of John St., Lowell MA 01852 (508-459-2237).

Nov. 9-11: Annual Meeting, Pioneer America Society, St. Charles, Mo. Abstracts of paper proposals due Sept. 1. Info.: Keith A. Sculle, Ill. Hist. Pres. Agency, Old State Capitol, Springfield IL 62701 (217-785-6916).

**Find details on this event elsewhere in this issue.*

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 \$25; couple, \$30; institutions \$30; contributing, \$50; sustaining, \$100; student, \$20. Send check payable to SIA to Treasurer, Room 5020, National Museum of American History, Smithsonian Institution, Washington, DC 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. ISSN 0160-1067

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Room 5020 National Museum of American History

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