

SOCIETY FOR INDUSTRIAL ARCHEOLOGY

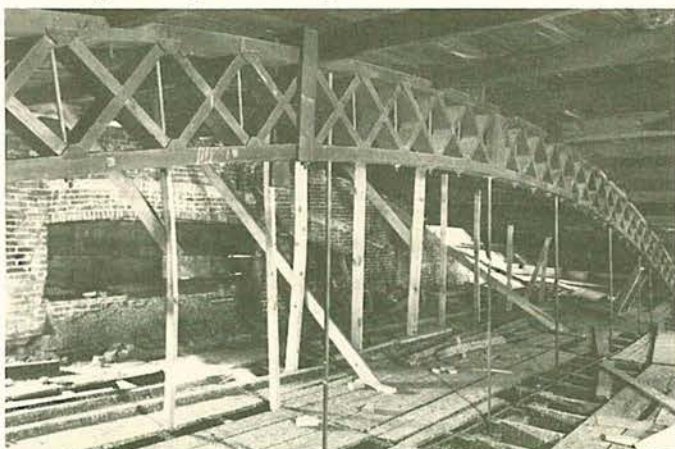
NEWSLETTER

Volume Six Number 1

January 1977

POSSIBLE EARLIEST EXTANT HOWE TRUSS

The HAER Emergency Recording Team has identified and documented what may be both the first example and the last survivor of the first generation of barrel-vault trainshed arches, and at the same time, the earliest extant Howe truss. (Patented by Wm. Howe 1840; widely used in RR bridges & roofs into the 20thC). The single arch-rib supports the roof, between the brick front and rear walls, of Baltimore's President St. Station, built in 1849-50 by the Phila., Wilmington & Balto., itself the earliest standing large city RR station in N. America [SIAN Jan 76:3]. Although the station has been under scrutiny for several years by historians and the HAER team, only this fall was access to the attic obtained, resulting in discovery of the arch.



Howe trussed arch supporting the roof of President St. Station. The timber arch tie is barely visible beneath the floor joists, at the lower ends of the vertical hanger rods, center of photo. HAER photograph by William Edmund Barrett [SI:A].

The arch is of heavy timber construction, spanning 66 ft., formed of two chord-ribs stiffened by typical Howe-pattern trussing with wood diagonal struts and iron radial ties. The thrust of the arch is resisted by a horizontal timber tie supported by iron vertical hangers from the arch. The tie doubles as a girder carrying the attic floor joists, whose outer ends bear in the end walls.

The station and its original trainshed (since replaced by a nondescript c1913 shed) may have been the first to incorporate this truss type in a shelter structure. The system was used, with modifications in detail, for every trainshed of similar form for the next twenty years. In trainsheds, the arch ties invariably were iron.

According to Carl Condit [*American Building Art—the 19thC*, 1960], the Philadelphia terminus of the PW&B was the prototype for later mammoth barrel-vaulted sheds, but President St. preceded it by one year. The two stations were almost identical in style and both were designed by George A. Parker, PW&B engineer. While this last surviving trussed arch is not in the shed portion, it is identical to those used in sheds, except for the wood tie. ED, DZ.

Anyone having information about this or other structures of a similar nature is requested to contact: Eric N. DeLony, HAER, Natl. Park Service, Washington, DC 20240.

AND YET ANOTHER WHIPPLE TRUSS

They're coming out of the ironwork. Followers of the breed have lost exact count now, but this seems to be, as described in the N.Y. State inventory form, "... oldest of approximately six remaining Whipple bowstring bridges in the state." And not counting the one found recently in Coshocton, Ohio [SIAN Mar 76:3]. It is, clearly, the upsurge of interest in our IA in general, and early iron bridges in particular, that has alerted people to the recognition and importance of these particular structures. Designed and patented by Squire Whipple of Albany in 1841, the bridge was the first in the world, all of iron, to be widely produced as a "standard design." Literally hundreds were manufactured by a variety of builders, almost all in N.Y. State.

The invention was inspired by a major enlargement of the Erie Canal starting c1840; the majority of the early Whipple bridges were built as replacements to carry common roads over the widened canal.

In 1969, when HAER recorded an 1867 example in Albany, only one other was known to exist. The rash of recent "discoveries" is entirely logical for when the Erie Canal was superseded by the N.Y. State Barge Canal c1915, great numbers of these small, easily demountable trusses apparently were sold off by the state and purchased for re-erection on minor public and private roads. Hence their present hinterland habitat.

The new truss, spanning 65 ft, is near Johnstown, Fulton Co. It bears cast-in legends on the Whipple patents, and the builder: Shipman & Son of Springfield Centre, N.Y. It is one of the few survivors thus acknowledging its dual paternity. The bridge is abandoned but in good condition. It will be nominated to the Natl. Register by the state Divn. for Historic Preservation.

1976 FEDERAL LEGISLATION FOR PRESERVATION

1976 was a banner year for new federal legislation to aid in the preservation of historic properties. Of special IA interest are (1) the Public Buildings Cooperative Use Act (PL94-541) authorizing GSA to purchase and renovate buildings of historic or architectural significance for federal office use; (2) the RR Revitalization & Regulatory Reform Act (PL94-210) which in section 706 provides for the preservation of significant RR stations, for planning and feasibility studies, and for the acquisition of historic buildings for AMTRAK passenger stations; (3) PL94-462, which reauthorizes the Natl. Fndn. on the Arts & Humanities (NEA; NEH), for fiscal years 1977-80, and establishes a new Inst. of Museum Services, under HEW, to make grants for the operating costs and other expenses of museums (NB: this last section has been authorized but not funded).

Other legislation introduced into the Congress, but not enacted, included further tax incentives for preservation (S. 204, HR 432), the Bridge Safety Act (S. 3744, HR 15559), and Maritime & Naval Preservation (S. 228, HR 8722). A comprehensive report on this legislation, both enacted and proposed, is contained in a *Special Issue of the Report of the Advisory Council on Historic*

THE TAX REFORM ACT OF 1976

The historic preservation provisions of this act (PL94-455), are potentially very important to the protection and preservation of historic structures in the U.S., for they provide significant economic deterrents to demolition. It must be stressed, however, that these provisions apply only to income-producing property, not personal residences. These provisions, contained in Sect. 2124 of this act, "Tax Incentives to Encourage the Preservation of Historic Structures," are complex, and are expected to keep lawyers and tax specialists busy for many months. A useful brief statement has been issued by the Natl. Park Service, reproduced in the newsletter, 11593, Nov. 1976. (The Natl. Register, NPS, Wash., DC 20240.)

The Park Service also is preparing implementing guidelines for the certification process. The Natl. Trust has issued a preliminary statement regarding the legal implications of the act, prepared by Covington & Burling, "Impact of the Tax Reform Act of 1976 & the Preservation of Historical Properties." (Avail.: The Natl. Trust for Historic Preservation, 740 Jackson Pl. NW, Wash., DC 20006.) J.M.

HISTORY OF SCI & TECH: IA AT WVU

The college of Arts & Sciences and the Dept. of History at West Va. Univ. have established a curriculum in the History of Science & Technology, with IA overtones, to stimulate the development of a more comprehensive and integrated approach to liberal education. At the Undergraduate level are introductory and upper-level courses with additional ones being planned. Students who matriculate at the graduate level are expected to take an introductory colloquium and then are encouraged to draw up individual plans of course work and research in areas that particularly interest them.

Research Opportunities

WVU is a comprehensive state university offering many advantages to students interested in topics that involve several disciplines. The presence in Morgantown of professional colleges of Engineering, Human Resources & Education, Mineral & Energy Resources, Medicine, and Law greatly facilitates the exchange of viewpoints and technical knowledge. The Univ. Library houses the W.Va. Collection, a rich archive of manuscripts, printed material, tapes, and photographs covering all aspects of state history, including extensive records of the coal, glass, salt, oil, gas, shipbuilding, and chemical industries. Physical relics of the early history of industrial America also can be examined in several areas of Appalachia. Many of these artifacts deserve careful study by industrial archeologists. The Program intends to promote the development of this field.

Staff

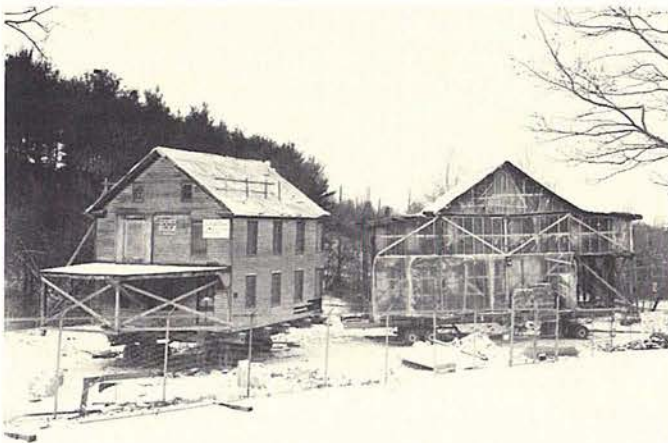
- Emory Kemp [SIA]** — History of Tech., IA, 19thC Engineering.
Arthur Donovan [SIA] — History of Sci., Chemistry & Geology to 1850, The Enlightenment in Scotland & America.
George Parkinson — Archivist, W.Va. Collection, The Industrialization of Appalachia.
Stephen McCluskey — History of Sci., Physical Sciences in the Medieval & Early Modern Eras.

Graduate research assistantships are available to qualified students. Inquiries: Admissions Committee, History of Science & Technology, WVU, Morgantown, WV 26506.

Contributors to this issue: Field Curry, Pittsburgh; Eric N. DeLony, HAER; James C. Massey, Natl. Trust; Marlene Nicholl, ADP Proj., Natl. Pk. Svc.; Francis A. Riddell, Calif. State Dept. of Pks. & Rec.; Selma Thomas, Washington; Dennis Zembala, HAER. *With thanks.*

GRUBER WAGON WORKS RELOCATION

The Gruber Wagon Works, ex Mt. Pleasant, Berks Co., PA—a remarkable survival of 19thC IA complete with machinery and tools—was relocated last Nov./Dec. The site of what once was a thriving local firm in the Pennsylvania Dutch country [SIAN Nov 74:2; Suppl 7] was purchased by the Army Corps of Engineers to make way for Blue Marsh Lake, but happily The Corps, at the recommendation of a number of preservation groups and organizations, undertook to save, if not the site, at least the building and its contents. The move—to a projected county park site some 5 miles away—was carried out by R. S. Cook, a Philadelphia contractor. Technical assistance was furnished by Natl. Heritage Corp., Charles Parrott [SIA] supervising architect.



Poised for flight: Sections 3 & 4 on the eve of departure for their new home. *National Museum of History & Technology photograph.*

The frame building was disassembled into four sections, by careful cuts that spared major structural members. Each section was cribbed, and shored by steel beams under its floor joists. The smaller sections were lifted from their foundations by hydraulic jacks on to flat-bed trucks. The larger sections required the services of 8-axle dollies. For the moves, the utility companies raised



In flight. *Vance Packard photograph.*

their lines (sometimes working minutes ahead of the building movers), and work crews trimmed trees along the hilly, two-lane route. The building sections were escorted by a small group of movers who actually guided the progress with their hands, and were accompanied by an official caravan of Corps representatives, Pa. state policemen, and diehard IAers, all of whom braved freezing weather to witness the move.

The Corps, with the financial assistance of the Natl. Museum of History & Technology and HAER, filmed the move. It is hoped that an archive will be set up, making the materials collected during the entire Gruber project—including the film footage—available to all interested.

The Corps plans to restore the structure, then turn it over to Berks Co. as part of a museum of the Pa. German culture.

Gruber Wagon Works has been vacant for years, and it will remain vacant for at least five more. But the process of moving seemed to give the old building new life. *S. T.*

MARINE NEWS

NEW BIG MOMMA ON THE BIG RIVERS. After six years in design and three in construction at Jeffboat Shipyard, Jeffersonville, Ind., the *Mississippi Queen*—first overnight passenger steamboat built for operation on the Mississippi-Ohio River system in 50 years—made her maiden voyage last fall, to New Orleans. She has 218 staterooms with all modern conveniences, accommodating together 500, but is powered in the traditional way of the riverboat, with a pair of 1000-hp tandem-compound engines driving a 35-x 25-ft. sternwheel. The engines were built in Maine by Pine Tree Engineering, using old drawings, but the cylinders were bored in Dayton, Ohio by Platt Co. The new part is that she has rudders fore and aft of the paddlewheel and a bow thruster, not to mention turbogenerators for lighting. Automatic oil-fired boilers, too—no sweaty stokers on this boat.

The new *Queen's* maiden voyage was, unhappily, marred by a series of mechanical mishaps that laid her up lengthily in Avondale Shipyard, New Orleans for reboring of scored cylinders and replacement of a paddlewheel-shaft bearing. Her owners, Delta Queen Steamboat Co. of Cincinnati, have lost a substantial bundle in cancellations. She was built to replace the *Delta Queen* when it looked as though the latter would be scuttled by a 1966 law prohibiting wood-superstructure passenger vessels in U.S. ports. When the *MQ's* bugs are worked out, she should be able to rejoin the *DQ*, which meanwhile has been exempted from the law until 1983. *D.Z. & F.C.*

FEDERAL PRESERVATION PROGRAMS. The Advisory Council on Historic Preservation has published a special report cataloging the various sources of federal assistance for maritime preservation (Vol. IV, No. 6). Most federal programs are directed toward state and local governments, but some have provisions for projects of non-profit groups. Ironically, most opportunities concern on-shore preservation, while most interested groups and individuals focus on floating structures, i.e., vessels. Independent agencies included are: Natl. Science Fdn., Natl. Trust, the Arts & Humanities endowments, Smithsonian, &c. These have more opportunities for individuals, but are not as concerned with artifacts. ACHP, 1522 K St. NW, Wash., DC 20005.

DAYTRIPPER. The Committee to Save the *Alexander Hamilton* has begun a newsletter to garner support for the old Hudson River sidewheeler [SIAN Nov 75:3], now languishing on a bar (sand, of course) in N.J. The last true sidewheeler to sail the coastal waters of the U.S., the *Alexander Hamilton* cruised the Hudson from N.Y.C. to Albany. She was built in 1923, commissioned the following year, and served the Hudson River Day Line until 1971. Her powerplant consists of an inclined, triple-expansion steam engine, driving two 24-ft. diam. side-paddlewheels. Plans of present owners, Railroad Pier Co., to make the *Hamilton* into a N.J. shore restaurant have run aground on federal landfill regulations and the Committee is negotiating to purchase. Newburgh, N.Y., a former port of call, may donate a berthing site if she can be refloated. For information and the newsletter write Steamer Alexander Hamilton Society, Box 817, Times Square Station, N.Y.C. 10036.

Attempts to raise the **CIVIL WAR SHIP HATTERAS** from the bottom of the Gulf of Mexico have been freed from legal snags. Paul Cloutier, the Rice Univ. physicist leading the project, will begin salvage operations on the 210-ft, 200-ton iron sidewheeler, now 60 feet under. Survey work is underway with the first artifacts to be raised in May. As in the *Monitor* controversy, some questions about ownership are present here — namely, who does? Only the courts can decide.

Efforts to use an **1880 WOOL WAREHOUSE ON A BOSTON WHARF** as a combined Museum of Transportation and Children's Museum are doing well. The property was acquired last December and reuse plans completed by architects The Cambridge 7. Fundraising has brought in \$2.5 million of a \$6-million goal. The museum is to include an exhibit on street archeology, and an open pit showing stages of Boston's street development. Plans to externalize the mechanical systems in order to preserve uncluttered the huge interior brick and timbered bays were met with objections

from the building's admirers and have been changed. The M. L. Riley Foundation gave \$100,000 to landscape a park on the site. And an added treat: a 1930s roadside stand in the shape of a milk bottle (48 x 15 ft) is being restored as an ice cream stand. It will be barged to the site and hoisted into place by a 1910 steam crane—the tab picked up by Hood Milk Co. Donations gratefully accepted: Duncan Smith, Director, (617) 521-1200. *DZ.*

RESEARCH & GRANTS

THE NATL. HISTORICAL PUBLICATIONS & RECORDS COMM. (NHPRC) seeks basic information about institutional manuscript holdings, which may include visual documents (maps, photographs, and architectural & engineering drawings) as well as business and personal manuscripts. The NHPRC also funds projects for preserving or using historical records. For information about the repository holdings survey: write "Guide Project;" about grants: write "Records Program"—NHPRC, Natl. Archives, Washington, DC 20408.

NEH has funded an MIT project to create materials for teaching undergraduates the **History of Industrial Technology**. L. L. Bucciarelli and Michael Folsum are developing key historical documents, graphics, and slides for a regional study of New England's textile and related industries for two experimental seminars, fall '76 and '77, under the institute's American Studies & Technology Studies Program. Mill Studies Project, Rm 20B-232, MIT, Cambridge, MA 02139.

THE CENTER FOR FIELD RESEARCH. A private, non-profit organization established to organize private sponsorship of worthy field research investigations; to foster interdisciplinary projects; to promote international cooperation in research; to encourage citizen participation in the process of research; and to improve public understanding of science. Not an endowed source of funds but a coordinating agency assisting projects needing funds and volunteers in the field. The Center arranges financial support from a variety of sources and considers projects in any recognized academic discipline, incl. archeology, anthropology, conservation, restoration, sociology, folklore: basic & applied research; post-doctoral only at the moment. Complete brochure: 68 Leonard St., Belmont, MA 02178. (617) 489-3032.

THE NATL. ENDOWMENT FOR THE HUMANITIES made the following grants to museums and historical organizations between July 1975 and Oct. 1976:

- **Dubuque Co. (Iowa) Hist. Soc.**—To plan a permanent exhibit of Dubuque's evolution as a river town and the largest shipping center on the Mississippi: \$7,400.
- **Hist. Seattle (Wash.) Preservation & Development Auth.**—To plan a maritime history center aboard the *S.S. San Mateo*: \$5,000.
- **Lowell (Mass.) Museum Corp.**—To produce an exhibit interpreting the development of the city and its place in the American Industrial Revolution: \$79,960.
- **Museum of Transportation, Boston**—To produce an exhibit on transportation history and the development of Boston: 1630 to the present: \$240,459.
- **Iron Range Interpretive Center, Chisholm, Minn.**—To produce seven exhibits tracing the human history, culture, and heritage of Minn's. three iron ranges: \$185,221.
- **Ill. Labor History Soc., Chicago**—To produce a traveling photographic exhibition depicting people in jobs representing the broad spectrum of Ill. industries: \$33,500.
- **Chicago Historical Soc.**—To produce an exhibition on Chicago's rise as a metropolitan center in the late 19thC and how it reflected and affected the forces that were creating a new order of industrial life throughout America: \$99,500.
- **Hudson River Museum, Yonkers, N.Y.**—To produce an exhibit on the Hudson and how river commerce & transportation influenced the quality of life: \$16,050.
- **Merrimack Valley Textile Museum, N. Andover, Mass.**—To document the history of Hopedale, Mass. (textile machinery)—1890-1930—by a film treatment utilizing the Museum's photograph and film collection: \$22,323.

FAVA UPDATE

Half A Fruitcake Is Better Than None.

In early Feb. the City of Baltimore demolished the Fava Fruit Co. Building on S. Charles St. [SIAN Sept/Nov 76:5] rather than include it as part of a planned new convention center. Not all of the building has, however, been lost. Its notable cast-iron facade was carefully dismantled, the pieces tagged and stored in a city warehouse.

The first option for the facade's re-use was as an adjunct to the urban home-steading project in the Otterbein Area, near the building's former location. That plan called for ten duplex apartments in a new privately-developed brick building, with the city assuming the cost of re-erecting the facade. The neighborhood assn's. reaction to the plan was unfavorable because of existing and prospective high-density development near the proposed site. Other proposed locations for the facade include the corner of Lombard & Calvert sts. in the Inner Harbor area, replacing a doomed parking garage, and sites in the planned development around the Fish Market and in the Lexington St. retail district, both in the CBD.

When re-erected, the Fava Building will join two other examples of re-erected cast-iron facades: a Salt Lake City co-operative department store and a Salem, Ore. bank. While Baltimore must be praised for saving the building's facade, the project cost \$40,000 and one workman lost his life. Re-erection will be costly. Would it not have been far more sensible to leave and use the building where it was? *M.N.*



The Partition of Fava Fruit. David G. Wright photograph.

A SOCIAL EXPERIMENT. One way to escape compulsory retirement is to operate a one-person business, as president, janitor, shop foreman, and worker, all in one. With millions retiring long before their creative capabilities are exhausted, a great reservoir of talent is wasted, and elderly people often are forced to the brink of poverty. Charles E. MacArthur [SIA], noted for imaginative inquiries into 21stC lifestyles and who builds electric cars and solar-powered sawmills, will open a 22,000-sq. ft. restored woolen mill in Dover-Foxcroft, Maine, as a small business incubator for retirees who want to go into business for themselves.

Some may wish to remain micro-industrialists, producing a limited output, and may even wish to lock up and go south for the winter. The park will provide reduced winter leases for these sun-seekers. Spaces as small as 10 x 10 ft. may be available. Cooperative administrative support can handle mail, telephone, and record keeping.

MacArthur also is exploring the possible conversion of the mill from petroleum to woodchip heating. Another possibility is electric heating, as the mill has its own hydro-electric plant. He is extremely conscious of the continuing energy orgy which is depleting our resources, and hopes that products produced in the will be utilitarian and independent of petroleum as a resource. 7 Cidermill Rd., Tolland, CT 06084 (203) 289-6851.

PRESERVING INDUSTRIAL LANDSCAPES CONF. A conference sponsored by the Assn. for IA and the Victorian Soc. will examine the preservation opportunities and problems in key areas of industrial archeological significance in Britain. The basis of the conference is a belief that there are certain such areas that have not been embraced by Britain's conservation legislation, and might actually suffer if they were. A number of potential schemes will be discussed to reconcile historical and environmental considerations with growth and development, in a sympathetic financial and legislative framework. 21 May, at Imperial College, S. Kensington, London. (Neil Cossons, AIA, The Wharfage, Ironbridge, Telford, Salop TF8 7AW.)

FROM OUR FAR-FLUNG CORRESPONDENTS

Cambridge, N.Y.—Greetings & Happy New Year! Dues enclosed. I would like to pass along an item of some IA interest. Pertinent facts are: Shushan (N.Y.) Covered Bridge: 161-ft. Town lattice truss, built 1858 over the Batten Kill (worldclass trout stream); closed & bypassed 1963; taken over by Shushan Covered Bridge Assn. from the county in 1974 as a museum of old farm & home tools & implements. Participation by a broad range of people—young and old—awakens interest in historic (antiquarian) and industrial archeology. Shushan and similar hamlets were small hydro-power sites, lots of ruins still extant.

Another item: If Troy and Lowell, for instance, were "cradles" of the Industrial Revolution in America, then *Pumpkin Hook* would have been an "incubator." *Pumpkin what?* *Pumpkin Hook*, a small hollow in the northern edge of the Hoosick River watershed [c30 miles NNE of Troy], was one of five mill centers in that watershed, time of the Revolutionary War. (Others: Bennington, Vt., N. Adams, Mass., Hoosick Falls, and Hart's Falls, N.Y.). Not much there, now. A few fieldstone walls and foundations around a tiny waterfall which today is an unpretentious trickle. Last activity there was Leonard Warren Chair Factory, closed in the 1870s. We're looking at a *First Period* complex of trip-hammer forges, smithies, fulling mill, grist mill, saw mill, and at least one machine shop, Leonard C. Darby's gun shop. Made very early cotton mill machinery; people from P. Hook went elsewhere & built Lowell cotton mach'y; some iron workers cut their teeth there, went on down to Poestenkill Gorge in Troy with Burden's people. I'd like to find more, and will try, but it was so long ago. *Yours, Robert Raymond.*

SIA AFFAIRS

HONORARY COUNSEL. Ellen Kettler, Assoc. Real Estate Counsel of the Natl. Trust, was designated the Society's Honorary Counsel by the Board at its Jan. meeting. She will be leaving the Trust post in April, and moving to Chicago, continuing to practice law. Kettler is a graduate of the Univ. of Mich. and The George Washington Univ's. Natl. Law Center, and a member of the D.C. and Md. bars. She is author of the recent Trust publications, *An Annotated Bibliography on Historic Preservation Law*. She will provide legal advice to the SIA, filling a need long felt by the Directors as the Society has grown in size and scope.



QUASI-IA PUZZLE PICTURE. How many construction workers are riding the Model T Commuter to work today? Or put another way—How many adult males can ride to work in a given Model T touring car? The time: summer of 1916. The place: Ft. Smith, Arkansas. *Ken. L. Henderson photograph.*

MISC. NOTES

CITATIONS FOR CONSERVATION SERVICE—i.e., architectural preservation, were awarded to a select group of distinguished Americans by the Natl. Park Service at a Dept. of the Interior annual ceremony on 8 Dec. last. Among them were **James Marston Fitch**, scholar and writer on architectural subjects for over 30 years, who early recognized the importance of such seminal engineering works as Brooklyn Bridge, the Eiffel Tower, and the Crystal Palace, more recently known as the organizer of Columbia Univ.'s. prototype graduate program in architectural preservation; **Ada Louise Huxtable**, for 25 years architectural journalist and critic whose writings have always supported preservation in general and early advocated a consciousness of industrial structures as vital elements of our heritage; and **Charles E. Peterson [SIA]**, long-time student of such unsung but vital aspects of architecture as the structural and mechanical organs that make buildings stand and work, persistent researcher into some of the most fundamental but least understood areas of building techniques, organizer of the renowned 1974 Carpenters' Co. conference in Philadelphia on the development of American Building, and best known for what must be his most lasting accomplishment, the "invention" in 1933 of the Historic American Buildings Survey, which for the first time in the U.S. organized the recording of historic structures on a systematic, professional basis. The occasion was saddened only by the necessity for awarding posthumously the citation to Harley J. McKee (see SIAN Sept./Nov. 76:9).

JONATHAN GELL [SIA], archeologist, has joined the N.J. Office of Environmental Review as assistant to the State Historic Pres. Officer in reviewing Natl. Register nominations and other preservation matters.

STEPHEN G. WARFEL [SIA], has been appointed industrial archeologist by the City of Paterson, N.J. to continue the past work in the historic industrial district. He has worked extensively on the excavation of the Curtin blast furnace site in Pa.

FRIENDS OF THE GG-1, in consort with various chapters of the Natl. Ry. Hist. Soc., are attempting to raise \$10,000 for restoration of GG-1 locomotive No. 4835 to its original livery of Penna. RR dark green with gold pinstrips and red keystones. The GG-1 is the legendary electric locomotive designed for both freight and passenger service on the Penna. RR's electrified lines between Washington and N.Y.C., and west to Harrisburg. No. 4801, the first production model, was delivered in 1934; in 1935 57 were built. Ultimately 139 were produced by Baldwin and PRR's Altoona Shops, about 100 still active under AMTRAK. But the GG-1 has become the most famous electric locomotive in the world perhaps less for its brilliant performance and durability than for its absolutely classic design and complimentary livery, the latter the inspired work of Raymond Loewy. Although the streamlined, all-welded body shell remained untouched, during the Pennsy's dark latter days, and then under the parsimonious hands of Penn-Central and AMTRAK, the Loewy paint scheme was transmogrified into the vapid dull-black of recent times.



GG-1 in original Loewy livery, 1935. J.W. Wolf Colln. photograph.

If the funds can be raised externally, AMTRAK has agreed to totally refurbish 4835's body and restore the original paint. The locomotive then will re-enter regular service, bearing the commemorative livery for the rest of its operating life, expected to be a minimum of three years. (Age, and projected conversion of the entire electrification to a different voltage, leave the GG-1s a

limited future. All probably will be decommissioned by the early 1980s.) It will be retired to a museum.

Donations sought by and flyer avail. from: F.O.T.GG-1, Box 7302, Phila., PA 19101. A booklet will be published on the project.

HAER SUMMER EMPLOYMENT: projects in U.S. & territories; 10-13 weeks measuring, recording, & documenting a wide variety of industrial/engineering structures & sites. **Engineers, architects, & historians.** U.S. citizens only. Write *immediately* for data sheets: Summer Surveys, Historic American Engineering Record, Natl. Park Service, Wash., DC 20240. (202) 523-5460.

FACULTY OPENING. Graduate School of Architecture & Planning, Columbia Univ., seeks Asst. Prof. to teach in pioneer program in hist. pres. starting fall 1977. Expertise sought in one of the following: Architectural Conservation & Technology (laboratory training, technological expertise, materials research, desired); Archeology and/or Anthropology (experience in "above-grade" archeology desired); Planning Techniques as they relate to hist. pres. (degree in planning or law and relevant experience desired). Degree in architecture; teaching experience required. J.S. Polshek, Dean, 402 Avery, Columbia Univ., NY, NY 10027, by 30 April 1977.

COLORADO MINING: 1859-1910. *Exhibition.* Artifacts & graphics of prospecting, placering, hydraulicking, deep mining, & milling. Western Museum of Mining & Industry, 12 miles N. of Colorado Spgs., CO 80908. (303) 495-2182. Mon-Fri, 9-4.

CHESAPEAKE & OHIO CANAL WATERCOLORS. *Exhibition* of 53 by John L. Wellington, banker-artist of Cumberland, Md. Painted 1900-1920, portraying life along the canal during its twilight years (ceased operations 1924). Md. Historical Soc., 201 W. Monument St., Baltimore. Tues-Sat, 11-4; Sun, 1-5. To 5 June.

BRIDGES: SPANS OF NORTH AMERICA. *Exhibition.* Photographs by David Plowden [SIA]; also featuring **Bridges in Allegheny County—Yesterday, Today, Tomorrow.** Courthouse Gallery/Forum, Allegheny Co. Court House, Grant & 5th Sts., Pittsburgh. Mon-Fri, 8:30-4:30. To 1 April.

ARCH BRIDGES. *Film*, by U.S. Steel. As above, 28 March, Noon & 12:30.

IA TOUR—ENGLAND & WALES. Commercial tour by W.F. & R.K. Swan (Hellenic) Ltd.: 14 days (19 July-2 Aug or 30 Aug-13 Sept), \$746, not incl. air fare. Wide variety of sites on circle route: London-Sheffield-N. Wales-Ironbridge-Bristol-London. Information: J. R. Keith, Esplanade Tours, 38 Newbury St., Boston, MA 02116. (617) 266-7465. [NB: SIA is not acquainted with either organization or the tour leader.]

SCALE & PERSPECTIVE CHARTS. New product that does a variety of tasks related to drawing & mapping. Of special note: will convert perspectives to plan views with direct scales for horiz. & vert. dimensions, permitting translation of photographs, prints, and illustrative drawings into plans and elevations. Many other abilities and features claimed by mfr. Set BK2030 (2 charts, each 20 x 30 ins.; instr. book.) \$9.25 PP. SKAPA, Box 84, Andover, MA 01810. More information: L. G. Wilde (617) 475-7621. [NB: Not tested by SIA. Reports on effectiveness welcomed.]

BRIDGE AVAILABLE. The 1872 Whipple cast- & wrought-iron bowstring truss bridge (the Rodrick Bridge), Coshocton Co., Ohio, noted in SIAN Mar 76:3, definitely is to be replaced. It is offered to any responsible taker, taker to remove at own expense. It appears to be the largest of the handful of extant Whipple bridges at 101'-6" span. It is in good, serviceable condition. These bridges, recall, disassemble readily (requiring falsework), or it might be possible to lift out the trusses by crane. Whichever, cheaper no doubt than an equivalent new span. Preservation Office, Ohio Historical Soc., I-71 & 17th Ave., Columbus, OH 43211.

DOMESTIC & INDUSTRIAL ARCHITECTURE IN LOWELL. *Lecture* by Joseph Orfant of Mass. Historical Commn. Lowell Hist. Soc. meeting, 18 April, 7:30, 79 High St., Lowell.

PRES. LEAGUE OF N.Y. STATE, 4th ANN. CONFERENCE. Saratoga Springs, 15-17 April. Co-sponsored by Hudson-Mohawk Industrial Gateway. Sessions on preservation incentives from the new tax law; feasibility studies; funding sources; &c. Sunday tour of Cohoes industrial areas. Information: PLOfNYS, 13 Northern Blvd., Albany 12210. (518) 462-5658.

INQUIRY: MAITLAND MILL. Information sought on this Ontario flour mill, on the St. Lawrence across from Ogdensburg, N.Y. Built 1828 as a windmill, converted to steam in 1830s to keep up with volume of grain brought from as far as Chicago after opening of Welland Canal, for export grinding. Closed down 1854 or 55; converted to a distillery 1863. Stephen Otto [SIA], Coach House, 161 Crescent Rd., Toronto, Ont. M4W 1V1.

INQUIRY—THE RAILROAD NAVY. For many years, every RR terminating at N.Y. Harbor delivered freight to waterfront points by loading it onto lighters or moving freight cars on carfloats. There was no other direct way to reach every section of the far-flung port. The vast and varied commerce of the Port of N.Y. required a "RR navy" of 1500 tugs, carfloats, covered lighters, express lighters, floating grain elevators, and other craft, plus 100 special piers for the rail/water transfer. Large numbers of these boats were moved in complex but well organized patterns 24 hours a day, and the harbor bustled with their activity.

These marine operations are in their twilight. Most freight now rolls through the streets and tunnels in trucks. Every year the RR fleet shrinks still further and the harbor looks more barren. Yet this colorful facet of the Port of N.Y. never has been fully documented. If its memory is not to fade completely, it must be recorded now.

I seek to meet people who have been connected with these operations, or who have photographs of them, especially of the older craft in use. I also need rosters of floating equipment, and drawings or photographs of float yards and lighterage piers, all for a historical monograph presenting development, economics, and operating methods. Thos. R. Flagg [SIA], 306 W. 100 St., NY NY 10025. (212) 865-8765.

WORK OF IA

IA IN CALIFORNIA

KILN DISCOVERY. Cal Poly State Univ., San Luis Obispo, last summer completed the first season of its continuing summer archeological field school at Mission San Antonio de Padua, near King City, directed at recovering architectural information on certain of the Mission's late-18th—mid-19thC structures. An exciting dividend was discovery of the brick and tile kiln, possibly the first in Spanish Calif. The kiln's bottle-shaped plan was outlined, revealing walls made of alternating fired and unfired adobe bricks. The kiln had been built into the hillside behind a dormitory, and its interior had been vitrified from the heat of the firing process. Numerous *ladrillo* (bricks) and roof tile "wasters" were discarded on the mound in front of the kiln.

BALE GRIST MILL STATE HISTORIC PARK. A survey of archeological features was conducted here by the state's Dept. of Parks & Rec. in Oct. 1975. The park is located near Calistoga in the Napa Valley, on the site of water-powered grist mill constructed in 1846-47 and variously powered by two successive overshot water wheels, a steam engine, and a water turbine. Changes in the Bale Mill complex reflect a number of economic and technical developments occurring in the state as a whole. One major objective of the survey was the recording and mapping of such features of the hydraulic power system as dams, ditches, and flumes, part of a series of studies on the feasibility of reconstructing and operating the mill. Examination of the mill indicates that it was built in several stages, probably related to modifications of the power supply. Also recorded were several historic sites, including a probable charcoal manufactory. Most of the property containing the water supply network is owned by William Lyman, Jr., who has lived next door to Bale Mill for over 90 years. Transcripts of several hours of taped interviews with him are included in the report.



CPRR Depot, Sacramento, 1867-80 (reconstructed 1976). Painting by C.W. Hahn, 1874. Courtesy California Dept. of Parks & Recreation.

SACRAMENTO DEPOT. Exploratory excavations of the Central Pacific RR Depot site and historical research were conducted by the Dept. of Parks in Sept. 1975. With construction of a replica of the Depot (now complete) scheduled on the site the following month, the archeological investigations were primarily an attempt to assess the general character of the deposits to be obscured. The western terminus of the first transcontinental RR was constructed in the wooden "arcade" style in the fall of 1867 and stood until 1880. It was replaced by a freight house which burned in 1967. Excavation of several trenches and broad avenues was accomplished by initial removal of overburden with a back-hoe. Architectural features and artifacts, once encountered, were further defined by conventional manual techniques. Relatively little direct architectural evidence of the 1867 building was recovered, probably due to systematic salvage and re-use of building materials.

The distribution of various pits, trenches, paved areas, and drainage channels did permit some general conclusions about the placement of the building. Portions of the extensive brick and concrete footings related to the later building also were recorded. Through the examination of stratigraphic sections, of diagnostic artifact distribution, and of related documents, as well as of the architectural features, it was possible to partially define a complex sequence of natural and industrial developments that radically altered the landscape along the Sacramento waterfront between 1849 and 1975. These events included flooding, fire, levee raising, RR track laying, and building construction, modification, and demolition.

MALAKOFF DIGGINS STATE HISTORIC PARK. The statewide survey crew, led by D.L. Felton, is inventorying the prehistoric and historic cultural resources on the Park's 3000 acres, located in the Sierra Nevada in the heart of the northern Calif. gold mining region. Included is a large portion of the townsite of N. Bloomfield. Mining of gold-bearing tertiary gravels began here in the early 1850s, attracting Euroamericans and Chinese. N. Bloomfield's population reached 1800 at the height of mining activity during the 1870s and 80s. There was



Hydraulicking, c1902 (Oregon).

wide use of high-pressure hydraulic mining ("hydraulicking"). This highly profitable operation involved construction of series of dams, canals, reservoirs, and ditches. Water also was used to generate electricity and to power machinery. Mining activities were curtailed after 1884, the result of an "environmentalist" suit favoring downstream residents plagued by extreme silting problems resulting from the hydraulic mining.

The survey's objective is preparation of detailed resource maps and descriptions of historic and prehistoric, domestic, commercial, and industrial remains, including former roads and trails, and vestiges of the extensive system of hydraulic canals and tunnels that honeycombed the district. This information will provide a primary source for consultation in the park's development and management.

AUBURN—FOLSOM S. RECREATION AREA. The Auburn area (30 mi. NE of Sacramento) has been resurveyed by D.L. True, Univ. of Calif., Davis, under contract with the U.S. Bureau of Reclamation. Historic remains include, *inter alia*: old bridges and abutments; and mining debris and equipment such as test pits, tailings, canals, flumes, dams, fragments of water wheels, arrastras (primitive ore-grinding mills), diversion dams, and other remains of placer, hydraulic, and hard-rock mining.

EMPIRE MINE STATE HISTORIC PARK. The mine (Grass Valley, Nevada Co.), in operation from the Gold Rush to 1956, became a unit of the State Park System in 1975. It includes a mine owners's house and offices as well as extensive remains of mining operations. Historical research and surveys were conducted last summer. The unit is to be developed to depict Calif. hard-rock mining. *F.R.*

NEW MELONES RESERVOIR PROJECT. A 20% sample of the known historical sites within the New Melones Reservoir Project has been evaluated under contract to the Corps of Engineers, Sacramento Distr. The sites include gold mines (placer, hard rock, hydraulic, and dredge) and processing plants (arrastra, stamp mill, ball mill, and related facilities); RR and flume beds; and four whole communities, most notably the Town of Melones with more than 100 identifiable structures. These cultural resources will be subject to adverse impact from the construction and filling of the New Melones Lake. Each site was visited and assessed in order to make recommendations to the Corps. Even with the limited amount of research possible within the scope of work, it was possible to attach the patent names to 10 of the mines, identify remains of the Angel's Branch of the Sierra Ry., verify ferry locations, and begin an interpretation of such resources as parts of the total network of transportation, economic, and social development of the Mother Lode.*

*Abstracted from *Soc. for Hist. Archaeology* Newsletter.

PUBLICATIONS OF INTEREST

Norman R. Ball [SIA], **Historical Research for Mining Interpretation: Some Problems, Pitfalls, & Pleas.** In *APT Bulletin*, No. 3, 1976, pp. 44-55. (c/o Ann A. Falkner, Box 2487, Stn. D, Ottawa K1P 5W6.) Problems in historic mining areas as interpretive sites, as part of park and other programs administered by those without appropriate background.

Ivor Bohm, **The Swedish Blast Furnace in the 19thC.** Historical Metallurgy Society, Dept. of Econ. History, Univ. of Sheffield (S10 2TN, England), 1974. Well illus; good description of practice that has considerable Anglo-American pertinence.

John F. Bromley & Jack May, **Fifty Years of Progressive Transit: A History of the Toronto Transit Commn.** (Publ. unk.), 1976. 176 pp. \$16.95. (Avail: Electric R.R.'s Assn., 145 Greenwich St., NYC 10006.)

John A. Burns [SIA], **Architectural Photogrammetry.** In *11593*, Nov., pp. 6-7. Summary of all available methods, uses, etc.*

Sherban Cantacuzino, **New Uses for Old Buildings.** London: Architectural Press Ltd., 1975. 264 pp. \$13. Adaptive-use case histories, incl. several good ones of industrial buildings, all Europe. (Reviewed: *APT Bulletin*, No. 3, 1975.)

Edward C. Carter II, **Benjamin Henry Latrobe & Public Works: Professionalism, Private Interest, & Public Policy in the Age of Jefferson.** Public Works Historical Soc. (1776 Mass. Ave., Washington, D.C. 20036). 29pp. (Other PWHs Essays: Jas. C. O'Connell, *Chicago's Quest for Pure Water*; Abel Wolman, *George Warren Fuller: A Reminiscence*.)

Floyd M. Clay, **A Century on the Mississippi.** U.S.A. Corps of Engineers, Memphis Distr. (668 Clifford Davis Fedl. Bldg., Memphis, TN 38103.), 1976. 294 pp. \$10 PP. (Checks to U.S. Treasury.) In the Corps series of district histories. Good account of navigation of the lower Mississippi.

Margaret Coleman, **The Canadian Patent Office from its**

Beginnings to 1900. In *APT Bulletin*, No. 3, 1976, pp. 56-63. (Avail: see Ball, above.) Good general ref. for use of patents as historical resource.

Eric N. Delony [SIA], **Endangered Species: 11 Surviving Trainsheds.** In *11593*, Nov., 1976, pp. 10-11. Listing of them, and summary of the preservation situation.*

_____, **HAER Emergency Recording.** In *11593*, Feb., p. 6. The HAER Emergency Recording Team, their MO, and some of their triumphs.*

Rowland Emett, **The Early Morning Milk Train.** Brattleboro, VT: Stephen Greene Press, 1976. 112 pp. \$8.95. One of the world's most hysterical cartoonists on his favorite subject: the Far Twittering & Oyster Creek RR. 149 drawings.

C. M. Green & O. H. J. Pearcey, **A Preliminary Survey of the Extant Bottle Kiln at the Fulham Pottery.** *Occasional Paper 3*, Fulham & Hammersmith Hist. Soc. (c/o J. Stevenson, 28-A Crookham Rd., London SW6 4EQ). \$75.

Kenneth Hudson [SIA], **A Pocket Book for Industrial Archeologists.** London: Adam & Charles Black (35 Bedford Row WC1), 1975. \$5. Viewed as a replacement for Hudson's earlier *Handbook*. A basic work, emphasizing the need to investigate the IA of the 2nd Industrial Revolution: plastics; aircraft; electricity; oil; &c; and the people involved.

Louis Kraar & Alicia Hills Moore [SIA], **The Glory That Was Troy.** In *Fortune*, Jan., pp. 142-45. Photo essay on Troy, N.Y., with a group of superb color photos by David Plowden [SIA] and one by Moore. (The gasholder house is shown that is the prototype of the SIA logotype.)

James S. Lai, **State of the Art: Class 1 Bicycle Path Pavements.** 1975. Of pertinence in conversion of abandoned RR rights-of-way. Avail.: Natl. Tech. Info. Service, U.S. Dept. of Commerce, 5285 Port Royal Rd., Springfield, VA 22151.

Alfred L. Lomax, **Later Woolen Mills in Oregon: A History of the Mills Which Followed the Pioneer Mills.** Portland: Binforde & Mort, 1974, 301 pp., illus. \$12.50.

J. R. Harris, **Skills, Coal & British Industry in the 18thC.** In *History*, June, pp. 167-182.

Robert Hessen, **Steel Titan: The Life of Charles M. Schwab.** NY: Oxford Univ. Press, 1975. 350 pp. \$15. (Reviewed: H.C. Livesay, *Business History Review*, Autumn.)

Donald Hustlar, **Ohio Waterpowered Sawmills.** In *Ohio History*, Vol 84, Nos 1-2, 1975, pp 1-56. (Reviewed: John Curtis [SIA], *APT Bulletin*, Vol VIII, No 2, 1976, pp 82-84.)

Reese V. Jenkins, **Images & Enterprise: Technology & the American Photographic Industry, 1839 to 1925.** Baltimore: Johns Hopkins Univ. Press, 1975. 371 pp. \$20. (Reviewed: L. Reich, *Business History Review*, Autumn.)

John M. Kenn, **The St. Clair River RR Tunnel.** In *Inland Seas*, Fall, 1975. (480 Main St., Vermilion, OH 44089). First N. American tunnel to employ together the principal elements of modern subaqueous tunneling: pneumatic support, movable shield, & segmental iron lining. Grand Trunk Ry., 1888-90.

Pati Lambert, **The Artist as Critic of Transportation's Effect Upon the Landscape.** In *The Kansas Geographer*, Spring 1975. (Dept. of Geog., Kansas State Univ., Manhattan.)

C. Eric Stoehr, **Bonanza Victorian: Architecture & Society in Colorado Mining Towns.** Albuquerque: Univ. of N.M. Press, 1975. 1973 pp., 250 illus. \$12.

Stefan A. Szczelkun, **Survival Scrapbook: Vol 3—Energy.** NY: Schocken Books (200 Madison Ave. 10016). Illus. \$4/9. Practical means of utilizing natural sources.

Atlantic Coast Lumber Corp. **The Rice Museum, Georgetown, SC, 1975.** 20 pp. Pictorial essay, based on panoramic photos of ACLC in the Rice collection, principally c1900 views of its immense Georgetown County mill.

Charles H. Weidner, *Water for a City: A History of N.Y. City's Problem from the Beginning to the Delaware River System*. New Brunswick, N.J.: Rutgers Univ Press, 1974. 339 pp. \$17.50. #

John H. White, Jr., *The Pioneer, Chicago's First Locomotive*. Chicago Historical Society, Clark St. & North Ave., 60614. 32 pp. Fine, illus account of the precursor of the Windy City's RR activity, 1848.

The Mercer Mile: The Story of Dr. Henry Chapman Mercer & His Concrete Buildings. Bucks County Historical Society, Doylestown, PA 18901. 1972. 28 pp.

The Works of Isambard Kingdom Brunel. Publ. jointly by the Instn. of Civil Engineers & Univ. of Bristol, 1976. 175 pp. \$16. Avail: Mech. Engineering Publs., Penthouse 1, 15 W. 55th St., NYC 10019. A critical appreciation of the engineer based upon his diaries, MSS, & drawings, covering his major works in tunneling, bridges, rvs, the 3 great ships, and his theoretical work.

*11593 Avail. gratis: *Natl. Register, Natl. Park Service, Wash. D.C. 20240*.

REPRINTS

Howard Newlon, Jr. [SIA] (Ed.), *A Selection of Historic American Papers on Concrete: 1876-1926*. American Concrete Inst. (Box 19150, Redford Stn., Detroit, MI 48219). 334 pp. A publication of the ACI History Comm. making available a group of "landmark" papers commonly referred to in work on the history of cement and concrete: all published before 1926; all out of print; all by non-living American authors. Itself destined to become a "landmark." Includes: (as an introduction) Jasper O. Draffin, *A Brief History of Lime, Cement, Concrete, & Reinforced Concrete* (1943); Newlon, *Introduction to the Papers*; Thaddeus Hyatt, *An Account of Some Experiments with Portland-Cement-Concrete Combined with Iron, as a Building Material* (1877); Wm. Evans Ward [see Ward House, SIAN Sept/Nov 76:8], *Béton in Combination with Iron as a Building Material* (1882); Arthur N. Talbot, *Tests of Reinforced Concrete Beams* (1904); Arthur R. Lord, *A Test of a Flat Slab Floor in a Reinforced Concrete Building* (1911); C.A.P. Turner, *Concrete Steel Construction* (1909); Ernest L. Ransome, *Reinforced Concrete Building* (1912); Duff A. Abrams, *Design of Concrete Mixtures* (1918/25). All papers facsimile reproduced, with illus, each with brief biog. of author; general index.

Henry Hall, *The Ice Industry of the U.S. with a Brief Sketch of its History*. One of the special reports for the 10th Census, 1880; publ. 1888. Reprint by Early American Industries Assn. 43 pp., 51 illus. \$2.50 (Avail.: Kebabian, 11 Scottsdale Rd., S. Burlington, VT 05401.) (Other books on tools &c; series of craft films. Flyer avail.) American Soc. of Civil Engineers, *American Wooden Bridges*. (ASCE Historical Publ. No. 4). Facsimile reprints of five interesting & important articles: C. C. Schneider, *Evolution of the Practice of American Bridge Building* (ASCE Trans. 1905); Theodore Cooper, *American RR Bridges* (ASCE Trans. 1889); Robt. Fletcher & J. P. Snow, *A History of the Development of Wooden Bridges* (ASCE Trans. 1932); Raymond E. Wilson, *Twenty Different Ways to Build a Covered Bridge* (Technology Review, 1971); Llewellyn N. Edwards, *The Evolution of Early American Bridges* (Newcomen Soc. Trans. 1933). Short biog. of each author; bibl.; index. 176 pp. \$12 (ASCE, 345 E. 47th St., NYC 10017.)

Buck Bros. Chisels. 1890 price list of chisels and other edge tools, with history of the firm by Kenneth D. Roberts [SIA]. An important American tool firm, established by Sheffield immigrants. 128 pp.; 72 full page illus. \$8.75/6. . . and Kenneth D. Roberts, *Tools for the Trades & Crafts*. Account of early and recent English metal tool pattern books. Descriptions of vast variety of general and specialized-trade tools. 228 pp., heavily illus. \$22.50. (Ken Roberts Publ. Co., Box 151, Fitzwilliam, N.H. 03447.)

GUIDES, LISTS, ETC.

Sally Brillon [SIA] (Ed.), *An Introduction to Historic Resources in Washington Co., N.Y.* Wash. Co. Planning Dept., (County Office Bldg., Ft. Edward, NY 12828). 133 pp. \$3. PP. Extensive inventory with descriptions and photos of several hundred structures, incl. much IA: the Champlain Canal, mills, bridges, shops & factories, mines, quarries. Map of each town. A splendid study; the ideal way to get a grip on the resources of a discrete area and plan for their preservation.

Marsha Glenn [SIA] & H. Ward Jandl (Comps.), *Technical Preservation Services Reading List: A Selected Bibliog. on Adaptive Use of Historic Buildings*. Office of Archeology & Hist. Pres., Natl. Park Service (Wash., D.C. 20240). 6 pp. Gratis.

Economic Benefits of Preserving Old Buildings. Washington: Preservation Press (740 Jackson Pl. NW, 20006), 1976. 164 pp. \$6.50 PP. Proceedings of a conference, citing different examples of preservation techniques of general application.

Historic Preservation Handbook: A Guide for Volunteers. Historic Preservation Section, Georgia Dept. of Natural Resources (270 Washington St. SW, Atlanta 30334), 1976. 112 pp. Aimed at one state but of general use in many ways—if nothing else, as a model for such guides. Covers the Natl. Register program, funding sources, architectural terms, pictorial glossary of architectural elements, and comprehensive bibliog. Good IA coverage.

Restoration Techniques Bibliography. Maryland Historical Trust (21 State Circle, Annapolis 21404), 1976. 19 pp.

MICRO-REVIEWS

Mary Josephine D'Alvia, *The History of the New Croton Dam*. Author: 16 Palmer Ave., Croton-on-Hudson, NY 10520, 1976. 215 pp. \$15. History of the Croton System by a descendent of one of the Italian workers on the new dam. Some good material for a history of the Italian community c1894 ff. but little construction history not cited in Aqueduct Commn. reports. Numerous errors and misinformation include four late-19thC construction photos labeled (preDaguerreotype!) 1832-8. P.S.

Wm. Fox, Bill Brooks, Janice Tyrwhitt, *The Mill*. The N.Y. Graphic Society. Toronto: McClelland & Stewart; Boston: Little Brown, 1976. 224 pp. \$29.50. Here at last is the book we've been waiting for—a superb essay on the N. American mill that triumphs in every respect. The collaborators (design-photography-text, with watercolors by Helen Fox), as Canadians, show us some striking north-of-the-border sites surely unknown to most U.S. IAists. "Mill" is broadly taken to include saw and textile mills, with a brief look at Saugus Ironworks and du Pont's Brandywine powder mills, but the grist mill is their first love. Here are the well-known and the obscure, the large and the small, the prospering and the ruinous—all treated with reverence and knowing. Tyrwhitt covers every angle, from the overall historical context in which mills were organized and operated, to the technology of energy extraction and transmission. Where a photograph can't make the point graphically, a fully literate sketch or early illustration supplements. Indeed, it is the graphic treatment that makes this a work of true monumentality. Brooks' photography is, simply, gorgeous. His black & white work is splendid, and explains; his color explains, and stuns. The whole is cohered by Fox into a masterpiece. Such works as this and Theodore Sande's *Industrial Archeology: A New Look at the American Heritage* (Stephen Greene, 1976) unquestionably are the best possible instruments for bringing IA to the outside world. R.V.

N.B. As a means of reducing costs, once again we mean to plunge recklessly into the abyss of Third-Class Bulk Mailing, for despite its demonstrated shortcomings, it is, undeniably, *cheap*. In theory, every piece of mail so dispatched will reach its destination. We hope that it will. The experiment will begin with the *next issue, March*, to addresses in the "contiguous 48." Mailing about one week in April. If you've nothing in hand by month's end, please advise. Ed.