

# SOCIETY FOR INDUSTRIAL ARCHEOLOGY

## NEWSLETTER

Volume Three Number 3

May 1974



Mt Clare in full bloom, c1890. Natl Museum of H & T, B&O Colln

### † THE PASSING OF MT CLARE †

One of the more depressing bits of recent news came with receipt of a listing of tools and equipment up for sealed-bid auction by the Baltimore & Ohio, representing the entire contents of its historic Mt Clare Shops in [Baltimore W 590494]. The earliest RR shop facility in this hemisphere (if not the world), opening in 1829, it was at its height perhaps the most comprehensive, self-contained shop complex in all railroaddom, producing with no strain whatever—from scratch in most cases—everything from steam locomotives, freight, and passenger cars, to bridges, signs, and small hardware. They cast, forged, machined, worked wood, made boilers, &c, &c.

Operations have been diminishing there for many years. As craftsmen retired, more and more work was handled elsewhere on the system, and more and more equipment was purchased. By the end of May all will be still; the end of an era when the railroads were nearly independent empires.

Prospects for the site are uncertain, although it will remain B&O/C&O property, used for other purposes. The famed B&O Museum and Mt Clare station at the NE corner will, of course, survive; a thorough physical renovation (SIAN 2:4:1) even now is underway. The Museum may, in fact, expand into some of the adjacent early shop buildings, several of which date from the 1860s. (See: Lawrence W Sagle, "America's Oldest RR Shops," in *RR History*, Oct 1972, pp 22-40.)

### The AIA

The Assn for Industrial Archaeology, whose imminence was noted in Sept, has now been formally organized, the result of a growing realization in Great Britain that efforts there in all areas of IA have been rather too fragmented and parochial. The AIA's goals are closely parallel with those of the SIA: to encourage work in the preservation, adaptive use and recording of industrial and engineering structures; study of the relationship of IA to other fields & disciplines; and the coordination of IA efforts, at all levels, particularly within GB. A bi-monthly *Bulletin* is being published. Membership: \$5.00/year. Information: the Secy: Neil Cossons, Church Hill, Ironbridge, Telford, Salop, TF8 7RE, England.

### PIANO FACTORY CONVERSION

There is no doubt that New England is showing the way for the adaptive use of industrial structures. With the exception of the Boott Mill project in Lowell (SIAN 3:2) these are not the spectaculars of the far west or the Chattanooga Choo Choo (sic), but rather the solid, workaday, forthright projects, fulfilling genuine community needs, that are what industrial preservation should be about, and that will, in the long run, sustain the constructive re-use of our industrial heritage.

In mid-April Piano Craft Guild was opened, providing 174 living/working units, designed for the particularized needs of artists and craftsmen, in the renovated Chickering Piano Factory at 791 Tremont St, Boston [S Boston MA 28428926]. Built by Jonas Chickering in 1853, it was at the time reputed to be the largest building in NA except for the US Capitol. It was in production until the mid-1930s when Chickering moved, then was converted into highly subdivided commercial and industrial space. By 1971 it had fallen on hard times, was in poor condition, and becoming a liability when the Boston architectural, planning, and development firm, Gelardin/Bruner/Cott acquired the building. Through a market study they determined the need for a specialized facility for area artists and craftsmen. Such special features as darkrooms, oversize doors, shop space, studios, and a display-sales area have been provided, in addition to apartments.



The conversion has been architecturally straightforward with no attempt to falsely modernize the building's original character nor to falsify new elements into period. The 1 to 3 bedroom living units range from 500 to 1740 sq ft and in rent from \$91 for low-income units to \$355 for "market-rate" units. Construction cost was \$10.50/sq ft. The venture was financed by a \$3.4 million loan from the MA Housing Finance Agency. Information: G/B/C 543a Green St, Boston 02139. (617) 661-0235.

**1975 Annual Conference.** It is to be in . . . Baltimore . . . one of North America's richest cities from the standpoint of Industrial Archeology. The sites deriving from early rail transportation, manufacturing, textiles, public works, and general engineering are so plentiful as to be almost embarrassing. Mark: 26 & 27 April. Other organizations please note.



NOTE. Henceforth we will, where possible, give for sites mentioned in the SIAN the UTM grid coordinates (see Data Sheet No 1), for precise location and the sake of the permanent record. These will be shown in [ ] by the USGS quadrangle name (7½' unless otherwise noted) and a 6 or 8-digit coordinate number. If no quad name is shown, it is that of the locality mentioned. UTM data, furnished with material on sites and structures, would be helpful.

## SITES & STRUCTURES

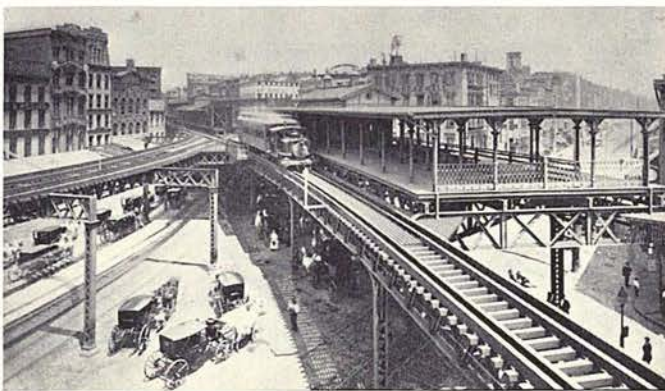
### MINE TAILINGS WHEELS



Relics of California's gold mining days, four tailing wheels remain, nr Jackson [938486]. Erected 1912 by the Kennedy Mining & Milling Co to lift the tailings (residue) from its mill over two hills which obstructed their course to the impounding dam, the 68-ft wheels last ran in 1942.

They were a satisfactory substitute for pumps, the cast-iron working parts of which would quickly have been worn out by the fine rock particles comprising the tailings. The tailings, in a slurry, were conveyed by gravity in a flume from the mill to the first wheel and lifted a vertical distance of 44 ft to another flume that carried the debris to the other three wheels, with a lift of 44 ft each. After leaving the fourth, the tailings again traveled by gravity to the impounding dam.

Each wheel was driven at 14 rpm by a 25 HP electric motor, the power transmitted by a 3/4" thick x 20" wide canvas belt 125 ft long, taking hold of the wheel's 38-ft wooden pulley. *Nevada Miner & Prospector*.



Third Ave Elevated, Chatham Sq, Manhattan, in 1880.

NMHT

Demolition of the final section of the 3rd Ave El, in the Bronx, NYC, began in Jan, long after service ended, the work to take about 8 months. The oldest section of this once mighty system, on Manhattan, was razed in 1955. A section of the Bronx structure, from 149th to 161st Sts, will remain up for now as it carries subway feeder cables. *Electric Railroaders Assn Headlights*.

**D & R Canal Grant.** The Ford Fdn has awarded \$5,000 in 10 matching \$500 grants for a series of regional studies of the Delaware & Raritan, the money to go to local townships and boroughs for environmental resource studies of the canal area, real estate surveys, and production of a slide film to inform the public about the canal's preservation.



Cabin John Aqueduct Bridge, 220-foot span, in c1900. US Archives

The Washington Aqueduct, designed and built 1853-63 by Montgomery C Meigs to carry Potomac water by gravity 12 miles from Great Falls, MD to Georgetown, DC and still in service, has been declared a Natl Historic Landmark, several years after the ASCE designated its most spectacular single structure—the Cabin John Bridge [Falls Church, VA 13841473]—a Natl Historic Civil Engineering Landmark. The entire work, constructed by the Corps of Engineers, was a tour de force of 19thC hydraulic engineering. (Research note: the contemporary graphic and verbal documentation of the aqueduct's construction and subsequent history is rich. A monographic study of the work is badly needed.)

**Street Furniture.** Friends of Cast Iron Architecture [SIA] has succeeded in convincing NYC's Dept of Gas & Electricity that the city's 19thC "bishop's-crook" lamp posts are of sufficient historic and stylistic merit to deserve preservation. Thirty have been so designated and marked with plaques, paid for by contributions.

**The Eureka, NV, Historic District** has been placed on the Natl Register. As a consequence of its two large, very smoky, smelters, Eureka once was known as the "Pittsburgh of the West." Lead and silver ores were mined for over a century. A commercially successful means of separating the two was developed there making it a principal world silver producer.

An ore stamp mill of 1863 recently has been donated to the state and moved to the state-owned ghost town of Berlin, Nye Co. *Nevada Miner & Prospector*.

**Seneca Rule & Block.** Built in 1837 as a flour mill and powered for many years by water, the 4 story + attic stone building in Seneca Falls, NY was converted to a factory, known as Seneca Rule and Block, from 1917 to 1945 making rulers, yardsticks, and other measuring devices, and simple toys, blocks, checkers, &c. When the maple and basswood essential to production became unavailable during WW II, SR&B folded and the building was taken over by Seneca Knitting mills for storage. No longer needed by them but still heavily taxed, the future of the large structure is of concern to local citizens. Several adaptive use ideas are being considered: conversion into apartments; or into an industrial museum with a period (mid-19thC) restaurant as a cost-defraying possibility. *Seneca Falls Reveille*.

**Bell Tolls for Foundry.** Meneely Bell Foundry, oldest in the US, in the urban renewal area of downtown Watervliet, NY is to be torn down as soon as its present occupants can be relocated. Apparently no rehabilitation or historical preservation options are included in the Urban Renewal program, so there is no feasible way to save the building. Bells were cast from 1826 to 1950, when the foundry closed due to the unavailability of high quality copper and tin.

### Erie Canal News

- The Erie Canal's Centreport Aqueduct nr Weedsport, NY [71506654] is under reconstruction. Built 1854-67, it carried the canal over Cold Spring Brook on three 20-ft spans. With the opening of the State Barge Canal c1910, the aqueduct was abandoned.



• Formerly within the ken of boaters only, the Canal has been opened to more of the public through trailways, the longest stretch of which extends from Lockport almost to the Genesee River valley. A day's hike for a towpath tourist is the 13-mile section east from Exchange St, Lockport to the Niagara-Orleans Co line nr Middleport.

• Canastota Canaltown (SIAN 1:4:3) expects to receive \$400,000 (½ state, ½ federal) from The Central NY Park Commn, for clearing and improving towpaths and for foot-bridge construction. *American Canals*.

## STATIONS & DEPOTS

Interest in the preservation and adaptive use of RR stations, of all types and sizes, continues, happily, without diminution. Last Nov's *Architectural Forum* ran two articles on the subject: Jonathan Hale's "Sic Transit," and Norman Pfeiffer's "Right Side of the Tracks." Pfeiffer's NY architectural firm, Hardy Holzman Pfeiffer Assoc, has completed a study for the Natl Endowment for the Arts [SIA] and the Educational Facilities Laboratories (the organizations underwriting the SIA slidefilm project), published as *Reusing Railroad Stations* (Aval: EFL, 477 Madison Ave, NYC 10022. 80 pp, illus. \$4.) It includes case studies of adapted stations and funding suggestions.

The National Trust's April *Preservation News* contains a fine 4 pp supplement: "Railroading—Saving America's Stations": descriptions of the reuse and prospects for a number of major stations; Amtrak's recent turnabout in cooperating with dual rail-adaptive use schemes; the introduction to *Reusing*, above; and other informative matter. (Copies: \$.10; 25+, \$.05. Natl Trust, Publs, 748 Jackson Pl NW, Wash, DC 20006.

**Reusing RR Stations: A Workshop Conference**, will be held in Indianapolis 22-23 July, including, among other things, a preview of NEA's new film on stations. By invitation. (Info: Susan Wagner, Natl Endowment for the Arts, Architecture & Environmental Arts Prog, 806 15th St, NW, Wash, DC 20005).

**Preservation.** Hardly an issue of the SIAN fails to note a depot formally preserved and adaptively used in Alabama, the latest, Seaboard Coastline's of 1903 in Enterprise, to become home to the Pea River Historical & Geneological Soc! (In the picturesque name dept the SIA clearly has failed). Total preserved depots in AL is 18, probably a record in proportion to original number, used as shops, residences, museums, offices, &c.

## THE WORK OF IA

**IA Guide.** A vital part of the preparations for the Pittsburgh Conference undertaken by its coordinator, Field Curry, was assembling an 18 pp guide to the IA within a 125-mile radius of Pittsburgh, fairly bristling with concise data on a wide range of sites in PA, OH, WV, & MD, many of considerable obscurity. The result (available from Curry, 403 Garland St, Pittsburgh 15218, \$1.50) proves again that some of the best recording and publishing efforts are the result of a single person's stamina and perseverance.\* We mention all this not only to bring to your attention this particular good work, but to point out that it, and Chitty's and Bone's local IA guides, noted in *Publications*, are the sort of thing so badly needed, so distinctly useful, and so readily gotten up. *Don't just stand there—generate a local IA guide.*

\*Also available: Curry's *Bridges of the Three Rivers*, it too prepared for the Conference; list with details of 46 of Pittsburgh's major river bridges, with folding map. 9 pp. \$1.

**Another IA Course.** Member Stanley Moss has inaugurated a series of IA and related courses on a semi-regular basis, having offered last fall "Mills, Canals & Wharves" at the Cambridge (MA) Center for Adult Education, attracting 24 students. On 8 Sat AMs textile mills, factories, industrial towns and waterfront areas were visited and analyzed. Moss proposes a similar

course this fall. He has now in hand another course: "Exploring Boston," all visits to be by rapid transit. SM, 580 Walnut St, Newtonville, MA 02160.

**Hydroelectric dig.** Under curators Robert Howard and Frank McElvy [both SIA] Hagley Museum this summer will excavate a small plant on its grounds installed by the duPonts in 1891-2 to power several of its mills and houses, and retired c1907. If the plant can be adequately exposed, Hagley will attempt to refit it with reconditioned turbines and generators, and resume operation both as a living exhibit and an isolated plant furnishing power to its museum buildings.

**IA of the Merrimack Valley.** Prof Robert L Schuyler [SIA] of City College of NY this summer will commence a "very long range" examination of the American industrial revolution by undertaking excavation in Lowell, MA as an element of CCNY's Anthro 50 & 51. The work will be conducted in two 5-week sessions, each for 10 students, starting 10 June. The project will focus on the social context of the industrial revolution, examining the way in which the increasing power of the textile corporations influenced the life of the city's inhabitants and its patterns of development. Excavation will be principally on the sites of worker housing and possibly around the Middlesex Canal. The project, sponsored by the CCNY Archeological Field School and the Lowell Historical Society, while not directly associated with HAER's survey of the Lowell power canal system, is strongly collateral. Schuyler expects to continue the study over many summers, up and down the Merrimack Valley.

## MISC NOTES

**Victor R Rolando** [SIA], who has been Historian of the Town of Schodack, NY and compiling a history of the Taconic region's early iron industry, has been appointed Rensselaer County Historian.

Member **Lynne F Poirier** has been appointed Chief Curator of that astonishing institution with the superb craft collections, the Mercer Museum, Doylestown, PA.

**Research Inquiry.** Willans high-speed, central-valve steam engines, as built under license and used in NA. Information sought by R Cox, c/o Hyde, 38 Perry St, NYC 10014.

**Positions avail.** One or more faculty members to teach undergrad or grad courses in history of: Bldg Constr; Contemporary Architecture; Urban Environment. Resume and refs: Dean Raymond Reed, Coll of Arch & Environ Design, Texas A&M Univ, College Station, TX 77843.

**Curiosa: The Human Side of IA.** Member Robert S Mayo, eminent tunnel engineer, claims, with probable good cause, to be the only member of the American Canal Soc [or SIA] ever to have built a canal lock, having in his "youth" worked on locks on the Illinois, Barren and Ohio rivers.

**Steam Engines Available:** • Morgan vertical tandem-compound slabbing-mill engine, 1898, c1000 hp. BIG. David Miller [SIA], Jones & Laughlin Steel Co. Pittsburgh, PA; • two triple-exp marine engines, 750 hp, WW I Shipping Bd, dismantled but allegedly all there, free, for preservation & display: Henry F Gelhaus, Keansburg Steamboat Co, 75 Beachway, Keansburg, NJ 07734.

**The Railway & Locomotive Historical Society** is the RR organization in the US that takes, perhaps, the most interested look at the serious side of RR history, particularly through its semi-annual *Railroad History*, the quality articles in which we have noted herein from time to time. An informative brochure: R&LHS, Kresge Hall, Harvard Business School, Boston, MA 02163.

"Early Stationary Steam Engines in America," by Carroll W Pursell, Smithsonian Press, 1969, 152 pp, illus, index. New, dust jacket, out at \$6.75; special offer: \$3. Editor.



**Corrosion.** Iron artifacts that have been long submerged, especially in salt water, present a restoration problem that frequently is near hopeless. Clifford Petersen of the Ocean Engineering Dept, Univ of RI, Kingston 02881, is experimenting with improved systems to reduce treatment time and chemical consumption.

**Recording needed.** Abandoned CRI & PRR Shops, Horton, KA [829926]. Information: William F Rapp, 430 Ivy Ave, Crete, NB 68333. Also the CA mine tailings wheels, noted above.

### SIA AFFAIRS

There have been an overwhelming number of inquiries about the event that has become a tradition within our own lifetime: the **SIA Fall Tour**. It is to take place, in . . . the Lehigh & Delaware Valleys, HQ in Bethlehem, PA; by foot & motorbus to canal sites, bridges, cement works, a slate quarry, a lead refinery, and, it is fervently hoped, to Bethlehem Steel's great South Bethlehem Works, to see in full cry steam rollingmill engines and batteries of mammoth works-built, blast-furnace-gas engines driving blowing engines and generators. All this 20-22 Sept. Strong stimuli, not recommended for weak hearts. Details to follow.

**Pittsburgh Conference.** The event appears, by those comments overheard, to have been an exceptional one, filled with interest, value, and general good will. A full account appears in the customary Supplement, accompanying.

**Volunteer needed:** to update & maintain the SIAN index, a crushingly dull but vitally important element of a vastly complex journalistic machine. The editor.

### EVENTS OF CONSEQUENCE

**IA SUMMER INSTITUTE.** In a pioneer venture, Rensselaer Polytechnic Inst, under leadership of SIA members Thos Phelan & Merrit Abrash, will conduct a 5-day Institute 24-28 June, covering basic definitions, materials, methodology, interrelationships between IA and the history of technology, the bearing of IA on economic, cultural & social history, and the problems and possibilities of industrial historic preservation & adaptive use—all against the background of the industrially historic Troy, NY area. The Institute is intended primarily to provide a broadened experience for people in industry with no previous exposure to the subject, but is open to all interested. Tuition: \$300; registration requested by 10 June. Info: Office of Continuing Studies, RPI, Troy 12181. (518) 270-6442.

**CONFERENCE: PRESERVATION & ADAPTIVE USE OF INDUSTRIAL BUILDINGS**—15 June, Uxbridge (MA) High School, sponsored by Bay State Historical League, chaired by Ben Mason, preservation consultant ((617) 523-2880). Speakers: Ted Carman, Hoosuck Community Resources (adaptive-use developers of the Windsor Mill, N Adams, MA); & Ted Healy, Healy Healy & Brown, developers of the Crown & Eagle Mill, N Uxbridge (SIAN 2:3). Afternoon tour of Crown & Eagle and Blackstone Canal. Registration: \$4 (incl lunch), to Lillian Oates, Mendon St, Uxbridge 01569.

**Steam Runs.** 1) 29-30 June, Cincinnati to Lexington, KY & return. Cincinnati RR Club, Box 42213, Cincinnati, OH 45242. (513) 791-9035. 2) 4-7 July, Cincinnati to Washington via Roanoke. Side trips, scenery, photo stops, &c. Flyer: Roanoke Chap, NRHS, Box 681, Roanoke, VA 24004. Both trips behind ex-Southern 2-8-2 #4501. Full schedule of Southern Ry steam trips to Oct: editor.

**Canal Days.** Illinois & Michigan Canal, Lockport, IL. Tour of the canal, mills, craft demonstrations, canal museum, &c, 15-16 June. John M Lamb [SIA], 1109 Garfield St, Lockport 60441. (see L-K Museums)

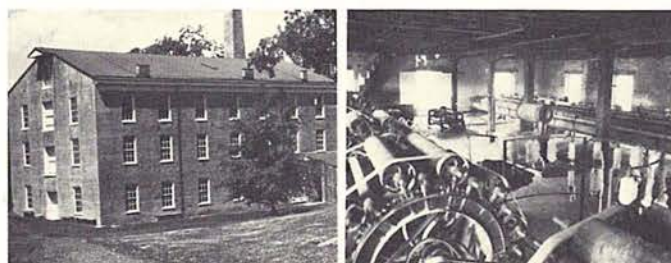
**Industry & the Artist: Paintings & Prints** by Lee Adler—Industrial Artifacts from the Hagley Museum Collection. An exhibit of the artist's abstractions based on industrial objects. Hagley Museum, Greenville, DE. Through Oct.

**Walking Tour.** Friends of Cast Iron Architecture: the "Palace" Dept Stores of Broadway, S of 23rd St, NYC. Meet Grace Church, B'way & 11th, 2 PM, 9 June, rain or shine. \$2.50.

**Convention**—the 4th of the Railroad Station Historical Society, Chicago, 16-18 August. Details: A C Koval, 8018 Muskegon Ave, Chicago IL 60617.

## THE LESSER-KNOWN MUSEUMS

### THE WATKINS MILL

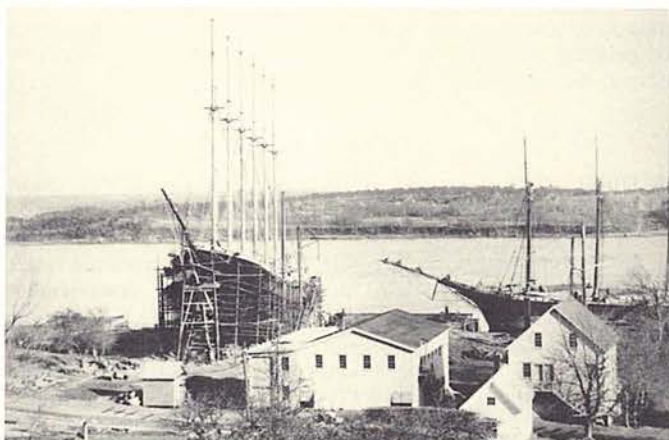


The Watkins Mill Complex, Lawson, Clay Co, MO, is regarded as the best preserved example of a mid-19thC woolen mill in the US. It contains original textile machines, some of which are the only examples extant. Constructed in 1860, the mill operated until the end of the century when it yielded to the competition of "store-bought" clothing from eastern mills.

Power was supplied by a 50-HP steam engine (mfg by Washington Foundry, St Louis) and return-flue boiler that consumed 10 - 13 cords of wood daily.

The mill contains the following: ● *Ground floor*—a flour and grist mill. ● *First floor*—a warping mill; napping machine; shearing machine; the engine; and dye & rinse vats. ● *Second floor*—A Jenks & Son plytwister; Bridesburg plytwister; Jenks plain loom; M A Furbush broad loom (pat 1868); Jenks broad loom; Furbush & Gage fancy loom (last pat 1863); R W Andrews fancy loom (last pat 1867). ● *Third floor*—Furbush & Gage spinning machines (last pat 1862); Jenks carding machines.

Today the complex is part of the MO State Park System, which is restoring all the buildings as funds permit, hoping eventually to have the site as it was during the 1860s-80s. Sally Churchill, NMHT.



Six masted schooner *Wyoming* on the ways dwarfs the Percy & Small shipyard buildings. Bath Marine Museum

### PERCY & SMALL SHIPYARD:

#### THE LAST OF THE WOODEN GIANT BUILDERS

Percy & Small Shipyard, on Washington St in Bath, Maine's S end, presents a decrepit and nondescript appearance to the casual passerby. Yet here are to be found the last tangible ties with the nation's wooden shipbuilding industry. In a surprising quirk of history, wooden shipbuilding in British NA was started in 1607 on the Kennebec just a few miles south of this site, while Percy & Small was to launch virtually the last, large wooden sailing vessel 313 years later.



The yard was established in 1896, launched its first schooner in 1898, reached its full operational development by 1901, and achieved its greatest output between 1900 and 1909 when it built 22 schooners—up to 6 masters—totalling nearly 50,000 tons. Included in this phenomenal output was the 3,700-ton *Wyoming*, the largest wooden sailing vessel ever to carry cargo under the US flag. In 1920, when the *Cecilia Cohen* slid down its launching ways, the accounts were closed on the community with the longest continuous history of building wooden merchant sail in the US.

P&S represents the handfull of wooden shipyards that were to extend for a few years the life of an already obsolete industry by introducing powered machinery and other techniques to reduce costs.

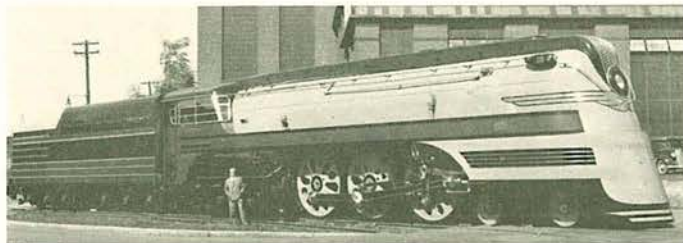
The shipyard, now controlled by the Bath Marine Museum [SIA], contained large shopbuildings that permitted year-round operations, with the latest (in 1900) machinery capable of sawing and planing the massive timbers. The entire yard utilized electricity to light the shops and to power the motors ranging from 10 to 90 HP, which drove everything from grinding wheels, to treenail lathes, bandsaws, shapers, and the massive 48" circular saw and 24" x 50' Daniels planer, all now gone but to be replaced with like equipment as it is found.

Yet for all of the modern machinery, the great schooners still were built by men who erected the frames, dubbed, ceiled, planked, planed, caulked and generally finished the vessels with the same skills and the same tools that had built thousands of sailing vessels in the past. Assembly line shipbuilding would make its mark in the steel, not the wooden, yards.

Percy & Small Shipyard is being restored to preserve it as a unique, nationally recognized representative of our shipbuilding heritage. *Ralph L Snow, Bath Marine Museum*

*An SIA Directory to all US and Canadian museums and "museum" historical sites that deal with IA, industry, and technology is being planned. It will include all sites accessible and open to the public, including formally preserved, isolated structures such as iron furnaces, canal locks, &c: Federal, State, county, municipal, and private. Information on the more obscure sites is solicited: Sally Churchill, c/o Editor.*

## IA IN ART



"Hiawatha" engine No 100, largest and fastest of the streamliners, 1938. In *My Iron Journey: An Autobiography of a Life with Steam and Steel*. By Otto Kuhler. Denver: Intermountain Chap, Natl Railway Hist Soc, 1967, 224pp. \$15. (Avail. the Author, 625 Camino Rancheros, Santa Fe NM 87501).

Born in Germany, 1894, an ironmaster's son, Kuhler became an eminent industrial designer-artist-engineer in America during the inter-War period. A pioneer designer of streamlined locomotives and cars in both the steam and diesel eras, his work includes the Milwaukee Road's famous Hiawatha trains, the B&O's present emblem, subway and trolley cars, and even the "modernizing" of a dozen RR depots. The subjects of his art, rendered in watercolor, oil and etching, include locomotives, RR terminals, elevated stations, bridges and dams—mostly under construction—refineries, and steel plants; located principally in Pittsburgh, NYC, and Colorado. Kuhler, who lives in semi-retirement in New Mexico, recently donated a large collection of his etchings to the Natl Museum of Hist & Tech. DN

## PUBLICATIONS OF INTEREST

Richard S Allen [SIA], *Covered Bridges of the Northeast*. Revision of the 1957 edn. Brattleboro, VT: Stephen Greene Press. \$10.95. Good, sound history of the engineering and culture, not aimed primarily at the CB cultist.

Craig Campbell, *Seattle's Gas Plant Park*. In *Landscape Architecture*, July 1973, pp 338-42. Well color-illus account of the philosophy and details behind Richard Haag's [SIA] scheme to convert ex-gas works into scenic park. (Noted in SIAN 1:4).

Donald Chaput, *The Cliff: America's First Great Copper Mine*. Kalamazoo, MI: Sequoia Press, 1971. 116 pp. \$12. Exploitation of Lake Superior copper from 1840. (Review: *Business History Review*, Winter 1973).

Michael Chitty, *IA of Exeter*; Michael Bone, *Barnstaple's IA* (ea \$1.25); and Jean Hall & Joy Yeates, *Exeter Canals & Quays* (\$.25). An interesting pair of pamphlets and a flyer from the Exeter IA Group, models of what can be done by intelligent, interested people to expose the IA of a region. All are illustrated and contain graphic descriptions in the form of walking tours. What we badly need more of. Avail: Dept of Econ Hist, Univ of Exeter, Exeter EX4 4PU, England.

Carl W Condit [SIA], *Chicago 1910-1929: Building, Planning & Urban Technology*. Univ Chicago Press, 1973. 354 pp. \$12.50.

—, *Chicago 1930-1970*: [as above], 1974. c 360 pp. \$12.50. Fine studies of the planning and growth of a major urban area, incl much on the city's rail complex & many terminals.

James Lee, *The Morris Canal—A Photographic History*. Completely revised and expanded edn, hard cover, of the work noted in full, SIAN 2:4:5. \$9.

Jean Lindsay, *A History of the North Wales Slate Industry*. David & Charles. Illus. \$16. Full desc of one of the most interesting of the mineral industries, in its home. The famed Penrhyn and Dinorwic quarries + the 93 others that existed when things were at their late-19thC peak, with 14,000 employed!

Paul Malo (Photos by Hans Padelt et al), *Landmarks of Rochester & Monroe County*. Landmark Soc of Western NY, 130 Spring St, Rochester 14608. \$15 cloth; \$6 paper + \$.50 post. Exceptional photos, mainly houses and villages, but incl a depot, 2 mills, and Gleason's machine tool works, still in use.

Walter Minchinton [SIA], *Devon at Work: Past & Present*. David & Charles. 110 pp. \$8. Many rare illus, grouped by industry.

Patrick E Purcell, *St Louis Union Station*. In *Natl Ry Historical Soc Bulletin*, Vol 37 No 4, 1972, pp 16-18, illus.

William F Rapp [SIA], *The Railroads of Nebraska*. *Railway History Monograph* Vol 1 No 1. J-B Publ Co, 430 Ivy Ave, Crete, NB 68333. 35 pp. \$3. First of a quarterly series. Brief histories of every RR planned and built.

Russel Wright, *Techniques for Incorporating Historic Preservation Objectives into the Highway Planning Process*. Prepared for the Natl Trust & US Dept of Transp. 35 pp. Avail gratis: US DOT, Office of Consumer Affairs, Wash, DC 20590. The historical & cultural resources inventory and its uses; guidelines for minimizing the environmental impact of proposed highway constr. As appendices: the full Natl Register listing to 1 Jan 1974; various pertinent executive orders; DOT policy memos; misc documents and lists. Extremely useful reference.

Karl R Zimmermann, *CZ: The Story of the California Zephyr*. Railroading, Lanesboro Rd, Starrucca, PA 18462, 1973. \$7.50 (+ sales tax, PA). 104 pp. Fine, well illus history of the West's most famous, most lamented name train.



## Special Publications

Jacob Leupold's *Theatrum Machinarum*, c1725, reproduced on microfilm by Eleutherian Mills-Hagley Fndn, Publ Dept, Greenville, DE 19807. L's compendium is distinguished from the earlier "machine books" by "the constant emphasis upon general principles and was, accordingly, widely used in the 18thC as a source of practical information by machine builders." With vol of description + index, on 6 reels with plates interspersed + separate reel of all plates: \$75. Flyer with other information avail.

## REVIEWS

**New England: An Inventory of Engineering & Industrial Sites.** T Allan Comp [SIA], ed. The Historic American Engineering Record, Natl Park Service, US Dept of the Interior, Wash, DC 20240. 1974. Gratis.

**Historic Engineering Record.** Forrest F Lange, ed. History & Heritage Committee, Northern New England Sectn, American Society of Mechanical Engineers. 1974. (Avail: Richard A Griffin, 155 McKinley Rd, Portsmouth, NH 03801. \$2.50)

The *Inventory* and *Record* noted here are encouraging signs of increased interest in the history of American technology. But: both contain errors of commission and omission and each is poorly designed. Moreover, the editor of the *Record* tends to equate history with patriotism while the editor of the *Inventory* employs self-serving rhetoric in order to make the HAER data seem more important than it really is.

These indices share other problems as well: for example, each defines its geographic scope, but the chronological boundaries are vague or arbitrary. Sites included in the *Record* must have been established "three quarters of a century or more ago"; the *Inventory* apparently includes New England "achievements" through the "late 19th and early 20th centuries."

One wishes the criteria for inclusion had been more catholic. On the one hand, each list includes many mill buildings which represent some of the most significant achievements of the past century and a half. On the other hand, the interstate highway system—one of the remarkable engineering achievements of the century—is omitted from both lists, as are the nuclear power plants whose importance is recognized even by their social critics. Nor are the flood control systems engineered during the Eisenhower era noted. It is as if no engineering was done after WW I.

I suspect that one reason why these lists fail is because the sponsors did not enlist the full cooperation of the local historians who know the New England landscape. If the Hopkinton (NH) Antiquarian Soc had been contacted, for example, someone there would have known enough to identify the paper mill and dam in W Hopkinton village and the machine shop and dam in Contoocook village. In similar fashion, the postmistress in Sumner (ME) would know the location of the sawmill around which that village was settled and the postmaster in Buckfield (ME) could have identified the site of the machine shop on the Nezinscot River in N Buckfield.

In a recent issue of *Encounter*, Kenneth Hudson has pointed out that industrial archeology is — or least ought to be — a democratic and humanistic activity. Indeed, it can be; it affords us the opportunity to record the achievements of people who work, along with the better known engineers, scientists and inventors. But if we are to be successful, then whole communities must be involved; and the contributions of the enthusiasts must be matched by the skills of those who are technically qualified to assess and explain the historical evidence.

I, for one, hope that Mr Lange's History Heritage Comm will be encouraged to continue its work; but I also hope that HAER historians will shortly provide a more suitable model for other industrial archeologists to follow. The Natl Park

Service would be well advised, in my opinion, to convene an advisory panel to provide our civil servants with some guidelines as they proceed with their work. *Thomas W Leavitt, Merrimack Valley Textile Museum, N Andover, MA.*

Rebecca Harding Davis, *Life in the Iron Mills*. (Reprint) The Feminist Press, Box 334, Old Westbury, NY 11568, 1972. 65pp + 110pp biog & interp. \$1.95 paper.

"The idiosyncrasy of this town is smoke. It rolls suddenly in slow folds from the great chimneys of the iron-foundries, and settles down in black, slimy pools on the muddy streets . . . The long train of mules, dragging masses of pig iron through the narrow street, have a foul vapor hanging to their reeking sides."

These strengthly lines from the opening pages of this long-forgotten, now revived classic, which won instant fame when it first appeared in April 1861 in *Atlantic Monthly*, proved dynamite at a time when no one wrote realistically of American industrial life. *Iron Mills* is a pioneer novel, written in secret and isolation by a privileged-class spinster; the setting is her home town, Wheeling. Of literary and social merit, it's also intriguing IA stuff. Davis's grim, powerful descriptions—"city of fires," "wide caldrons filled with boiling fire, over which bent ghostly wretches"—speak for themselves. *Dianne Newell*

Robert McCullough & Walter Leuba. **The Pennsylvania Main Line Canal.** The Morrisons Cove Herald, Martinsburg, PA, 1962. Facsimile reprint by American Canal & Transp Center, York, PA, 1973. 181 pages. \$4.75, paper.

This remains the best work available on the PMLC, which extended from Philadelphia to Pittsburgh from the 1830s to the late 1850s. It also deals peripherally with the other sections of the PA state system, i.e., the Susquehanna, W Branch, N Branch, and Delaware divns. The authors carefully gleaned their data from annual reports, some ms material (mostly from the state archives), newspapers, and personal accounts recorded from boatmen who attended the PA Canal Boatmen's Reunions held from 1915 to 1955.

Nothing has been done to improve upon the original: it lacks references, bibliography and index, and contains a number of minor errors. It does, however, have numerous merits, focusing on the human side of canal life, treating the economic impact of the canal on the initial and long range development of its region, and revealing the vulnerability of the PMLC to political pressure, demonstrating that more than technical difficulties prevented it from being a strong competitor of the Erie Canal.

The technical problems of canal construction and management are dealt with only sporadically, except in the section on the Allegheny Portage RR. This, plus the material on the Philadelphia & Columbia RR, also part of the main line system, will make the book of interest to rail enthusiasts. This better-than-average amateur work deserves to be consulted until a definitive history on the level of Shaw for the Erie or Schreiber for Ohio canals becomes available. *Harry L Rinker, York Co Hist Soc.*

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