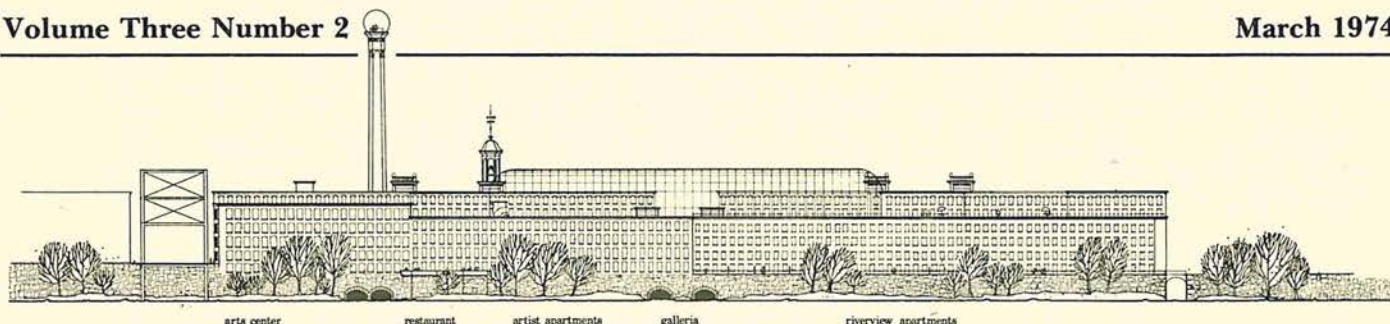


# SOCIETY FOR INDUSTRIAL ARCHEOLOGY

## NEWSLETTER

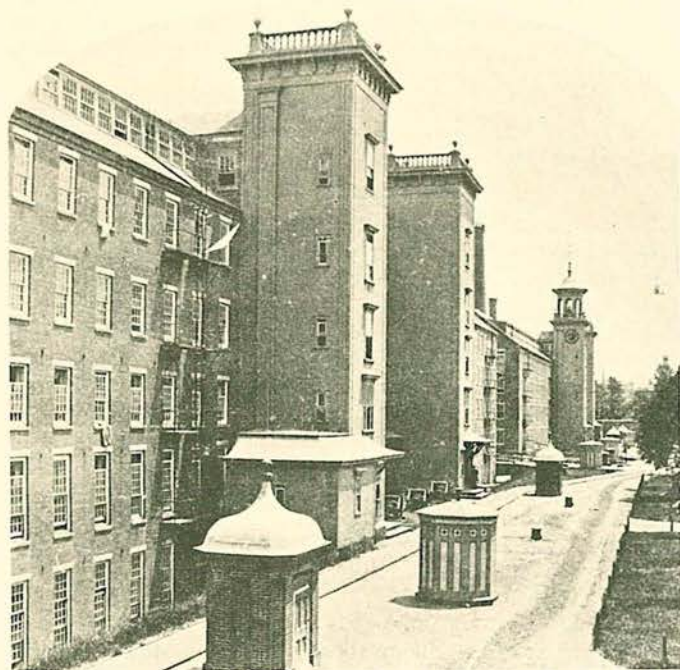
Volume Three Number 2

March 1974



### BOOTT MILL AWARD

A proposal for the adaptive use of the Boott Mill (1835+), Lowell, MA as a cultural center community has won *Progressive Architecture's* design award for architecture. In discussing the award made to Michael & Susan Southworth, Boston architects, the jurors emphasized that their concern for old buildings was not a romantic notion or nostalgia, but that they viewed them as a resource, a possible answer to current socio-economic problems. For this reason, and because this is regarded as one of the country's most important architectural competitions, the awards may indicate a trend toward energy-saving, modest-budget buildings, and toward the conversion of old structures to new uses as a way of avoiding new construction costs. The PA award, in addition, has brought national attention to this new preservation philosophy—especially as it relates to IA sites.



Boott Mill Yard c1880. Not sentry boxes—fire-hose houses. Soc for the Pres of New Engl Antiquities.

Lowell (100,000 pop) began in 1822 as an experimental mill city and flourished as a model industrial community until its ultimate decline. In 1972 the city commissioned the Southworths to create a plan for revitalization of the former cotton mills. Their proposal: a new community to be housed in one of the existing mill complexes, to be called "Boott Mill Cultural Center Community." It was intended as an important element in their already proposed "Lowell Discovery Network," an urban national park [SIAN 1:4:4] incorporating historic mills, locks and 5 mi of power canals into an integrated educational & recreational facility.

The Boott Mill is a complex of 9 interconnected, long & narrow brick buildings, 3 to 6 stories high, surrounded by power canals, on the right bank of the Merrimack at the edge of the city's central business dist. Under the Southworth scheme 750,000 sq-ft of floor space, 2 major courtyards, the clock & bell tower, and the smokestack will be restored. In the self-supporting complex will be arts workshops & library, concert hall, theater, dance studio, cinema, exhibit galleries, festival courtyard and a roofed galleria—all to be administered by a community cooperative. Additional facilities will include artists' studios & apts, family apts & duplexes, student housing, a hotel (the "Lowell Inn"), and professional office space. This thoughtful proposal has resulted in a design for re-using available space that meets community needs, providing cultural facilities that do not exist and housing and office space now in short supply. Info: Michael & Susan Southworth, City Design & Architecture, 419 Boylston St., Boston 02116.

### THE BELKNAP MILL AFFAIR

The press on the Belknap Mill, Laconia, NH, declared the best remaining example of a brick mill in New England, continues to make sorry reading. At the SIA Troy Conf, April 1973, when restoration architect Paul Mirski revealed that 3 yrs of preservation efforts had not for certain saved the 1823 mill from the threat of demolition, his list of complaints included public & political apathy; urban renewal clearance proposals; partial demolition; arson; court battles; and lack of an effective economic feasibility study [Suppl No 4].

Since then, for Laconia's *Save the Mills Soc.* (SMS) [SIA], the muddy waters have become muddier yet: last spring city council (a succession of them have been cold to lukewarm on preservation) applied for HUD grant (\$92,000) on behalf of



SMS; SMS to raise remainder of the \$254,000 for 1st-phase reconstruction. In Nov city solicitor brought suit against project, claiming that since some councilmen donated personally to SMS fund they had vested interest in project; hence the council couldn't get involved. Case lost. On 27 Dec outgoing council, as final act, authorized city mgr to *accept* HUD funds. On 10 Jan he signed fund acceptance contract. On 28 Jan SMS met 16 necessary conditions, including having raised \$177,000, thus, mill deeded to SMS by local HUD agency. Then, same day, when council to sign "declaration of trust" and receive HUD funds, city solicitor forbade city manager to do so. SMS now suing city for alleged contract breach. Meanwhile, SMS has purchased property; recorded deed; obtained construction permit; and signed \$254,000 contract. Contractor has begun restoration. SMS says they cannot give up now.

SMS's costs have been enormous. Between inflation and legal suits it became impossible to keep intact the small hydro-electric plant (c1910), with vertical turbines belted to generators—all original—at the rear of the mill, and it has been badly truncated, although its principal organs will be retained for exhibit.

## GEORGETOWN LOOP RE-BIRTH

The Georgetown Loop, a spectacular piece of narrowgauge RR engineering in Colo, built 1884 by the Colo Central to connect the towns of Georgetown and Silver Plume and dismantled 35 years ago, is being rebuilt. Nearly a mile of iron already is down, and when the full 2.75-mile line is completed it will tie together the Georgetown Loop Hist Mining Area [GLHMA]—conceived by the State Hist Soc of Colo as a site interpreting in-depth a prime facet of Colo history. They selected this mountain valley because it is perhaps the most scenic of all Colo mining districts, and because it is the one that best retains the flavor of the state's bonanza days. A variety of equipment illustrative of gold & silver mining technology remains substantially intact, as does an intricate tunnel complex and one of the earliest ore stamp mills in the region. Moreover, the whole area is readily accessible from I-70 by way of the Georgetown Loop.



The Georgetown Loop. Library, State Hist Soc of Colo.

It was the construction of I-70 in the 1960s that provided the impetus to develop the GLHMA. Initial surveys for the highway routed it along the valley floor; this would have buried many mine shafts and much of the RR right-of-way. Cries from the Society resulted in an agreement to relocate I-70 higher up the valley side and also to repair portions of the old wagon road and RR r-of-w. (Which won for the hwy dept a 1969 DOT award for the Most Outstanding Example of the Preservation of Historic Sites.)

Central to the entire GLHMA is reconstruction of the Loop itself. Equipment was obtained from the Denver & Rio Grande Western following abandonment of its Durango-Alamosa line, and the Union Pacific—under whose auspices the Colo Central was organized in 1871—donated 3 miles of 70-lb rail removed from its Boulder Branch. Recently it was discovered that one of the 4 bridges formerly spanning Clear

Creek had escaped scrapping and was resting unused near Ft. Logan. Mfg. 1882 by the Passaic Rolling Mill in Paterson, NJ, it presently is being remounted on its original abutments. A high curved iron trestle—the principal structure—will have to be rebuilt from scratch. The Central City Narrow Gauge Ry, which owns a substantial roster of rolling stock, will operate trains whenever the line becomes useable.

Other historic structures receiving attention were the Silver Plume Depot and the Lebanon Mine manager's house, both moved from I-70's path. A summer 1970 excavation by a team of Colo State U students, working from historic photos, uncovered evidence of the original functions of many of the mine buildings and parts of the stamp mill. Further work on the mill awaits the location of crushing machinery of the type originally used.

The Society has received the assistance of many organizations and individuals, but none more crucial than that of a Seabee battalion from Kansas City, cooperating as part of a training exercise in RR construction and maintenance techniques. It is expected that these Seabees will help in rebuilding the trestle. If all goes well the entire line should be ready for service in 1976—nearly a century after the slim gauge first reached Georgetown.

## ADAPTIVE USE

### Factory to Tannery to Housing

The A C Lawrence Leather Co complex in Peabody, MA is being converted to a mixed-income, elderly-oriented residential community of some 284 apts in 3 masonry buildings, the conversion of the 8.7 acre site designed by Anderson Notter Assoc [SIA]. The project "captures and retains the history of Peabody, the leather capital of the world."

Originally established as a woolen mill (c1814) by Richard Crowninshield, it was sold in the 1850s and utilized as a glue factory before conversion into a tannery during the Civil War. It was at this time that the large buildings, which will be converted to housing, were constructed. Elements of timber sheds and a 1904 powerhouse, that will be demolished, will be used to screen parking areas and to provide plazas, malls, and landscaping adjacent to the mill pond, which is to be the central amenity of the community.

Some of the tannery equipment is to be retained including wood vats and large wooden tanning wheels which will be integrated into the landscaping as planters. Two old steam pumps will be moved and transformed into sculptures to enhance the plaza areas.

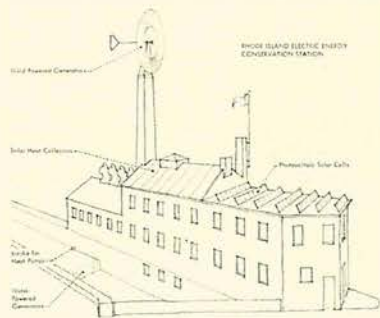
The project will preserve a historic element of the community for continued use as it once again undergoes a metamorphosis.

### Nature's Own Power

As one response to the energy crisis a RI environmental research inst, REDE (Research & Development Inst) [SIA] has begun outfitting a mid-19thC factory with an array of facilities for generating heat & power from sunlight, wind, & water. The site of this undertaking is the Stillman White Brass Foundry on Randall Sq in Providence, which REDE has leased from a local consortium that recently rescued it from demolition and is now renovating. A team comprised of REDE staff and Brown U engineering faculty & students will "retro-fit" the mill-cum-office building with photovoltaic solar cells and highly efficient forms of insulation, as well as erecting a wind generator atop the stack and flat-plate collectors on the roof, and recommissioning a water turbine in the adjacent Moshassuck River. There will be electrical & thermal storage in the basement.

REDE's director, Ronald Beckman, concedes that there is nothing radical about any of these things individually; unique is the attempt to combine a variety of energy sources into a single integrated system and then to study the effects on the ecological consciousness of the building's tenants (REDE's





25-member staff). Beckman hopes that initially 60% of the power requirements can be generated on the premises, and that, as the energy systems are refined, the building may someday become virtually self-sufficient. REDE—which is actively soliciting govt and private R&D funding—intends eventually to investigate every non-fossil-fuel source of energy, “from 3 fireflies in a bottle to nuclear batteries.” Interestingly, a major supporter so far (\$25,000) has been the local utility—Narragansett Elect Co.

From an IA standpoint, it is heartening that REDE deliberately selected a historic factory for its experiments, rather than erecting a highly specialized new structure. The intent is to show that alternative uses can be found for many such buildings, thus conserving the power and resources normally consumed in new construction.

REDE's project clearly merits our wholehearted encouragement, even though it is not without irony that this “showcase for 21stC methods of tapping new energy resources” includes the restoration of old facilities for utilizing water power!

## LESSER KNOWN MUSEUMS

### Bulbs

The Society's latest member is the Mount Vernon Museum of Incandescent Lighting, Baltimore. Open for over a decade, the museum, dedicated entirely to the history and development of the electric incandescent lamp, claims to be unique. On display are examples of bulbs ranging from the experimental, historical, miniature, and decorative, to the longest and largest. The 600 items on display represent only 20% of the entire collection as many of the artifacts are on loan to other institutions. Info: Hugh F Hicks, 717 Washington Pl, Baltimore, MD 21201.

### IA in the Kootenay

British Columbia, Canada's most westerly province, is beginning to move quickly in an effort to preserve what is left of its brief but exciting industrial history. This began only in the 1860s with the discovery of placer gold in the Fraser River and northward, but subsequent years have seen great changes in logging, mining, fishing, and transportation industries so characteristic of the province's resource-based economy.

These industries are represented in a number of specialized BC museums. As they have no room for the many larger items that for various reasons cannot be preserved *in situ*, these artifacts are finding their way onto the fringes of pioneer villages, now evolving into what might be better described as “outdoor museums.”

Fort Steele Historic Park, about 50 miles from the US border in the Rocky Mountain Trench of SE BC, has among its collection of 19thC buildings some interesting IA relics from the surrounding Kootenay region. These include a 32-ft overshot water wheel (1933) that developed 68 HP for two pumps, removing 722 gallons/min against a 100-ft head from underground placer workings. The park has two miles of standard gauge track on which run trains pulled by a Shay logging locomotive, and the *Dunrobin*, a small locomotive, custom made in 1895 at Glasgow for pulling the Duke of Sutherland's private saloon coach.

Other items at the park include a 500 HP cross-compound Goldie & McCulloch Corliss engine, used to power a 263 KW Allis Chalmers alternator. Unfortunately it is in pieces at the present, but ultimately will be re-erected. Another exhibit is a compressed-air locomotive. These were popular in local coal mining where combustion presented a hazard. Air was compressed outside the mine and delivered by high-pressure pipeline to underground “charging stations” ¼ to ½ mile apart. Here the “locie” would recharge its receiver and continue, at 4 to 5 mph. Pressures were surprisingly high at 700 to 1000 psi; one would be unlikely to encounter anything exceeding 120 psi in today's mining operations.



The great wheel in situ. FSHP photo.

The Kootenay region contains some interesting engineering accomplishments which operated with varying degrees of success. A remarkable failure was the Baillie-Grohman steamboat canal built 1887-89 to connect the headwaters of the Kootenay and Columbia rivers. Excavated with horses and Fresno scrapers, and Chinese with side dumping wheelbarrows, the project was carefully engineered and had a wooden lift lock (6 ft), and flood gate. It was not a success, the lock being, by unfortunate oversight, 3 inches too narrow for one of the only two steamboats using the system. There are considerable survivals of the canal today.

Another engineering feat, successful this time, was the construction of a 19-mile flume near Lumberton, for the transportation of logs. Built in mountainous country, it looped under itself, ran through tunnels and over trestles, and carried the logs at a considerable speed. Its engineer is said to have ridden the first log the entire distance to the mill pond, having threatened physical violence to anybody with the temerity to precede him!

Visitors to Expo in Spokane this year are advised that FSHP is only 189 miles distant on the route to Banff, and well worth a visit. It is run by the Provincial Govt. *David Morley, FSHP.*

## THE WORK OF IA

### FORGES DU SAINT-MAURICE STUDY

In 1973 the Forges (1732-1888) was established as a Canadian Natl Historic Park, permitting the start last summer of a 3-year research program covering both its industrial and socio-economic aspects, by the Natl Historic Parks & Sites Branch, Dept of Indian & Northern Affairs. The site is on the W bank of the St Maurice R, near Trois Rivières, PQ. A field team has surveyed, prepared a master plan for, and recorded all visible ruins “as-found.” Excavation of the lower forge, which covered more than 3,000 sq ft, surrounded by a number of auxiliary elements (sheds, waterways, and sluices), as well as a small area within the village has begun. Uncovered were parts of well-preserved wooden waterways and stone and brick structures that seem to have been associated with the original machinery of the forge. Complementary historical research involves William D Naftel and Marcel Moussette, SIA both.

As the site was occupied for more than 150 years and had



a population of over 300 by its peak at mid-19thC, the data about the iron works is immense. Earlier excavations (1966-68) by the province uncovered 7 tons of metal artifacts which still are being analyzed.

More is known about the site's technology during the French régime than during the later, 19thC-period. In 1732 a small charcoal furnace and forge were built, probably modeled after a New England installation. The site was expanded in 1737 with a blast furnace and 2 forges built upon a French model as shown in Diderot's *L'Encyclopédie*. In the 1870s or earlier, a hot-blast furnace was installed showing that technology had improved, but to date only one document, a geological survey of the time, mentions it. Apparently, throughout the life of the iron works, charcoal was used as fuel. *Society for Hist Archaeology Newsletter, Dec 1973 & Marcel Moussette, Historic Sites, Parks Canada.*

**The Virginia Highway Research Council**, joint organization of the VA Dept of Highways and the Univ of VA, recently has produced a *Working Plan for the Preparation of County Road Histories*, by Nathaniel Mason Powlett. Based on a methodology pilot study of Albemarle Co. the work is intended to parallel the Council's bridge inventorying project, part of its efforts in the history of road and bridge building technology. Avail: Box 3817 Univ Stn, Charlottesville 22903.

## MISC SITES & STRUCTURES

### Composite Trusses Preserved



Cartersville Bridge Remains. Ken Soper for VA Dept of Hwys.

A rare survivor of the composite truss bridge, with compression members of timber and tension members of wrought iron, of uncertain date but probably c1900, was largely carried off in 1972 by Agnes' floods but its remaining spans have been placed on the Natl Register and are to be formally preserved. The structure's six through Pratt trusses took VA Rt 45 over the James at Cartersville, between Cumberland & Goochland Cos, 40 mi W of Richmond. Upon completion of a new bridge at the site, the piers and two surviving spans were to have been removed, but at the behest of the purpose-formed Cartersville Bridge Assn joining with the VA Dept of Hwys, the Coast Guard and Corps of Engineers decided that there was no navigation hazard and that all could be left in place as a monument, CBA to undertake maintenance and historical interpretation. Two similar but shorter bridges over the James in Botetourt Co, NE of Roanoke, also are to be preserved. *Howard Newlon, VA Hwy Research Council.*

**Union Ry Depot, Montgomery, AL**, 1898, an impressive Romanesque structure located in a district of 19thC commercial buildings on the Alabama riverfront will be restored as part of a convention complex. Its 4-track trainshed, with composite timber-iron roof trusses, however, is in danger. Alabama's record for station preservation is approaching the extraordinary.

**An obsolete 22-ton engine-generator**, the Uniflow steam engine built 1926 by Skinner Engine Co, Erie, PA, left its San Francisco hospital powerhouse for the Exploratorium, Palace of Fine Arts, where it will be restored and used for demonstrations. Skinner was the last American firm in regular production of steam engines. *SF Chronicle, 17 Jan.*

**Quixote's Mills.** The three 400-year-old windmills that Cervantes had the Don attacking have been saved from ruin and are to be permanently maintained by Spain's Tourist Ministry.

**The Ladies' Pavilion** (1871), restored by NYC, first in a rehabilitation program for Central Park's irreplaceable ornamental landmarks, originally was a shelter for horsecar passengers.



The VA Depot of Highways has stabilized and preserved a **stone-arch RR bridge**, 1874, in Augusta Co, 3.6 miles S of Staunton. The bridge, on the B&O RR's now defunct Valley RR of VA, (Winchester-Roanoke), was obtained as part of the right-of-way for Rt I-81, from which it is visible.

### New National Register Listings

**The Ticonic (Two-Penny) Footbridge** (1904), hung from two 3/8-in cables, 400-ft span, linking Waterville & Winslow, ME across the Kennebec R.

**Cape May Point (DE) Lighthouse** (1859 replacement for 1823), one of the oldest still in commission as a navigational aid.

### SIA AFFAIRS

The following revision of Article Seven, Articles of Incorporation, has been proposed by the Board, and will be presented to the membership for its approval at the Annual Meeting, 27th April, Pittsburgh:

**SEVENTH-OFFICERS & DIRECTORS.** *Governing the Society shall be a President, a Vice President, a Past President, and eight (8) Directors, including a Secretary, a Treasurer, and an Editor, who, together, will constitute the Board of Directors, hereafter referred to as the Board. The President and the Vice President shall serve for terms of one (1) year and shall not be eligible for re-election to a consecutive term; however the President shall serve for one additional year as Past President. The Directors, including the Secretary, the Treasurer, and the Editor, normally shall serve for terms of three (3) years, and shall be eligible for re-election. No Board member shall serve for more than five (5) consecutive years, except a Past President who has served his fifth (5th) year on the Board as President, nor may a Board member be re-elected to the Board until at least one (1) year has elapsed following his retirement. The Secretary, the Treasurer, and the Editor shall each be appointed by the Board from among its members, and normally shall serve for three (3) years. The new Board members shall assume office upon election, and shall hold office until successors are elected.*

**Elections.** The following slate of officers and directors will be presented by the Nominating Committee at the Annual Meeting:

For President: Chester H Liebs, Montpelier, VT.

For Vice President: Paul E Rivard, Pawtucket, RI.

For Director (1-year term, filling the unexpired term of Rivard): James E Massey, Washington, DC.

For Directors (3-year terms): Emory L Kemp, Morgantown, WV; Dianne Newell, Washington, DC.

We are pleased to welcome to the SIAN's fluctuating reportorial staff Sally Churchill, a Smithsonian Associates volunteer, who with veterans Dianne Newell and Robert Post has prepared most of the material for this issue. The credit theirs; the faults mine; &c &c. *Editor.*



## MISC NOTES

The (US) National Park Service has announced its budget for the period 1 July 1974 — 30 June 1975, which proposes a total of \$24.4 million for historic preservation programs, a 1/2 increase over fiscal 1974. Proposed for ongoing historic preservation work is \$4.4 million, \$236,000 of that for the HAER.

**IA Organizations.** We propose, shortly, to publish a listing of all natl organizations in N America dealing both directly & obliquely with IA. Info on these, incl publications data, dues, purposes, &c, would be appreciated.



**Short-Lived Phenomena, Whimsy Divn:** Repainting of the Colt Armory dome (1864), Hartford, CT, in the red-lead stage, Halloween, 1973, noted by E A Battison [SIA].

**Research & Recording Needed:** Milwaukee Road electric locomotive shops, Tacoma, WA & Deer Lodge, MT. With the abandonment of electrification (see Zimmermann, Publs), they have a limited life expectancy.

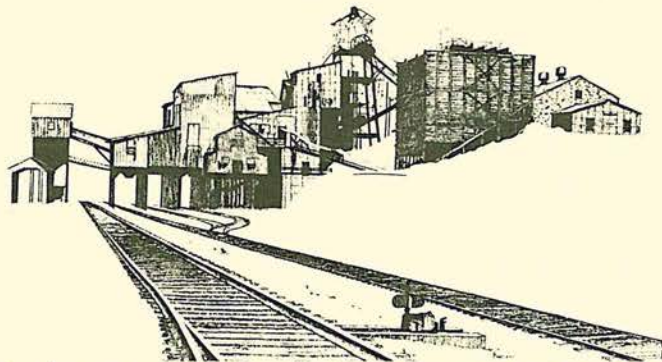
### Research Inquiries.

Information sought on **18th-19thC timber & stone-masonry wharf construction**, for use in restoration work. Publs; descriptions; dwgs, &c. Merrill Wilson Koppe, Natl Park Svc, 655 Parset, Lakewood, CO 80215.

**Are bricks, marked KINSON POTTERY FIRE BRICKS**, anywhere to be found in N America? A J A Cooksey, 34 Mayfield Ave, Parkstone, Poole BH14 9NY, England.

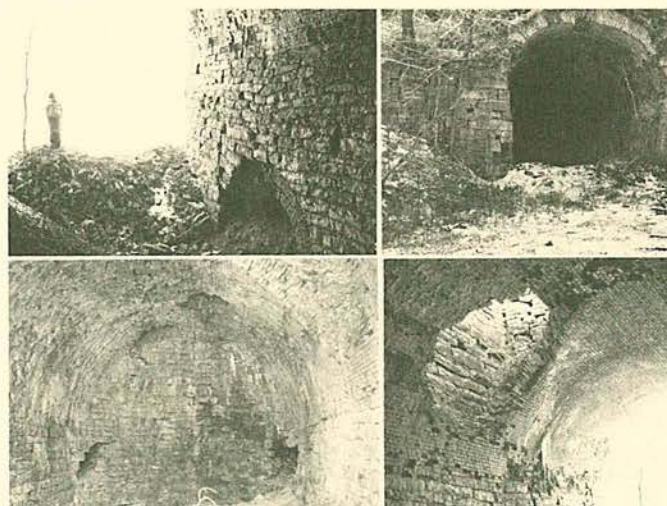
**John Leisenring.** Information sought on the chief engineer for the Lehigh Canal, c1865, and subsequently on its Bd of Mgrs. Peter Stott, Haines Rd, Mt Kisco, NY 10549.

## IA IN ART



Cranberry, WV. Lithograph from pen & ink drawing by Frederick W Bartlett II. RD #1, Box 77, Wapwallopen, PA 18660. \$12.00 + \$1.50 p&h.

One of the few artists to select and realistically capture collieries, focusing on breakers—the structures in which coal is processed—in PA and WV. Born 1940, in Vermont, this self-trained artist sketched his first colliery in 1969 and now makes his living out of IA art. Bartlett's FBart Creations produces limited edition, signed series (200) of over 20 scenes, mostly coal breakers but also RR depots and locomotives. DN



## Name It & It's Yours

An IA mystery has manifested itself in Mt Savage, Allegany Co, western MD. In a nomination of a historic district within the town for the Natl Register a particular structure in the area was described simply as a "vault." Mt Savage was heavily industrialized during most of the 19thC; in addition to coal mines there being at least one iron furnace, a famed forge & rolling mill where it is believed the first US rails were rolled (1844), the shops of the former Cumberland & PA RR, and a large fire-brick works, of the lot the sole survivor. Although nothing is known about it locally, it is clear that the "vault" is distinctly industrial—of more than casual interest. It is located at the head of the fire-brick clay pit, within 50 ft of the present workings, built into a bank forming one side of a small stream valley in which is evidence of a dam. The vault is stone lined up to the springing of the roof vaulting, which is brick. Depth: c50 ft; width: c18 ft; ht: c15. A curious feature is the number of roof and side-wall openings. Toward the front is a low, brick-arched chamber in each side at floor level, c8' deep, apparently blind, the roofs sloping slightly down to their ends. At about the same distance in is a rough roof opening, off center, leading into a large stone-lined, square chimney to the surface. At the rear are brick-lined, circular, horizontal "flues," c18" in diam, c4' above floor level, one in each side wall. One apparently is blind; the other extends c15' to a vertical, stone-lined chimney in the bank, leading to the surface. (What appear to be other roof openings simply are spalled brick.) The floor is filled somewhat above apparent original level with debris, sloping down to the rear.

There is no sign of glazing or carbonizing from high temperatures; no indication of means for closing the entrance. The bricks on the floor inside the entrance are culls from the brick works, apparently recent and unrelated. Research no doubt will reveal its purpose; in the meantime: drying chamber for green brick (prior to firing); fortress; military magazine; ore-roasting oven; and low-temperature kiln for?; have been suggested. None of these functions seem quite to fit the evidence. Someone has proposed it was an experimental installation that failed and wasn't repeated.

If you know what we have here, please advise, although additional speculation will be welcome too. *Editor.*

## PUBLICATIONS OF INTEREST

James B. Armstrong, **By Train to Fort McMurray.** In *The Beaver*, winter 1973. Hudson's Bay Co, Winnipeg, R3C 2R1, \$1. Account, with author's photos of a 4-day, 600 mile, round-trip on the Northern Alberta Rys' mixed train between Edmonton and Ft McMurray, jumping-off point for the NW Territories.



US Coast Guard, **Historically Famous Lighthouses** (CG-232), 1972. Dept of Trans, Publ Info Divn, Wash DC 20590. 88pp illus. Free. Concise yet detailed desc, by state, each with photo, of construction, equipment and operation of 56 structures.

Albert W Coates, Jr. . . . **the most convenient ways . . . A Story of Roads in Virginia.** VA Dept of Highways, 1221 E Broad St, Richmond 23219. 30 pp, illus. Gratis.

Carl W Condit [SIA], **The Wind Bracing of Buildings.** In *Scientific American*, Feb, pp 93-105, illus. The means of resisting distortion and overturning of structures by the wind, from the simple diagonal strutting and kneeing of medieval houses to Eiffel's base-spreading to the elaborations of Chicago's John Hancock Bldg.

John Foster, **100 Years Ago: Rock Drills & Nitroglycerin Advanced the Modern Age of Tunneling.** In *Contractors & Engineers Mag*, Dec 1973. (Berkshire Common, Pittsfield, MA 01201, \$1.50/issue (US), \$3.50 (Can.)). Illus desc of the innovations in the construction of the Hoosac Tunnel which changed tunneling arts from hand labor to an almost mechanized operation. [Also in this issue: article on const of DC metro].

Margot Gayle [SIA], **Cast-Iron Architecture: The Victorian Prefab.** In *Americana* (American Heritage Magazine) Jan, 1974, pp 28-32, illus. Describes 19thC use of cast-iron fronts, restricted to commercial buildings and virtually unique to US.

Thomas F Glick, **The Old World Background of the Irrigation System of San Antonio, Texas.** Univ of Texas, El Paso: Texas Western Press, 1972. 67 pp. \$3.\*

Herbert H Harwood, Jr [SIA], **Two Stations Which Weren't.** In *The Bulletin*, RR Station Hist Society, Nov-Dec 1972, pp 71-75. Account of two extant stations: Maine Central's Thomaston, ME (1794) and Youngstown & Southern's Darlington, PA (1802). These were not built as stations, of course, but adapted for the purpose—a common practice in RRing's early years, when it was thought appropriate to conduct passenger business in houses or taverns, just as had been the tradition with earlier forms of public transportation. There was an additional incentive to adapt existing structures—station construction was not a priority until after a RR was well established. But the two facilities in this article are interesting late exceptions to this: the MC station was converted in 1870s and the Y&S station in the 1880s.

G Melvin Herndon, **A Grandiose Scheme to Navigate and Harness Niagara Falls.** In *NY Hist Quart*, Jan 1974. 12 pp, illus. Wm Tatham's (1752-1819) 18thC plan for a masonry edifice supported by arches & columns, the roof to form a 20°-25° inclined plane on which vessels would bypass the Falls. Underneath would be housed water-powered industries, hoped to make Niagara the commercial center for the Great Lakes.

Jacques Heyman, **Coulomb's Memoir on Statics, an essay in the hist of civil engineering.** Cambridge Univ Press, 1972. 212 pp. \$11.75.

George W Hilton, **The Cable Car in America.** Berkeley, CA: Howell-North Books, 1971. 484 pp, illus. \$17.50.\*

C G Hine, **The Old Mine Road.** Rutgers Univ Press, 1963. 171 pp, paper, illus. \$2.75. A facsimile reprint of a 1909 local history classic, it traces the history of what probably was the first wheeled-vehicle road in the US.

Kenneth Hudson [SIA], **Air Travel: A Social History.** Totowa, NJ: Rowan & Littlefield, 1972. 174 pp, illus. \$11.50. Details the entire spectrum of passenger flying, and explores the influence on air passenger service of everything from the railroads' roomy coaches to the great wars.\*

Maury Kline, **History of the Louisville & Nashville RR.** NY: Macmillan, 1972. 572 pp, maps & illus. \$10.95. First vol to appear in "Railroads of America" series, Thomas B Brewer, ed.\*

Henrietta M Larson, Evelyn H Knowlton, Charles S Popple, **History of Standard Oil Co (NJ), 1927-1950: New Horizons.** NY: Harper & Row, 1971. 945 pp, illus. \$12.50. 3rd (final) vol of the History of SO of NJ sponsored by the Business Hist Fndn.\*

**London's Industrial Archaeology.** Publ London Transport, 55 Broadway, S.W.1. Pamphlet, 20 pp. Excellent little guide to good things & how to reach them.

Harley J McKee [SIA], **Introduction to Early American Masonry—Stone, Brick, Mortar and Plaster.** 1973. 92 pp, paper, illus. \$4.50. First in the National Trust/Columbia U series on technology of early American building. National Trust Bookstore, 748 Jackson Pl, Washington DC 20006.

H V Nelles, ed (& intro), **Philosophy of Railroads & Other Essays by T C Keefer.** Toronto: U of T Press, 1972. 185 pp, map. \$12.50 cloth; \$3.95 paper. Keefer (1821-1914), an important hydraulic engineer responsible for canals, timber-slides, river improvements, harbor works and municipal water works in major Canadian cities (his Booth St Pumping Station, Ottawa, still operates), was a superb essayist. This collection is one reprint in U of T's social history of Canada series.\*

Karl R. Zimmermann, **The Milwaukee Road Under Wire.** Quadrant Press, 19 W 44th St, NYC 10036. 1973. 64 pp, oblong, paper. \$2.95. Heavily illus, fine essay on CMStP&PRR electrified operations from start in 1915 to end today. A pioneer venture through the Rockies, notable in many ways, not least for the mighty GE bi-polar locomotives of 1919.

\*Review in *Technology & Culture*, October 1973.

### Special Publications

**Old Glory: A Pictorial Report on the Grass Roots History Movement & the First Hometown History Primer.** America the Beautiful Fund (ABF), Warner Paperback, NY 1973. 192 pp, illus. \$4.95. Of the accounts of 90 historic preservation campaigns (structures, processes, and whole districts) throughout the US, 20% are IA related. Eg Ft Benton, MT (freighting center); Bonaparte, IA (canal, woolen mills); Pocahontas, VA (bituminous coal); Laconia, NH (Belknap-Salloway Mill) [SIA]; Rochester, NY (Canaltown); Mt Washington, NH (cog RR); Tannehill, AL (blast furn) [SIA]; Carroll Co, OH (Algonquin steam-powered grist mill); High Falls, NY (DePuy (D&H) Canal Tavern); La Grange, CA (gold town); Rhinebeck, NY (1st living airplane museum in NA); Zoar, OH (pottery clay pits); Arlington, MA (Schwamb Mill: picture-frame factory turned craft center) [SIA]. Through ABF's Rediscover America Program citizen groups are given technical assistance and sometimes "seed" grants for such local history projects. Info: ABF, Shoreham Bldg, Wash, DC 20005.

James J Matera & Russell H Babcock eds., **The Water Supply of the City of Rome.** Reprint of the classic work by Frontinus, the 19thC translation by Clemens Herschel, CE. New England Water Works Assn, Oakdale, MA 01539. 1973.

**Northeast Historical Archaeology (NHA).** The journal of the Council for NHA now avail on a subscription basis. Semi-annual, it will contain articles based on papers read at CHNA's symposia. No 1, 1974 avail April. \$5 per yr from Gilbert Haggerty, 12 Coolidge Ave, Glens Falls, NY 12801.

**American Canals: The Bulletin of the American Canal Society** (quarterly). No 8, Feb, is a singularly full & informative issue, touching on a wide variety of topics. (Membership in the ACS surely is one of the great bargains of our times: \$4 / year. Pres & Editor—Capt Thos F Hahn [SIA], Box 638, Glen Echo, MD 20768.