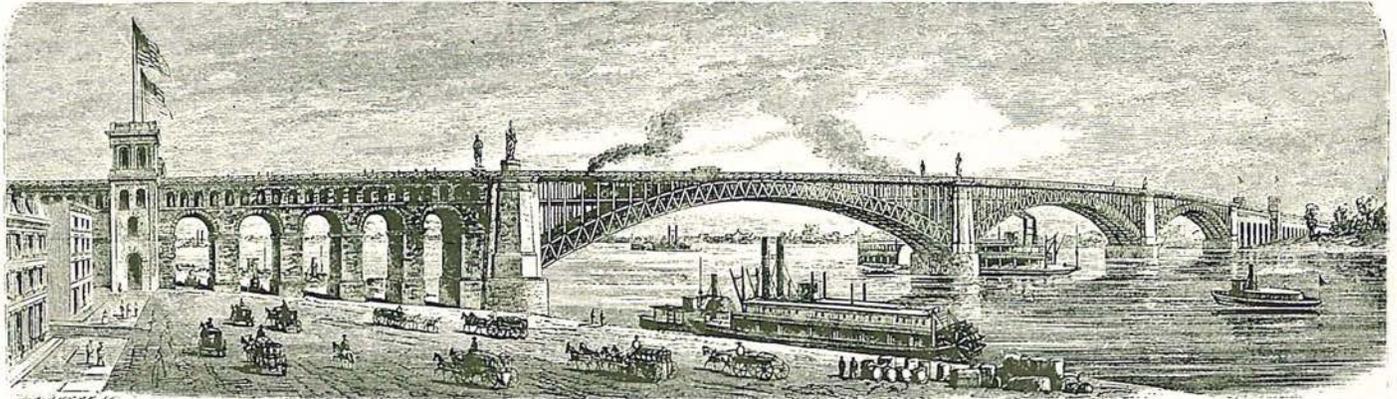


# SOCIETY FOR INDUSTRIAL ARCHEOLOGY

## NEWSLETTER

Volume Three Number 6

November 1974



THE NEW BRIDGE OVER THE MISSISSIPPI AT ST. LOUIS.

### EADS BRIDGE CENTENNIAL

The historical importance of the great triple-arch span at St Louis, first rail crossing of the Mississippi, was clear even at the time of its opening in 1874, and has diminished not a jot. Among its many points of primacy the outstanding, certainly, is the fact that it was the first major structure in the world to employ steel in its principal structural elements (the tubes forming the arch rings); and the first on any scale to employ alloy steel. In addition, it was until then and for decades afterwards the largest structure to be erected by cantilevering (to avoid falsework in the river). In the construction of its river piers were sunk pneumatic caissons that not only were the first in America, but still are the deepest *anywhere* (136 ft below MHW).



In 1971 the Eads Bridge (named for its conceiver, designer, promoter, and builder, James B Eads), was designated a Natl Historic Civil Engineering Landmark by the ASCE; and on its 100th birthday, 4 July 1974, many other honors were bestowed upon it. The American Institute of Steel Construction, which annually grants awards of excellence in a variety of categories to the designers of new steel bridges, made to the bridge a Special Award of Recognition for its "outstanding historical significance."

The Princeton Univ Art Museum and CE Dept assembled an exhibition of artifacts, documents, and a colossal model of the bridge [SIAN 3:5:6], at the St Louis Art Museum to 5 Jan.

A major account of the bridge's background, opening, and dismal early commercial history: *Eads Bridge: The Celebra-*

*tion*, and an illustrated description of *Downtown St Louis As James B Eads Knew it When the Bridge Was Opened a Century Ago*, both by eminent urban & technological historian John A Kouwenhoven [SIA], appeared in the *Bulletin* of the MO Historical Society (April, pp 159-85). The former essay, accompanied by several others, (incl *Arch & Truss Bridges* by Jas B Eads), appears also in *The Eads Bridge*, a handsome, illus catalog of the Princeton show (Princeton (NJ) Art Museum 08540, 84 pp. \$4).

### SICCIM

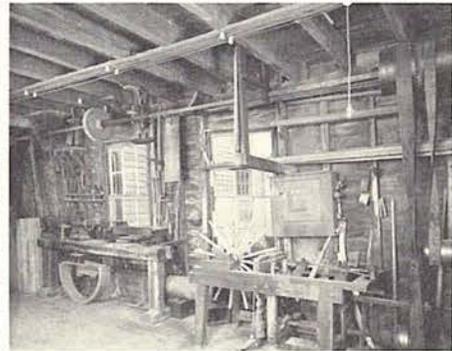
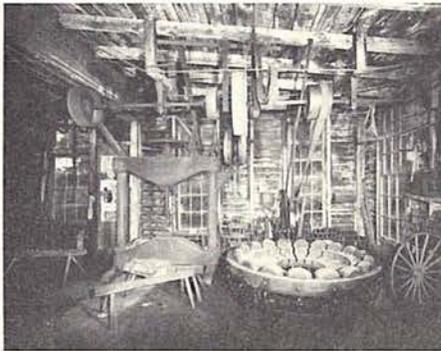
The Second Intl Congress on the Conservation of Industrial Monuments has been announced, to follow in the footsteps of the enormously successful FICCIM [SIAN 2:4:2]. It will be held at the Bergbau (mining)-Museum, Bochum, W Germany, in the Ruhr.

3rd - 9th September 1975

Some 70 delegates from 20 countries are expected, to discuss in 8 working sessions the General Status of IA in Different Countries; the Theoretical Aspects of IA; the Documentation of Industrial Monuments; the Conservation of IMs; and the Social Aspects of IA; concluding with a round-table discussion. IA films will be shown in the evenings, and there will, of course, be excursions to the IA of the North Rhine-Westphalia region. Simultaneous interpretation (Engl-Ger-Fr) is planned.

Those interested in attending either institutionally or individually should contact ASAP: Dr W Kroker, Geschäftsführung SICCIM, Bergbau-Museum Bochum, 4630 Bochum, Vödestr 28, W Germany.

Contributors to this issue: Douglas P Adams, MIT; EM Bruton, Sally Churchill, NMHT; Emory L Kemp, WV Univ; Diane Payment, Canadian Engineering Heritage Record; Ted Z Penn, Old Sturbridge Village; Ted Sande, Williams College.



Gruber Wagon Works. (left) Exterior. (center) Blacksmith shop: hub press and hydraulic tire setter. (right) Wood shop: lathe and Gruber-built spoke-tennoning machine. HAER photographs by Wm E Barrett.

## THE GRUBER WAGON WORKS

Gruber's of Mt Pleasant, Berks Co, PA, builder of quality farm wagons, stands as one of the more important American industrial survivals and best examples of a rural manufactory. Operating in a frame building of 1882 & 1906, the firm was in production until the 1920s, tapering off into an active repair business through the 50s. It was neither a primitive, backwoods operation nor a massive high-production firm like the Bros Studebaker. Rather, it typified the great majority of wagonbuilders as they would have appeared and operated at the end of the 19thC: fully integrated production from raw wood to the completed wagon; everything from woodworking to hardware forging to wheel manufacture to finishing carried out on the premises.

The physical plant survives today nearly unchanged from its initial period. Power originally was by water turbine, soon supplemented by steam, in 1906 all replaced by an Otto (of Phila) gasoline engine. It all is there: machinery, tools, Otto

engine, large elevator to bring wagons down from the second floor; the total atmosphere of a shop of the time.

When it appeared c1971 that the site would be inundated by a Corps of Engineers dam/lake project, there was universal alarm among those who knew Gruber's. The Corps, however, consistent with their present creative attitude toward historic preservation [SIAN 3:5:4], has taken a lead in attempting to preserve both the fabric and spirit of the place. To now, at considerable expense, they have requested and underwritten a HAER Emergency Survey—not merely photography but full measurement & drawings; have heavily fenced and guarded the site; and have systematically recorded and packed the small tools and artifacts. Armed with the HAER documents and strong supporting statements from the preservation and industrial-archeological community, they now are preparing a Case Report in an attempt to extract special funding for removal of the building and contents to high ground, there to be turned over to the county, possibly as part of an open-air museum of local rural history.

## MASSIVE RATION OF JUBILATION; SOME ORATION; NO LAMENTATION AT MIDDLESEX CANAL RESTORATION DEDICATION CELEBRATION

Starting off with a parade by the Clan MacPherson Bagpipe Band in full military costume, colorful dedication ceremonies were held for a 1200-ft restored section of the Middlesex Canal in the town of Wilmington, MA on 19 October. The canal, built 1794-1803, was the first American tow-path (traction) canal, the most important public works project of its day, and the largest single engineering achievement in the first two decades of the young US. Among significant events and experiments associated with it are what appears to have been the first use of a perfected leveling instrument by William Weston in his summer 1794 survey, the systematic organization of the labor force, attempts at water seepage control, search for a satisfactory hydraulic cement mortar, and perhaps the most important, on-the-job training of civil engineers. Many of these later went on to make major contributions in other public and industrial projects—notably the Erie Canal.

When completed, it included—in addition to safety gates, culverts, sluiceways, and water weirs—20 locks, 8 aqueducts and 48 bridges. Unfortunately, the canal was commercially unsuccessful, being superseded by the Boston & Lowell RR. The last boat traveled through the Billerica Locks in 1852, and the story officially ended with transfer of the Canal Co's records to the Middlesex County Clerk in 1860. Portions already had been filled in and ultimately much of the remainder was obliterated. In recent years it has begun to receive the attention and honor it deserves. The Middlesex Canal Assn [MCA] was incorporated in 1964 and the ASCE designated the canal a Natl Historic CE Landmark in 1967.

The celebration, presided over by Lt Col Wilbar M Hoxie [SIA], MCA Pres, included brief remarks from, among others, Bruce Campbell, Commissioner of the MA Dept of Public Works, and Tom Liu, Pres of the Boston Society of Civil

Engineers. The principal address\* was given by Ted Sande [SIA], who accepted the restoration on behalf of the SIA "and for all whose hearts and minds are devoted to the study and preservation of America's technological and industrial past." Then followed unveiling of a new stone arch bridge over the canal, accompanied by a salvo from a cannon manned by Lexington Minutemen and the launching of an 8x11-ft replica of a Piscataqua gundola (barge) that was horse-drawn the length of the restoration.

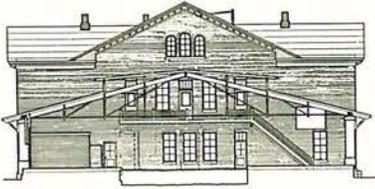
Speakers at the evening program were historian Ross Holland, Asst Dir of the Park Service's new North Atlantic Region, and Charles H W Foster, Commonwealth Secy of Environmental Affairs. A reception preceding dinner honored Mary Stetson Clarke and her new book, *The Old Middlesex Canal* [SIAN 3:5:8].

This project has set a distinct precedent in the state as a public undertaking so totally and compatibly coordinating historical, educational, ecological, and environmental values. It was the culmination of two years of unrelenting dedication and effort on the part of Commr Campbell and Secy Foster, working in cooperation with the officers and members of the MCA led by, in particular, former-Pres Douglas P. Adams [SIA]. TS & DPA.

\*copies available from the editor—\$.25.

## ASSEI

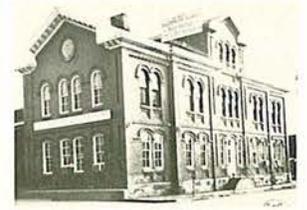
The American Stationary Steam Engine Inventory, long in discussion as an HAER undertaking to inventory all engines in NA, both those *in situ* and preserved in museums, has formally been launched with Robert L Johnson [SIA], Rossville, GA, authority on the subject, its contract conductor. The results of the modest initial phase—to identify c2000 engines—when published, it is hoped will generate sufficient interest to attract the funding needed to continue the project. The ASME's History & Heritage Comm has contributed financially to the work.



1) HAER drawing of Freight Shed in section.



2) Depot and Suspension Bridge at Wheeling, c1870.



3) The "new" head house, c1875.

### THE B&O WHEELING FREIGHT SHED SAGA

#### The Perils of Preserving Historic Engineering Structures: a Personal View.

The Wheeling (WV) Freight Shed (1852) marks the terminus of the Baltimore & Ohio RR's Main Stem. On Christmas Eve 1852 the line was open from Baltimore to Wheeling. The great challenge of this pioneering enterprise, implicit in the name, B&O, was fully achieved after more than two decades of labor.

Not only does the Freight Shed mark completion of the Main Stem, it is a significant structure in its own right. The shed, 330 by 100 ft, contains a series of impressive, rare early Fink roof trusses of cast and wrought iron with timber top chords (Fig 1). Also noteworthy are the large counterweighted double-hung doors that provide easy access to wagons and river steamers docked at the busy port of Wheeling (Fig 2). The original head house was replaced in the mid 1870s by the handsome existing structure in Fig 3.

More than six years ago I became interested in the Freight Shed in connection with work on the historic Wheeling Suspension Bridge (Fig 2). The shed had been recorded on the first HAER/WV Survey, in 1972 [SIAN 1:4]. The recording efforts in Wheeling were given wide newspaper and TV publicity. We were applauded for our interest in "Historic Wheeling." One of the benefits of the HAER/WV Survey would be that applications would be prepared for the Natl Register for the sites recorded. The news releases clearly stated that nomination for the Freight Shed would be sought.

Meanwhile, intensive efforts were being made to build a civic arena for Wheeling despite the fact that similar structures in larger cities were not successful. The first site selected proved to be quite unsuitable because of the need for very expensive foundations.

Less than two years ago and well after completion of HAER's work, the arena site was relocated to the river front. This would necessitate demolition of the Freight Station and a series of impressive 19thC warehouses and commercial buildings. Apparently the group behind the arena project had forgotten the historic character of the Freight Station since they raised a great cry of "foul play" when its Register application was placed on the agenda of the WV Antiquities Commn, and the Fedl agency providing a substantial percentage of the arena funds threatened to demand from the sponsors an environmental impact statement for the site.

After their many trials and false starts, the arena group, led by the mayor and his fellow party members in the city council, saw this as the last straw and felt their political lives at stake. During the first fortnight of last October the papers printed a series of articles on the Freight Station vis-a-vis the arena. The mayor hinted at a clandestine group attempting to defeat the project. I was held responsible for this latest road block, my efforts supported by some suspect natl historical assn, which turned out to be none other than the Park Service!

To stave off disaster, a large delegation headed by the mayor appeared at a "closed" meeting of the Antiquities Commn in Parkersburg to tell their side of the story. Thus it was that the Commn decided not to recommend that the Freight Station be placed on the Register. In my opinion this is a serious setback for preservation activities in WV because it appears to many that the Commn has compromised its principles and will capitulate to political pressure.

Bids for the arena will be solicited in Jan 1975. There is a good chance that they will exceed the budget and the project will die. If this occurs the station could be adaptively used,

following one of the interesting proposals now in hand. Ironically, it is difficult to tell who is really for the arena at this stage except for the handful of promoters. After being labelled chief villain in this complicated affair I am now serving as consultant to the Wheeling Bicentennial Commn, whose primary aim is to preserve the Wheeling Suspension Bridge. Thus, the drama has come full circle, back to my original interest in the bridge.

The most important lesson in this saga is the need for community planning and the integration of historic sites in any master plan for a city or region. "Muddling through" will not work, since in such cases the political and commercial forces stressing "progress" will usually win. It is equally important for the public to become aware of the rich historic legacy they have inherited, which can be the capstone for the development of community pride and the improvement of the quality of urban life. *ELK*.

### MORE PATERSONIAN ARCHEOLOGY

Archeological research is continuing in the 19thC locomotive works area of Paterson, NJ's Historic Industrial District. Under the Supervision of Edward S Rutsch [SIA], archeologist-in-charge for the Gt Falls Development Corp (GFDC), the work, in its 2nd extended season, has successfully demonstrated the presence and value of in-ground historical material to the funding agencies of this salvage operation—the NJ & Fedl Depts of Transp—causing them to adjust construction plans to avoid destruction of the site. The offending construction—a storm drain for Rt I-80—is being placed in a 1025-ft tunnel beneath the remains of the Grant Locomotive Co erecting shop and the Rogers Locomotive Co foundry, and blacksmith, boiler, and hammer shops.

Preliminary findings from these excavations, together with the research results of the HAER 1973-74 Surveys, were presented at the *IA Symposium*, a joint meeting of the SIA and Council for Northeast Historical Archeology, hosted by the GFDC and the City of Paterson, 26-27 Oct. Papers dealt with archeological, architectural, historical, technological, and cultural aspects of the research done in the District during the last two years. The Symposium ended with a Sunday walking tour of the District, led by Rutsch and Sally Gibson [SIA] of the Paterson Museum, and included a visit to the then-open archeology site—the Rogers Locomotive Works boiler shop and foundry, c1870.

Additional information on the Archeology Project and related research: Edward S Rutsch, 15½ Van Houten St, Paterson 07510. (201) 278-2800 or 293-3386. Photographs available.



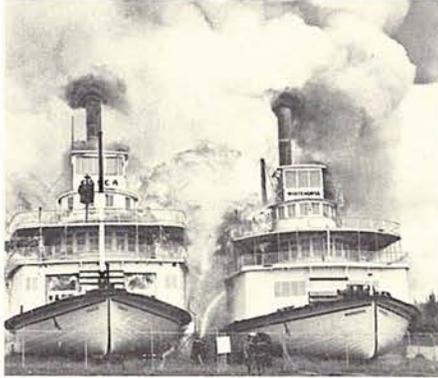
Forges found in the excavations of the Rogers Locomotive Co's boiler shop, 1873. A cleaned and reassembled forge in the foreground; one as-found behind. GFDC Photo by Lynda de Victoria [SIA].

### Landmark Status Sought for Hist Dist

NJ's Govr Byrne has appealed to Interior Secy Rogers C B Morton to declare the Historic Distr adjacent to the Great Falls of the Passaic at Paterson—2nd highest E of the Mississippi and itself a Natl *Natural* Landmark—a Natl *Historic* Landmark. Byrne's letter emphasized the area's extreme industrial-historical importance, and the recent ferment of activity to examine and interpret it.

## IA EVOKES A POETIC ELAN & ATONEMENT

On 20 June the two early-20thC sternwheelers *Casca* and *Whitehorse*, beached on the banks of the Yukon River at Whitehorse, YT, were destroyed by fire. Out of service since the early 1950s, they were awaiting restoration by interested parties. Although the Canadian Historic Sites Service already



### Poetic Elegy for Two Whitehorse Riverboats

I went down to the river this morning,  
Just to watch the river run by,  
The pines were caressing her shoulders,  
The clouds were caressing her sky.  
But the river looked saddened this morning,  
Such as I haven't seen her for years.  
I wondered what troubled her waters,  
How much of that water was tears.  
I asked the river her secret,

And she murmured back her reply,  
"I just lost two friends yesterday morning,  
After watching them suffer and die.  
For years they sailed my proud waters,  
Proudly I carried them till they were  
stilled.

Years later they guarded my shoulders  
Like sentinels—now they've been killed.

Killed by strange hands unfamiliar,  
Killed right here by my shore,  
Killed by the quick death of fire,  
Killed—I shall see them no more."

I walked back from the river this morning,  
And, oh, t'was a day without shine,  
For the "Casca" and "Whitehorse" were  
missing

Two friends of the river, and mine.

Wayne C Everest

### Requiem for the *Whitehorse* & the *Casca*

You served the Yukon well,  
And in your prime  
Cleaved with burdened holds  
Through treacherous shoals  
Whose spruce lined shores  
Embraced the skeletons of  
Former barques.

has two similar ships on display at Whitehorse and Dawson City, YT, an irretrievable chapter of Canadian history went up in the flames. But at least a small Phoenix has risen from the ashes, in the form of a new literary genre: *Industrial Archeological Poetry*. The anguish of the citizens burst forth in two poems, published in the *Whitehorse Star*, reprinted here by kind permission of the Editor. DP.



Retirement was rich in  
Ill neglect.

The sound of Yukon's waters  
Mocked your impotence  
Until a painted facade  
Brought back awhile the  
Image of a former glory.

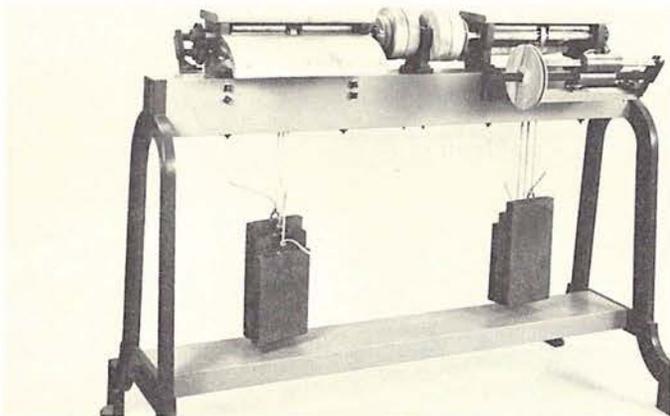
We passed you by until  
With awesome power  
The crackling Flames  
Uplifted all our eyes and  
Focused for a while your  
Dying personalities.

Our tears, showing anguished last respect,  
Some small atonement for our past  
neglect.

Ted Harrison

## TEXTILE MACHINERY RE-CONSTRUCTION

Old Sturbridge Village has supported research on early 19thC cotton-textile machinery since 1968, and three years ago began a program to reproduce a full compliment of c1830s equipment for the Phoenix Mill, an 1823 stone factory that will be moved to OSV [SIAN 1:5:2]. The work has been under the direction of Theodore Z Penn [SIA], OSV Researcher in Technology.



OSV Photograph by Donald F Eaton.

The design phase involves collaboration between research and machinery-design specialists. Sources include both documentary and artifactual data. American and British books, company records, and manuscript patent records have been culled for information. Unrecorded details of design, such as shapes of bearings and molding techniques, have been learned by studying surviving wood and metalworking machinery.

The first completed pilot model is a drawing frame (photo), chosen for its relative simplicity and because the principle of drawing by rollers is basic to several phases of cotton spinning.

Two pictorial documents helped define the basic shape of the machine. Reconstructed US patent #8201X, granted to Lewis Cutting in 1834, illustrates the design of the endframe and relative size of the drawing head. Details of the drawing head and its three pairs of rollers came from P1 23 of I L Skinner's *American Journal* . . ., 1828. The pilot model has two drawing heads. The completed machine, with four, will be twice as long.

Pattern making and assembly work are done at OSV, which is gradually acquiring the facilities to manufacture the machinery. TZP.

## EDUCATION

**New Life for Old Buildings**, a series of 16 lectures on conservation of the man-made environment for public officials and citizen representatives, will be offered by the Continuing Education Prog, Harvard Graduate School of Design, examining the factors involved in reusing old buildings, preserving historic structures, and stabilizing neighborhoods. How & why building conservation has worked, what resources are currently available, and what can be done to create a more favorable legal and economic environment, will be covered. An impressive group of over 30 practicing professionals from government agencies and private firms will discuss specific topics and describe the services their organizations provide by visual presentations, lectures, panel discussions, and readings. Participants will receive a catalog summarizing the resources presented.

Tues evenings, 6:30-9:00, 4 Feb-20 May. \$50 the series. Information: Peter Lawrence [SIA], Continuing Ed, Gund Hall 404, HGSofD, Cambridge, MA 02138. (617) 495-2578.

**Internships.** Old Sturbridge Village, an outdoor museum of rural New England history & culture, plans to offer up to 5 one-year museum training internships for 1975-76, beginning 1 September, intended for individuals with a strong commitment

to museum and historical agency work, and/or historic preservation. Information: Coordinator, Museum Internships, OSV, Sturbridge, MA 01566.

**Windmills 101.** In response to the needs of ranchers, NM State Univ plans to introduce a course on the restoration and repair of farm-type water-pumping windmills, of which thousands survive in the American west (and elsewhere). NMSU estimates that c15,000 are in working order and c70,000 more, abandoned, are in restorable condition. The energy and economic crises have made this once fundamental farm machine more attractive than the electric submersible pump that largely succeeded it.

## MARINE NEWS

### The Steamers

**Trillium.** The 150-ft Toronto Harbor side-wheel, inclined-engine ferry, built Polson Iron Works 1910 and operating until 1956, has been granted \$950,000 by the city's Metro for full restoration, to be back in service by next June.

**Nobska** [SIAN 3:4:2]. Her fate still is in the balance. Now she is out of service, going rusty at a Nantucket pier while the local steamship authority makes up its mind whether to invest the \$½-million needed to place her back in operation. Her only salvation appears to lie in her status as not merely a means of getting goods and people to & from the MA off-shore islands, but as a powerful symbol of the intangible psychological amenities that are so much a part of life on Nantucket and the Vinyard.

**Alexander Hamilton.** The Comm to Save the AH [SIAN 3:4:2] reports that she is to be purchased for \$25,000 by a group who will tow her to Atlantic Highlands, NJ where they will convert her into—guess what?—a *restaurant!* The expected purchasers have assured the CTSAH that restoration will respect the vessel's character; probably will be done under their consultation.

**Chauncey M Depew.** The 185-ft single-screw excursion boat, built Bath Iron Wks 1913 as the *Rangeley* for the ME Central RR, has had a varied career, last operating, until 1969, in Hamilton, Bermuda. She then was purchased and steamed to Northeast, Cecil Co, MD where she too . . . right . . . a restaurant. In Mar 1971 she sank & heeled over, remaining thus until July 1973. She then was raised, but now sits, her upper works damaged, awaiting a constructive reuse. Chances appear dim.

**Sabino.** Built 1908 as the *Tourist*, since last summer she has been operated by Mystic Seaport on the Mystic River. A fine 16 pp monograph on her history & steam plant is available from MS, Mystic, CT 06535.

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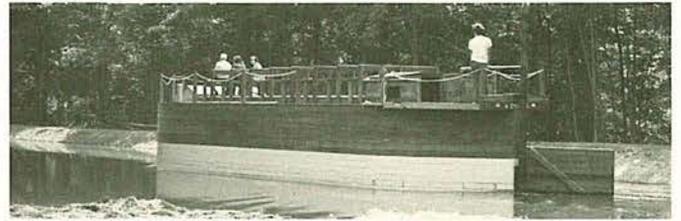
**High Tide for the Nation's Waterways**, a well illus article by Richard W Black in the July-Sept issue of *Historic Preservation* (Natl Trust), examines the reality and potential of inland and coastal travel by water.

**Ansel Gibbs**, 359-ton whaling bark that sailed from New Bedford, MA in Dec 1871 and sank in Hudson Bay on the return, is to be raised and sailed into New Bedford Harbor 4 July 1976 if Alexander Byron of Buzzards Bay, MA can get up the funds to pull it off, and is correct that the hull will be found sound, in the face of much advice that it won't.

**More on the Monitor.** In SIAN 3:4 we noted the apparent discovery of the *Monitor* off Cape Hatteras. Identity now is a certainty, but the discovery has given rise to a morass of debate over ownership, and over salvage, photographic, and examination rights, and over the ironclad's future; among the Navy, the State of NC, ALCOA (owner of one of the probe ships), Duke Univ, and the Natl Geographic. Highlight of the controversy was the snagging of the vessel last May with a large, hostile, rock-sampling dredge by a Univ of Del geologist, which brought up a few bits of plate and may have caused extensive damage to the fragile wreck. (Although the hull may

be too deteriorated ever to be raised, the engine and auxiliary machinery should be salvable, however corroded).

**Last of the Breed.** What is claimed by her promoters to be the only showboat afloat, the *Driftwood Floating Theater*, recently built, began last summer holding forth at the Foot of Broadway, Kingston, NY, and will do so, summer and fall henceforth, presenting such pivotal dramas as "The Family Upstairs" and "Mary's Other Husband," with vaudeville between the acts. (914) 331-9756.



William S Young Photograph.

**Canal Boats.** A 90-ft Delaware & Hudson Canal boat has been replicated at about ½ size from original specifications for a private group by the Weidner Construction Co of Honesdale, PA, and floated last spring on a 1600-ft newly rerouted section of the canal at White Mills, Wayne Co, where it will be used for excursions . . . and Chris Motz [SIA] has designed for the Hugh Moore Pwky Commn, Easton, PA, a 50-passenger, 50-ft packet boat to operate on the Lehigh Canal 4½ miles between S Easton and Chain Dam. Construction hangs on funding.

**Start your own fleet.** For sale @ \$21,000 is the New Richmond (OH) Ferry over the Ohio: all-steel tug; 8-car barge; lights for night operation; 220 HP diesel; Coast Guard certif. May be moved to *your* crossing. Capt A Cornett, New Richmond, 45157.

**More on culm dredging** [SIAN 3:5]. Robert S Mayo [SIA] reports that this arcane industry was practiced at least as early as 1929. When working then on the US Rt 30 bridge over the Susquehanna at Columbia (still the world's longest multiple-arch concrete highway bridge), the sand overburden was removed from bedrock for pier construction by hired culm dredges. These were steam stern-wheelers, ladder rather than suction dredging, quite as crude as the one reported last issue, and burning their own culm. He mentions also a steel suction culm dredge built 1950 by PA Power & Light to mine the sandbars above Safe Harbor Dam on the Susquehanna, the coal shipped by rail to their Holtwood steam station. The operation was abandoned last year.

## THE IRON ROAD

**Under the wire.** While the Milwaukee Road shut down its 440 miles of electrification in the north-central & far west, the US's most extensive electric RR system—the Penn Central's (ex-PRR)—continues in full flower despite the RR's own precarious financial position. (As part of a pending radical improvement to the entire Wash-Boston line to permit 4.75 hour service, the wire would be extended from its present north end, New Haven, to Boston.) It was in 1934 that the first segment of the Wash-NY line, Wilmington to NY, was energized, with trains hauled by the first of the fabled GG-1 locomotives, the 4800. She still is active after 40 years and 4-million miles, her pioneer status marked by the plaques she bears of several RR historical groups. Of the 139 GG-1s built, 108 survive. *Locomotives & Cars, June/July.*

**New England Consolidation.** A scheme that would solve the region's major rail problems has been proposed by Frederick C ("Buckie") Dumaine, Jr: amalgamation of the Boston & Maine, Bangor & Aroostook, Maine Central, and parts of the Delaware & Hudson and New Haven. The resultant pan-NE system would reduce overhead, eliminate 500 superfluous executive jobs, and greatly increase efficiency and service. The plan has met with considerable resistance and misgiving as well as obstacles set by the ICC, but it does have its supporters.

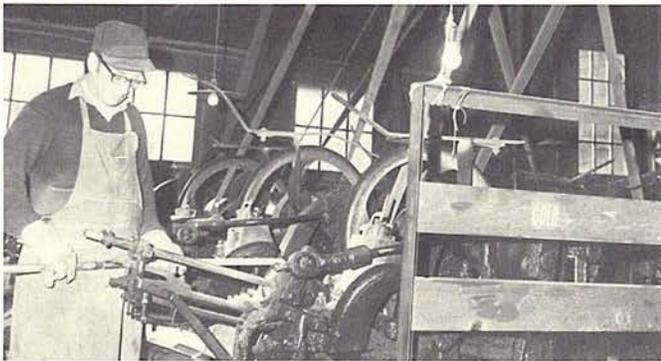
**Washington-Denver Train?** The Fedl Dept of Transp is weighing an experimental train on the route of the B&O's late *Natl Limited*, from Washington to St Louis via Martinsburg and Parkersburg, WV. *Wash Post*.

### OBSOLESCE INDUSTRIES

**Barrels.** The Spaulding & Frost Cooperage of Fremont, (SE) NH, the only white-pine cooperage in the US, burned to the ground nearly a year ago. As a means of revivifying the firm, a major employer in the area, a local corp was formed to obtain Fedl and state loans. A new bldg has been completed; some used machinery located and the rest specially built on the premises or on contract, and production is again underway. The products—barrels and pails—are sold largely as “novelty” items.

**Bells.** The McShane Bell Foundry in Baltimore is the last in the nation. Begun 1856 as a general brass foundry, the firm today employs eight, making only bells. Business is good, including much from abroad, the only competition being the few W Europe foundries and those electro-mechanical “simulated” bells, regarded with considerably less than contempt by McShanes. Their casting methods are classical: the sand core and cope (the outer portion of the mold corresponding to the bell's exterior) are “swept” to shape by radial formers, a pair stocked for each bell size. The lettering is applied in negative to the inside of the cope, the tin-copper alloy is poured into the mold, and the casting is cleaned, polished, and tuned. The firm's total product has been c150,000 bells, the largest of them weighing 10,000 lbs.

**Snuff.** Several US mfgs supply the market that is largely in Appalachia, the South, and SW. A minor renaissance is occurring but nothing earthshaking. A good bit is imported from England. Both dry (for snorting) and moist (for chewing) (yech) are made. A popular brand, “Red Top,” is made (since c1804) in New England's only snuff mill: Byfield (MA) Snuff Co, on & powered by the Parker River. Production is seasonal, mostly in early spring when the river is high. TN & KY tobacco is shredded in the basement, sprayed with saltwater & allowed to ferment for a week, cured for another week in the attic, mashed & pulverized, flavored (most of it), and packaged. Would you believe, 25-million lbs, all brands, sold in the US in 1973? Yech.



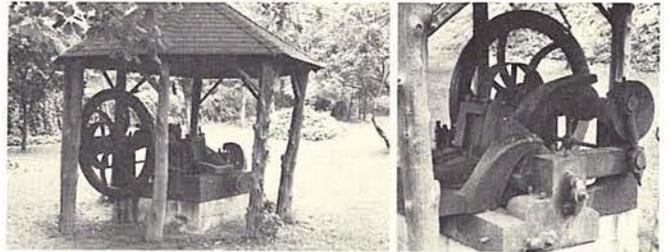
**Cut Nails.** Tremont Nail Co of Wareham, MA, in continuous operation since 1848 and thus probably the oldest extant US nail maker, is being compelled to modify radically its operations to comply with the 1970 Fedl Occupational Safety & Health Act (OSHA). They are one of two surviving makers of case-hardened, cut-nails in the US. (Used widely in construction—laying hardwood flooring, ie—as well as in wood boat building and other specialized applications). Nearly 100 nail machines—many over a century old—produce daily c2-million nails in a wide variety of sizes, from spikes down. Presently all operations are carried out in the original timber building.

Although the expected visit from OSHA has not yet occurred, Tremont is making changes in anticipation, although with considerable reluctance in view of the expense, their excellent safety record, and Pres James Kenyon's considerable

consciousness of the plant's historical significance and ambience as it presently is. The main changes will be erection of a modern steel building to contain most of the nail machines; their conversion from line-shaft-&-belt to individual-motor drive eliminating one of the chief safety hazards; use of sound deadening material; and to comply with pollution controls, cleaning of the sheet-steel stock by mechanical methods (shot) rather than the traditional sulphuric acid pickle.

The old building will be retained, to house some of the largest machines and for guided tours and a museum.

Business, flourishing until the building slump, now is almost totally off, but an 8-month backlog has kept operations going. SC.



Meanwhile, preserved in the Bridgeton, NJ City Park is one of the few industrial relics so memorialized: a *nail machine*, surviving from a nail works on the site 1815-1890 (photo). Little seems to be known of it locally, but it appears to be of 1850-60 vintage.

**Cast off.** The iron foundry, once the very basis of the machinery industry and much of the construction, is becoming an endangered species as weldments more and more are replacing even the largest castings. Cast iron as an architectural structural material was finished by WW-I. While there still are c4,200 iron foundries in the US—most of them house rather than job operations—they are folding at the rate of nearly 70 a year, due to raw material shortages, labor problems, and most of all, pollution and safety laws.

### MISC SITES & STRUCTURES

**The Highway that went to sea in trouble.** Henry Flagler's celebrated RR to Key West, FL, built across open ocean in 1912 against enormous odds; converted c1935 to the section of US Rt 1 that unites Key West and the other Keys to the mainland; is showing its age. Hurricanes and corrosion have taken their toll of the reinforced-concrete bridges, 37 of the 44 having been declared beyond repair by the state, with severe weight restrictions imposed. Replacement will take 5 years and \$155-million, which FL has not. *Busn Week*, 18 May.

**Found & Lost.** The City of Richmond, VA has insisted on constructing a downtown expressway—believed by many not to be necessary and in the light of recent findings probably not—that will totally obliterate much of the route of the tidewater connection of the *James River & Kanawha Canal*. Preservationists/historians/friends of the city had proposed restoration of the canal & locks as a city park. But no. Excavation for the expressway uncovered much of the canal prism and the first 3 locks, well preserved and easily restorable. Too late. Destroyed. And insult added to injury, the road will come within feet of the section of the canal, incl Locks 4 & 5, on the property of and lovingly restored by Reynolds Metals [SIAN 1:2:3]. *Sic transit &c.*

**Cooper Union.** Peter Cooper's famed building on Cooper Sq, NY, seat of many educational & structural innovations, and the SIA's 1st Annual Conference (1972), has been reopened after a radical, 2-year renovation that has left the exterior essentially unaltered; the Great Hall likewise except for an extension of the stage and redecoration, and much of the interior spaces “opened up” as originally. Reports are, however, that practically and functionally, it isn't very.

**The All-Electric Home, 1882.** What may be the first house in the US lighted by centrally-generated electricity, from the famed Appleton, WI station—first US hydroelectric station—is being restored by owner Harold D Mares. The Appleton Station (still extant, equipped with non-original but appropriate, operable equipment) was built to supply a paper co, whose owner decided also to wire his house, then nearing completion. No tentative project, the electrification was full-scale, with in-wall wiring and specially-made combination gas-electric fixtures. The lights—on the Edison system—went on 30 Sept 1882, less than a month after Edison's Pearl St Station, NYC, opened. (NY) Consolidated Edison's records show that no houses, only businesses, were lit from Pearl St (The famed installation at J P Morgan's Madison Ave house was supplied not by Pearl St but by an isolated plant in the back garden).

**Wind.** It definitely is here to stay. Another manifestation of the strong renewal of interest in wind energy is the construction by Scarborough, ME electrical engineer Earle Rich of a wind generator, capable of 15 KW in a 30 knot wind. Using surplus materials and parts, Rich built the unit, with 20-ft-diam, 3-blade wheel, atop a 60-ft tower, for \$2200. The output will be used to supplement his house heating plant, furnishing, he hopes, about 50% of the energy. (Art: *ME Times*, 29 Nov. Topsham 04086).



**Cement Kilns.** The battery of 9 vertical cement kilns of 1875 at Coplay, Lehigh Co, PA (seen on the SIA Lehigh Valley Tour, Sept), have been offered to the county for a park by the Coplay Cement Mfg Co of Nazareth, the county apparently interested. These are the only kilns of the type known, although a similar "bottle" kiln of c1895 survives nr Marlbank, Ont [SIAN 1:4]. They were in use until about 1900 when made obsolete by the horizontal rotary kiln. The first American Portland cement was made here by David Saylor.

**Chemistry.** The Waltham, MA district is so named as it was the seat of the former Newton Chymical Co, founded 1825 to mfg concentrated sulphuric acid (nee oil of vitriol) by condensing the fumes from burning sulphur and sodium nitrate. The firm was liquidated in 1872 and the site divided into house lots.

**More uses for stations.** Another one in AL—Dothan—has been adaptively used: with two RR cars—a chair/baggage and a private car, the *Dothan* (nee *Moultrie*)—as a branch bank, serving also as a "reminder to the public of the community's debt to the RRs which made Dothan prosper."

**Starrucca House Progress.** The architectural restoration firm Day & Zimmerman, Phila, has been retained by the Borough of Susquehanna, PA to prepare a feasibility study for the station/hotel's rehabilitation/conversion.

**Sheave Exhumation.** During recent excavation for a steam line in Paca St, Baltimore, an 18-ft sq x 10-ft high brick vault was discovered 4-ft below street level, containing two 11-ft cast-iron sheaves—"turn pulleys"—for returning the cable of the Gilmore St cable car line, laid down c1892 and discontinued c1899. The sheaves probably will be donated by the city to the Balto Street Car Museum.



Robert de Gast Photograph. From *Lighthouses of the Chesapeake*.

**Thomas Point Lighthouse,** an iron screwpile structure of 1874 at the mouth of the South River nr Annapolis, MD, the last manned lighthouse on Chesapeake Bay, has been the center of a controversial swirl prompted by the Coast Guard's proposal to replace it with an automatic light costing only \$5,000/year to operate vs \$38,000 for the manned station. The preservation implications are complex. The CG itself has nominated the light to the Natl Register, stating that if accepted they probably would leave it as is and build the automatic light adjacent. Whatever occurs, MD has volunteered to take over the structure, even the expense of manned operation. Only 106 manned lights remain in the US.

**Leaky mine.** The legendary Schuyler copper mine in N Arlington (formerly Belleville), NJ, the first in the American colonies, was worked first in 1719. When in the 1750s water inflow became excessive, a Newcomen-type steam engine imported from England, the first in NA. The mine last operated in 1773 but its shafts remained more or less open until 1949 when the various openings were sealed off. It has attracted attention recently as a public nuisance, the water that once merely oozed out over the past decade having become a flow flooding local streets.

**Brooklyn Bridge** has been repainted by NY DPW's East River Bridge Divn, but not your tacky monochromatic job. As a NYC (as well as an ASCE, and National) Historic Landmark, The Bridge falls under the aesthetic jurisdiction of the NY Landmarks Commn, which went to great pains to determine the original color scheme. They did, and in it the Bridge was handsomely rendered: medium brown for the steel suspended structure; tan for the main cables; silver for the vertical suspenders and diagonal stays. Nice.



Three-roll sugar mill and Ames boiler, c1878, at Meyer Sugar Mill.

**Hawaiian IA.** Through the efforts of John Cotton Wright [SIA], historian of the Bernice P Bishop Museum, Honolulu, there is to be some recognition of the IA of the Islands. Most of this, naturally, derives from HI's two main industries: sugar and pineapples. Nominated to the Natl Register has been one of the best survivals of a small sugar mfgy: the Meyer Sugar Mill, 1878, at Kalae on Molokai. Much of the relatively small operation survives: the 3-roll, mule-powered cane mill, mfd in Liverpool (photo); and a timber boiling house containing boiling vats with their fireboxes, masonry molassas tanks, and a centrifuge with Ames (Oswego, NY) steam engine & boiler. About 50 tons of sugar were produced annually from 30 acres of cane. Operations ceased in 1900.

## MISC NOTES

**Under Land & Sea.** The joint Annual Conf of the Soc for Historical Archaeology and Intl Conf on Underwater Archy will occur 8-11 Jany at the Inst of Archy & Anthro, Univ of SC, Charleston. Sessions & field trips. Details: R L Stephenson, Inst of A & A, USC, Columbia 29208. (803) 777-8170.

**Merrimack Valley Textile Museum** has been awarded \$1500 by the MA Council on the Arts & Humanities for printing 1822 glass negatives from the Davis & Furber Machine Co, N Andover (textile machy) 1890-1930.

**Steam cars.** No re-application of an earlier technology has had more ups and downs over the past decade than the steam automotive vehicle. It's up again. Last Feby Scientific Energy Systems Corp of Watertown, MA was awarded an Environmental Protection Agy contract, for continued development of an automotive steam engine, that calls for demonstration of a Rankine-cycle (conventional boiler-engine-condensor) engine in a 3500-lb vehicle by 1976, "showing it to be a viable alternative to today's internal-combustion engine."

**Inquiry: Cincinnati.** Information/material on the IA of the Queen City for a projected book on her architectural history is sought by Philip D Spiess II [SIA]. M-828, 1111 Arlington Blvd, Arlington, VA 22209.

**Position avail. Western Museum of Mining & Industry** [SIAN 2:2:1] has challenging posn for individual w/ previous museum exper to direct all phases of formation & operation. Budget c\$200,000. 3-yr-old instn, not yet open to publ. Perm staff; excel colln machinery. Salary open. Resume to FM Farrar, Pres, WMM&I, Box 9186, Colorado Spgs, CO 80932.

**Position sought. Mech Design Engr,** 21 yrs exper, seeks to combine fascination w/ research, histl documentation; RRs; canals; & steam locos & engines; w/ his ME knowl in a new, gratifying position w/ some measure of job security. D Mordell, 106 Cora Ave, N Syracuse, NY 13212. (315) 458-6565.

**Trails.** A series linking historic and natural sites in a 100-sq-mile area of Montgomery and Frederick counties, MD, is being planned by Stronghold, Inc, with funding from Montg Co and NEA. 250 historic sites, from the Indian period to the present, will be identified and evaluated, following which canoeing, biking, walking and horse trails will be laid out. Included will be the Seneca (redstone for the Smithsonian Bldg) and other quarries, the C&O Canal, RRs, and other industrial sites and structures. All, and the route itself, will be interpreted. Volunteers needed. S,I, Box 87, Dickerson, MD 20753. (301) 972-3902. *Preservation News, Sept.*

**Research project of worth. West Point Foundry,** Cold Spring, NY [SIAN 2:4:4]. Major 19th-early 20thC mfrg machinery & ordnance. Some remains; much verbal & graphic documentation avail. Editor.

**Recording needed. Harvard Sq Yards & Shops,** 1910, MBTA, Boston, soon to be demolished for JFK Library. Machinery intact. Info: C M Sullivan, Cambridge Hist Commn, 64 Oxford St, Cambridge, MA 02138. (617) 876-6800.

**Charles M Sullivan** [SIA], has been appointed Director of the Cambridge (MA) Historical Commission.

**Arthur C Townsend** [SIA], Director of the MD Historical Trust—one of the few state historical agencies with a systematic concern for IA, both on and off the Natl Register—has been appointed also the State Hist Pres Officer.

**Patrick M Malone** [SIA], ex Dept of Amer Civ, Brown Univ, has been appointed Director of the Slater Mill Historic Site, Pawtucket, RI, succeeding . . .

**Paul E Rivard** [SIA], who has assumed Directorship of a developing, as yet nameless, museum in Corning, NY, based on a vast collection of paintings of the Amer West, firearms, and toys, and the world's largest collection of Steuben glass, all to be housed in the ex-City Hall, c1795, the restoration of which is part of the task.

The Pictorial Collections of the Eleutherian Mills Historical Library, Greenville, DE 19807, are described in a new illus pamphlet: 200,000 views treating the economic, industrial and technological history of the Mid-Atlantic states; both private and corporate collections, ie: Westinghouse Electric Corp (Steam Divn); Phoenix Bridge Co; Lukens Steel Co; Dallin Aerial Surveys; Pusey & Jones; E I Du Pont.

**Stations,** the film premiered at the Indianapolis RR Station preservation conference [SIAN 3:5:2], is available for sale/rent. A useful preservation PR tool. Flyer: Roger Hagan Assoc, 1019 Belmont Pl E, Seattle, WA 98102. (206) 324-5034.

**Correction. The Delaplaine Museum** of electrical apparatus, noted last issue, no longer is open to the public at large; only to groups of 25+. Those interested in an SIA visit in, say, Jan or Feb might contact the editor.

## SIA AFFAIRS

### AMENDMENT FOR LOCAL CHAPTERS

At its last meeting, the Board of Directors moved to present to the general membership at the 4th Annual Conference in Baltimore 26-27 April an amendment to the By-Laws that will enable the establishment of local SIA chapters. This amendment will not become official until ratification by the membership. There is no reason, however, why those interested should not begin immediately to canvass members in their respective areas and begin to organize local chapters. The proposed amendment is given below to permit comment and to provide guidelines towards organizing local chapters. Further information: Eric DeLony, Chrmn, Local Chapter Comm, c/o HAER, Natl Pk Svc, Wash, DC 20240.

### ARTICLE VII – CHAPTERS OF THE SOCIETY

**Sec 1. Establishment of Chapters.** The Board of Directors shall be empowered to establish local Chapters of the Society upon the formal written petition of a minimum of twelve (12) members of the national Society. The petition shall include draft "by-laws" outlining the function and organization of the local chapter for approval by the Board.

**Sec 2. Membership in Chapters.** All members of local Chapters also must be members in good standing of the national Society and shall pay the dues of both the local and national organizations.

**Sec 3. Meetings of Chapters.** Each chapter shall have a minimum of two (2) meetings a year. Copies of the minutes of these meetings shall be sent to the Secretary of the national organization within 30 days of the meeting. An annual report and financial statement shall be forwarded to the Secretary of the national organization 30 days prior to the annual meeting at which time a representative of said chapter shall be called upon to report. If the minimum schedule of meetings is not maintained, the chapter shall be considered disbanded.

**Sec 4. Authority.** No local chapter shall take any actions on any public issue using the name of or on behalf of the national organization without approval of the Board of Directors of the national Society.

### PAPERS: BALTIMORE

This is the time to plan and propose a paper for the Baltimore Conference. Please advise Edward S Rutsch of your title as well as panel topics & any other ideas for the meeting. GFDC Archeology Lab, 15½ Van Houten St, Paterson, NJ 07510. (201) 278-2800 or 293-3386.

### IA: The Journal of the SIA

It's official. *IA* is the name of the Society's new journal, the first issue of which is due early in 1975. The title was approved by the Bd of Dirs at their Nov meeting. If interested in submitting papers and/or other material for possible publication, contact E L Kemp, Editor, IA, Dept of CE, West Va Univ, Morgantown, WV 26506 for an authors' guide.

## PUBLICATIONS OF INTEREST

American Canal Guide, Pt 1: BC, WA, OR, CA. American Canal Society. 4 pp, illus. \$.50 (free with \$6 ACS membership). Wm Trout, ACS, 1932 Cinco Robles Dr, Duarte, CA 91010.

Harold L Bischoff, Clayton's Silica Mine. In *The Palimpsest* [State Hist Soc of Iowa], May/June, pp 84-96.

Brian Bracegirdle & Patricia H Miles, *The Darbys & the Ironbridge Gorge*. Newton Abbot: David & Charles. 112 pp, 110 illus. \$10.50. Essentially a photo album of objects in and around the Ironbridge Gorge Museum.

A R & RB Buckalew, *The Discovery of Oil in South Arkansas, 1920-24*. In *The Arkansas Hist Quart*, Autumn, pp 195-238. Many photos.

Chicago Surface Lines—An Illus History. Transport History Press, Box 201, Park Forest, IL 60466. 350 pp, 500+ photos & dwgs. \$17.50 + .88 in IL. Full hist of all st cars, tracklesses & buses.

Michael Darby, *Early Railway Prints*. London: Victoria & Albert Museum. 74 pp. \$2. Exhibition catalog. 38 full-page b/w illstns with descriptions, of some of the finest early 19thC prints of rolling stock, structures, and the general presence of the ry. Much of Jno C Bourne's fine work of the London & Birmingham and Gt Western.

Trevor J O Dick, *US RR Inventions' Investment Since 1870*. In *Explorations in Econ Hist*, Spring, pp 249-70.

The Famous Amoskeag Steamers from Manchester, NH. Manchester Historic Assn, Special Bull No 1. 10 pp. \$.25. Illus descr of the foremost steam fire engines built. MHA, 03104.

Heywood Fleisig, *The Union Pacific RR & the RR Land Grant Controversy*. In *Explorations in Economic History*, XI, Winter 73-74. Kent State Univ Press, Kent, OH 44242.

Margot Gayle [SIA] & Stephen Garmey, *The NY Crystal Palace 1853-58*. 6 pp illus leaflet on the other CP. FoCIA, 44 W 9th, NYC 10011.

— & Edmund Gillon, Jr, *Cast-Iron Architecture in NY*. NY: Dover Press. xviii + 190 pp. \$6. 217 photos by EG; captions & text by MG. Most of NY's 250-300 surviving cast-iron bldgs shown, full & in detail. History; careers of the important designer/founders; map; comments on recent preservation-restoration. Avail FoCIA, as above.

H Roger Grant & Donovan L Hofsommer, "KATY" Depots of Oklahoma: A Pictorial History. In *The Chronicles of Oklahoma*, Fall, pp 331-41.

Herbert H Harwood [SIA], *Rails to the Blue Ridge—the Story of the Washington & Old Dominion*. 1969. Pioneer America Soc, 626 S Washington St, Falls Church, VA 22046. \$4.50. (The PAS's bimonthly organ *Pioneer America* consistently carries articles of IA interest, viz (vol:no:year): H H Douglas, *The Washington & Old Dominion RR* (prelim issue 68); E J Wilhelm, Jr, *The Blue Ridge Mill Complex* (1:1:69); R Bye [SIA], *The American RR Depot* (1:1:69); P S Vogt [SIA], *The Axe & Oakland, ME* (1:2:69); J E Wilkinson, *The Early Orange & Alexandria RR, 1849-54* (1:2:69); J Tyler [SIA], *Two Centuries of Technological Change Reflected in a Cumberland Co Mill* (2:1:70); T W Kury, *Early Settlement in the Highlands: An Iron Maker-Farmer Sequence?* (2:1:70); B & N Butler, *Glendon Dill's One-Man Woolen Mill at Phillips, ME* (2:1:70); T W Kury, *The Long Pond Iron Works: A North Jersey Plantation* (2:2:70); W E Barrett [SIA], *Iron Bridges* (3:1:71); G Wilhelm, *Pioneer Boats & Transportation on the Upper James* (3:1:71); T W Kury, *Anthracite, Iron, & the Morris Canal* (3:2:71); R Candee [SIA], *The Old Schwamb Picture Frame Mill: Preservation of a Small 19thC Local Industry* (4:1:72); T G Jordan, *Evolution of the American Windmill: a Study in Diffusion & Modification* (5:2:73); B & N Butler, *The Bartlett Mills, Harmony, ME—150 Years in Production* (5:2:73).

Michael A Hackleman & David W House, *Wind & Wind-spinners—a 'Nuts & Bolts' approach to wind/electric systems*. Earthmind, Josel, Saugus, CA 91350. 115 pp. \$7.50 PP. Full theoretical & practical data—mechanical & electrical—on construction of an "S"-rotor wind turbo-generator—not the most efficient type but the simplest to build. Much too on wind energy in genl; bibliography.

Donald W Hogan, *Unwanted Treasures of the Patent Office*. In *American Heritage*, Feb 1958, p 16, and Calvin Trillin, *US Journal: Garrison*, NY. In *The New Yorker*, 7 Jan 1974, p 52. The bizarre history of the collection of US Patent models.

Geraint Jenkins, *The Craft Industries*. London: Longmans, 1972. 128 + xxi pp, illus. \$9. In Longmans' IA series. Describes a series of surviving handicraft industries in GB that help to explain their successor factory industries, heavily drawing on the unwritten lore upon which such industries are based.

John R Harris, *The Rise of Coal Technology*. In *Scientific Amer*. August, pp 92-7. The Indust Revolution based not on Watt's engine & textile machinery of the mid-18thC, but on England's highly developed technology of coal extraction and use, in practically all industry, at least 100 years earlier. Important, stimulating article.

Lawrence O Houstoun, Jr, *Let's Concentrate on Saving Rail Service Instead of Stations*. In *AIA Journal*, Sept, pp 50-52. The other side of adaptive use. "If it [preservation] is not for the preservation of function whenever possible, it is a misdirected and wasted pursuit . . . Give Reading Terminal a decent burial when the trains leave, and spare us from more little shops selling scented candles . . ."

Lewis E Judson, *Work Horses in Oregon*, in *OR Hist Quart*, Sept, pp 204-19. Fine photos of them hauling, plowing, thrashing, logging, &c.

Terry Karschner [SIA], *The Pietro Rotto House*. In *NJ Hist Commn Newsletter*, Nov. Site of speeches during IWW strikes at Paterson, 1914.

Edw J Lenik [SIA], *Excavations at Charlotteburg Middle Forge*. In *Bull of the Archaeological Soc of NJ*. Spring/Summer. \$2.50. Rm 104, Humanities Bldg, Seaton Hall Univ, S Orange 07079.

Rich E Lingenfelter, *The Hardrock Miners*. Berkeley: U CA Press. 308 pp, illus. \$12.50. Relationship between labor movement & industrialization of the mines in West. Development of labor org; miners' life & aspirations.

Okura Nagatsune, *Seiyu Roku [On Oil Manufacturing]*, 1836. Engl transl. New Brunswick, NJ: Olearius Edns, Box 525, 08903. .80 pp, 26 woodblock prints, \$7.40. Designed & prod in the traditional Japanese format of the period. With essays: biog sketch of Nagatsune and comparison of early 19thC Japanese & European oilseed technologies, by Carter Litchfield [SIA].

Dianne Newell [SIA], *The Short-lived Phenomenon of RR Station-hotels*. In *Historic Preservation*, July-Sept, pp 31-36. Natl Trust, 748 Jackson Pl NW, Wash DC 20006. \$1. Well illus essay on this relatively rare breed, mostly B&O; also PRR, and the Erie's Starrucca House [SIAN 3:5:3].

*The Next Station Will Be . . .*: Vol 2. [see SIAN 2:4:6] Railroadians of America, 761 W Inman Ave, Rahway, NJ 07065. 50 pp. \$3.50 PP. Superb photos of Erie RR branch line stations, based on collection of 1910 views. This vol: NY & NJ RR, Jersey City to Haverstraw.

*The Mother Earth News Handbook of Homemade Power*. NY: Bantam Books. 374 pp. \$1.95. Cook & heat with the sun! Use the wind to make electricity! Power your shop with a water wheel! Run natural gas appliances or a car on "free" methane! And more! (The old ways are the best ways.)

Wm R Petrowski, *Kansas City to Denver to Cheyenne: Pacific RR Construction Costs & Profits*. In *Business Hist Review*, XLVIII, Summer.

Richard V Pierard, **Sylvanus F Bowser**. Ft Wayne, IN: Public Library of Ft Wayne. 1964. 18 pp, illus. The eccentric genius who pioneered in handling & metering of liquid fuels: kerosene; later, gasoline.

D Morgan Rees, **The IA of Wales**. N Pomfret, VT: David & Charles. \$17.50.

Norris F Schneider, **The National Road: Main Street of America**. In *Ohio History*, Spring, pp 114-46. Fine illus, bibliog.

W O Skeat, **George Stephenson: The Engineer & His Letters**. Instn of Mech Engrs. 1 Birdcage Walk, London SW1 H9J. 1973. 268 pp. \$11. (Review, joint with reprint of Smiles' Stephenson (1858), in *RR History 131*, pp 124-6).

A Vaughn, G W R Architecture, and R Clark, G W R Station Plans. Photos, plans & data on Gt Western Ry structures of all types. Oxford Publ Co, 5 Lewis Close, Risinghurst, Headington, Oxford, Engl.

Thos Vaughan (ed), **Space, Style & Structure—Building in Northwest America**. OR Hist Soc, 1230 SW Park St, Portland 97205. 750 pp in 2 vols, 1000 illus. \$23 paper; 28.50 cloth, PP. Incls indus bldgs.

Hugues de Varine-Bohan, **A Fragmented Museum: the Museum of Man & Industry** [SIAN 2:6:3]. In *Museum* (UNESCO), vol 25 No 4, 1973, pp 242-49. Account of an experimental, somewhat controversial "living" museum encompassing the entire semi-industrial, semi-rural Le Creusot—Montceau-les-Mines region of Burgundy, with inhabitants rather than visitors, including, *inter alia*, mills, factories, mines, houses, shops, scenic spots, canals, &c &c. "Any movable or immovable object within the community's perimeter is psychologically part of the museum." Like Ironbridge, only more so.

#### Special Publications

**ASCE Guide to History & Heritage Programs**. ASCE, 345 E 47th St, NY 10017. 58 pp. Gratis to the seriously interested. The philosophy of preserving and commemorating CE structures & documents, with emphasis on the ASCE Landmark program [SIAN 1:4:2], incl a descriptive list of the 37 Hist CE Landmarks designated since 1966.

The American Canal Society (809 Rathton Rd, York, PA 17403) has distributed the first of a series of regional canal bibliographies: **Canals of South Carolina**, by Harry L Rinker [SIA]. ACS distributes a good variety of canal publications.

**New City on the Merrimack: Prints of Lawrence** [MA] 1845-1876. *Occasional Report No 2*, Merrimack Valley Textile Museum, N Andover, MA 01845. 32 pp. \$3.50. Selected prints and dwgs from MVTM collections illus growth of a major textile community carved from farmland, following Lowell's success.

**The Chicago Freight Tunnels** (reprint of 1926). Descr of the unique electrified network under the Loop: 40' down; 6' wide; 7½' high. 32 pp, illus, map. \$3.50. (No P-843). Also: James Blaine Walker, **Fifty Years of Rapid Transit** (reprint of 1918). Rapid transit in NYC 1867-1917. 291 pp, illus. \$14 (hard cover). (No P-847). (Review: *Tech & Culture*, Jany). From Electric Railroaders Assn, 145 Greenwich St, NYC 10006.

**Pennsylvania RR, C T 1000**. 1945. Listing of all stations, sidings, branches, towers, &c on this farflung system, at publ date. \$8. Penn Central Souvenirs, Rm 1040, 6 Penn Center Plaza, Phila, PA 19104, cat no. PC-29. Edn for Eastern Region only (PC-30): \$4.

*The following PhD dissertations are available in copy from Xerox Univ Microfilms, Box 1346, Ann Arbor, MI 48106 @ \$10. We would like to publish other pertinent titles.*

Roy L DuBois, **John Stevens, Transp Pioneer**. NYU, 1973.

Michael W Robbins [SIA], **The Principio Co: Iron Making in Colonial MD, 1720-81**. Geo Wash Univ, 1972.

Theodore A Sande [SIA], **The Architecture of the RI Textile Industry—1790-1860**. Univ Penna, 1972.

Harold K Skramstad, **The Professional Life of William Rich Hutton** [CE, 1826-1901. Bridges, canals, tunnels, &c]. Geo Wash Univ, 1971.

Joanna S Zangrando [SIA], **Monumental Bridge Design in Wash, DC as a Reflection of American Culture, 1886-1932**. Geo Wash Univ, 1974.

*Unpubl theses, Historic Deerfield*: Christopher Hegner, **Water Powered Mills in Deerfield to 1790**, with photos of present remains; Mark R Edwards [SIA], **So Long as Water Flows and the Grass is Green—a History of the Stebbins Mill**. The long history of a grist mill and assoc enterprises, with photos. Filed at Pocumtuck Valley Library, Deerfield, MA. List avail of all theses since 1956.

#### REVIEW

Frank E Snyder and Brian H Guss, **The District: A History of the Philadelphia District US Army Corps of Engineers, 1866-1971**. (Avail: OAS, USAE District, Custom House, 2nd & Chestnut Sts, Phila, Pa 19106). 270 pp, 265 illus, glossary, bibl, index. \$5.75.

The authors begin this history with 1775, almost a hundred years before the formation of the District in 1866. This chronicle covers military and civil works under the jurisdiction of the Army, in a region that nearly coincides with the present official District: the watersheds of the Delaware River and Bay, plus the area draining to the Atlantic from near NY City in NJ to the MD-DE border. However, the authors have not hesitated to reach outside the District when appropriate to their story.

*The District* is readable and well illustrated. The organization follows particular subjects, such as "Big Storms — Big Floods," thus having overlapping chronologies. In the interest of readability frequent numbered references are used and details and documentation are thus handled for those who are interested. The front and rear inside covers show photographs of the successive chief engineers from 1866 to the present. The photographs, maps, sketching, and drawings are attractive and useful. The discussions and graphics on construction techniques and materials are particularly interesting. The authors end with a discussion of recreational uses and of the controversy over "new dams"—the problem of how to preserve and serve.

This book fills an important niche in the history of civil and military engineering for a small section of the country of great importance to our technological development. It is a valuable addition to the literature of our bicentennial observances and should attract a general, as well as specialized, audience. *Cliff H Keho, Texas Tech Univ.*

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#### To the Editor:

One item in the Sept SIAN put me back on my heels. Nobody who had been in the Union Mfg Co buildings would want them preserved. They were of standard heavy-timber and brick-bearing-wall construction. Over the years the lack of maintenance and use as a foundry had made them dingy, filthy, and a hell-hole. I was happy to see the damnable complex come down.

We *must* not get in the position of lamenting the destruction of anything because it is old. There must be more reason than that. The Boston [warehouse] buildings noted seem to be in a different category and perhaps they could have been reused.

Cast-iron architecture in NY, for example, is a form that deserves preservation because of appearance and uniqueness. Some bridges, the Lewiston, ME, gas holder, and similar structures need attention. A factory for the most part is only an enclosure—if what took place within deserves preservation then perhaps the building does too. If there are good architectural features, as with the Colt Armory [Hartford], then that deserves attention. *Victor Darnell, Kensington, CT.*