RECIPIROCATING FRAME SAW AT THE O'HARA MILL

In many of N. America's newly-settled wooded areas, one of the most important industrial sites was the sawmill with up-&-down, or reciprocating, frame saw. Unfortunately, the documentation and preservation of sawmilling equipment has not been a primary objective of historians, preservationists, or museums, and with rare exception, woodworking history tends to be confused and neglected. The result is that sawmills—an extraordinarily significant class of structures and machines—are misunderstood and poorly represented in museums and preservation programs. In many parts of N. America surviving early woodworking machinery simply is deteriorating, without protest. Even when it is recognized as historic, not often is it given the interpretation and physical attention it merits.

A striking example of unappreciated—and therefore endangered—but very important historic woodworking machinery is on the property of the Moira River Conservation Auth. (MRCA) near Madoc in eastern Ontario, where it is being preserved, after a fashion. It appears to be the only original reciprocating frame-saw in Canada, and one of a handful in N. America. Ironically, though, not until a visit by the writer did MRCA realize that it was a frame saw. Their publications listed it as a “Muley saw”—a later and less significant development.

The O'Hara Mill was built sometime in the 1840s. It operated continuously until 1908, sporadically for another 20 years, and closed permanently in 1928. Remarkably, the derelict mill never was vandalized.

The most unusual feature of the mill itself is that it has survived. Its design is the essence of simplicity. The major components are relatively few. As in all frame saws, the blade is held under tension, here in a massive wooden frame over six ft. x six ft. Saw and frame are driven directly through a connecting rod by a primitive horizontal reaction turbine. The mass of the reciprocating frame saw limits the speed of such saws to 100 strokes/min. or less. O'Hara normally operates at less than 50. The carriage—all wood except for a few pieces such as the dogs and rack & pinion—moves on inverted-V hardwood rails. The turbine, working pawls acting on a rag (ratchet) wheel, drives the carriage forward. The return—now by hand—once was provided by a Norse wheel. The turbine probably was a late-19thC replacement for a less expensive, but less efficient, wooden flutter wheel.

The problems created by limited water supply, rather than the ravages of time, have caused the mill to suffer its worst indignities. Efforts by MRCA to cope with this problem led to abandonment of the Norse wheel, and the earlier penstock has been replaced by a metal pipe, sheathed with wood in an attempt to give it the appearance of wood-stave pipe. No one is fooled. Even with reduced loss the supply is inadequate. It is proposed that modern technology come to the rescue, in the form of one of the hot rodders' favorites, the Chevy V-8. It has been argued by some of the board that the mill is being retained solely to let visitors see the saw go up and down and the nature of the prime mover is irrelevant; thus the acceptability of the engine.

There are far more acceptable solutions to the very common—and in fact, relatively minor—problem of limited water supply. One is to recirculate the water with an electric pump, a solution used at the Muley Saw & Carding Mill at Upper Canada Village, the Flour Mill at Black Creek Pioneer Village in Toronto, and elsewhere. Also, the terrain is quite suitable for enlarging the millpond. Nor is the number of visitors so great that it is necessary that the saw run daily or even weekly.

The future of the mill's operating components is uncertain. It is to be hoped that future repairs and modifications will bring the mill closer to, rather than further from, original appearance and operation.

The O'Hara saw, the later Muley saw at Upper Canada Village, and other extant, but languishing eastern-Ontario sites have enormous interest and potential. The lumber industry once was an important part of the region's economic foundation, and fortunately significant material remains survive. One only hopes that they will be appreciated, understood, and preserved before it is too late, again. N.B.

THE PETERS CARTRIDGE FACTORY

From across the rolling farmlands of Warren Co., Ohio, near Kings Mills, [5 mi. SW of Lebanon] rises a tall, slender tower reaching skyward out of the forest-covered valley of Deerfield Gorge. Clustered around the ten-story shot tower—one of a handful surviving in the U.S.—are the remains of the Peters Cartridge Factory. The major buildings on the site are early 20thC, of substantial reinforced-concrete with 11-in floor slabs, the exteriors faced with brick and tile. The plant's electricity originally was generated by the Little Miami River, across which are the crumbling remains of an affiliated black-powder mill dating to the 1870s. Included there are a two-mile headrace and the foundations of such structures as a "Glaze Separator" mill and a "Rifle Corning" mill. A nearby museum displays spark-preventing brass horseshoes used by the animals that transported materials among the mills.

The company town of Kings Mills, complete with paved streets
and sidewalks, electric lights, and fire hydrants, once presented quite a contrast to the surrounding rural countryside. The nationally-known Kings Island amusement park now is located near the town.

The cartridge factory and powder mills, covering 500 acres, achieved prominence early in the century. After World War II both operations went out of business. Today, a rich growth of floodplain forest covers most of the site.

In 1967, Little Miami Inc. [3012 Section Rd., Amberly Village, OH 45237. (513) 351-6400.] was formed, a citizen's group intent on preserving the Little Miami in its natural state. LMI helped in having the river designated Ohio's first State and Federal Scenic River. As part of the Scenic River program, the Bureau of Outdoor Recreation proposed securing a large tract of land in the Deerfield Gorge.

Meanwhile, in Dec. 1975, the owners of the cartridge property donated about half of the buildings and several acres of land to LMI. Possibly more would be donated if LMI could find a suitable new use for the property. Last Sept. LMI received an Office of Economic Development grant to study re-use possibilities, and contracted with a consulting firm for this purpose.

A concurrent development is Penn-Central RR's planned abandonment of the line serving Kings Mills. A group of local rail buffs has proposed a scenic RR along the river, the cartridge factory to be used as a shop and museum. The state also has expressed interest in the line, as a hiking trail. The two factory areas and the town are being nominated to the National Register as areas and the town are being nominated to the National Register as.

The York Water Co., a private stockholders' corporation, proudly maintains all of its pumps with the idea that in diversity lies the ability to work within a broad range of demands. S.H.

TECHNOLOGIES REVIVED

A ROSE BY ANY OTHER NAME DEPT. They do it with a straight face, in a formal little bulletin full of graphs, tables, and a map of "heating zones" in the U.S., calling it all "The Emerson Heat Reclam System." These are the folks at Emerson Electric Co., St. Louis, who since the '90s have been making those classical 4-blade, low-r.p.m. ceiling fans. They still are, only now, with concern for energy conservation, the things no longer are fans, they are a "system," (like those new razors that are "shaving systems"). Yes, that's all in the world that the EHRS is; ceiling fans bringing that mass of heated air up around the high ceilings of industrial buildings down to working level. But we're not fooled—we'd know you anywhere, Fan: Same style, same design: pull chain, high & low speed, wood (like) blades, &c. And playing both sides of the street, when used to "...add a little enchantment to the family or garden room...the cafe; the boutique...wherever there are people..." they become "Casablancia Ceiling Fans." Revive it again, Sam.

RE-INVENTING THE WHEEL DEPT. The U.S. Dept. of Transportation's Urban Mass Transportation Admin. is sponsoring a radical "demonstration project" in N.Y.C., in an attempt to evaluate the feasibility for U.S. cities of increasing the passenger capacity of transit routes, while using no more street space than present modes; at the same time increasing the passenger-driver ratio to reduce operating costs. The experimental mode might even, it is felt, be widely used "off-peak," by attracting tourists and sightseers. Eight of the units, built by British-Leyland Corp., are reported already in revenue service. They are buses, but with, like, two floors, one up and one down...no, really, folks...and they're being called, double-deckers. Far out, er, up.

THE WORTH OF STEAM

Two Corliss engines remain, on stand-by service, in the Brillhart Pumping Station of the York [Pa.] Water Co. Situated three miles S. of York on the eastern bank of Codorus Creek, the station supplies water to c120,000 people in York and its environs. The oldest portion of the brick building dates to 1897. It houses:

<table>
<thead>
<tr>
<th>TYPE</th>
<th>YEAR</th>
<th>BUILDER</th>
<th>CAPACITY (million gals./day)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reciprocating</td>
<td>1914</td>
<td>Snow</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>1925</td>
<td>Worthington</td>
<td>6</td>
</tr>
<tr>
<td>Centrifugal</td>
<td>1925</td>
<td>Worthington</td>
<td>9</td>
</tr>
<tr>
<td>(turbine)</td>
<td>1946</td>
<td>Worthington</td>
<td>9</td>
</tr>
<tr>
<td>Centrifugal</td>
<td>1955</td>
<td>Worthington</td>
<td>18</td>
</tr>
<tr>
<td>(electric)</td>
<td>1957</td>
<td>Worthington</td>
<td>18</td>
</tr>
<tr>
<td></td>
<td>1959</td>
<td>Worthington</td>
<td>9</td>
</tr>
</tbody>
</table>

A small package boiler keeps the pumping engines in readiness and a 1947 Babcock & Wilcox oil-fired boiler is routinely fired twice a year when the steam units once again carry the pumping load. There also is a 1925 Badenhausen boiler with coal ram and a day's supply of coal.

On 21 June 1972 the flooding from Hurricane Agnes was beginning to swell the Codorus and the basement of the station was filling with water. By midnight the engine room was beginning to fill with water carrying mud, grit, and debris. At 4:00 AM on the 22nd the last electric pump was shut down and the power company told to shut off the station's electricity.

After 47 hours, operations were resumed with the 9 mgd electric pump. For two days prior, company personnel had worked 'round the clock drying the electric motors, controllers, and switchgear, as well as running temporary lines. As it would have taken too long to dry the large 18 mgd pump motors in time to maintain the water level in the company's reservoir, the boilers were prepared for lighting off. At 10:00 a.m. on the 24th the first steam turbine was put on the line followed by the Snow Corliss at 11:30. At that point there was only enough reservoir water for a half hour of service.

Five more days passed before the first electric pump was started. During that time, the steam pump maintained full water service. On the 29th the 1957 pump with 1000 hp motor was put on the line and steam service discontinued. All was well for five more days until another electrical problem developed and steam came to the rescue for an additional three days. Steam was used later on for a week, while the plant's substation was being moved to higher ground, and occasionally is used during summer "brown outs" as well as during the biennial runs of the turbines and engines.

The York Water Co., a private stockholders' corporation, proudly maintains all of its pumps with the idea that in diversity lies the ability to work within a broad range of demands. S.H.
RETURN OF THE FERRIES. The L.A. Times tells us that the circle is complete, or broken, or something. Anyway, the traffic on San Francisco’s Golden Gate and Transbay bridges, the links with Oakland that made the ferries obsolete in the first place, now has grown so heavy that they are to be reimstituted. But it won’t be the steam side-wheelers and it won’t be without controversy. Sometime late in the year the first of three sleek, aluminum-hulled, gas-turbine-powered, 750-passenger vessels will go into service, from an ultra-modern terminal. When all are running they will carry 3,200 commuters, reducing rush-hour traffic on the Golden Gate Bridge by up to 2,500 cars. That is, if it is the automobilistes who opt for the new mode. But, the skeptics ask, what if it is the present bus riders?

TROLLEYS. Noted in SIAN Mar 76:4 was the intended resurrection of streetcar service in Detroit. It has happened: on 20 Sept. service began—the first new trolley operation in N. America in decades—with a group of handsomely painted open cars of c1900, ex-Lisbon. The nine-block line, costing $1.5 million (mostly federal funds), is part of a plan to revitalize Motown’s CBD. It would be nice if this really were a harbinger.

NEO-SCHOONER. Dover, N.H. dairy farmer E.A. Ackerman is having built at the Newbert & Wallace yard, Thomaston, Maine, the _Leavitt_, a two-masted schooner, to haul odd and oversized cargoes between coastal ports, plus up to six passengers, with a crew of three. She will be the first cargo sailing ship to be built in Maine since 1938.

ANALOGO-WELSH CANAL TOURING. Let the effete have their Aspen and Caribbean. The knowing have in recent years been taking the ultimate vacation, on the canals of England & Wales, mostly through one of the various firms renting self-driving, on-living, powered “narrow boats.” An attractive-sounding scheme is being offered by Paulsen Travel Bureau (431 Springfield Ave., Summit, NJ 07901, (201) 272-1313), for groups of 4-8, involving a week in a London apartment and a week on the boat, touring some of the world’s most stunningly beautiful scenery and stunningly interesting I.A. on the Staffordshire & Worcestershire, Shropshire Union, Llangollen, and other canals on the 2,000-mile navigable system. Data; brochure: PTB or directly from: Anglo-Welsh Narrow Boats, Leicester Rd., Market Harborough, Leics, LE16 7BJ, England.

IA IN PHILATELY

ASHTABULA BRIDGE COLLAPSE CENTENARY. The Ashtabula [Ohio] Co. Stamp Club has issued a limited edition (1200) cover with descriptive card commemorating America’s worst bridge disaster, unfortunately one of many involving iron bridges, but bringing attention to the need for higher standards in bridge design—especially stress analysis and strength of materials.

On the bitter cold night of 29 December 1876, with a blizzard raging, the Lake Shore & Mich. Southern’s luxurious Pacific Express, running late and double-headed, was braking for its stop at Ashtabula just W. of the bridge—a 165-ft span Howe deck truss of 1865. The engineer of the lead engine heard a loud noise while on the bridge and opened the throttle. He alone made it across; the bridge, second engine, and cars fell to the valley floor and into creek 70 feet below. As was inevitable then, the wooden cars were set afire by their heating stoves but even so, one-third of the passengers were rescued. Avail.: Glen Osburn, Pres., ACSC, Box 132, Ashtabula, OH 44004. Send #10 stamped, addressed envelope + 60¢ each (limit 3). (Abstracted from Conneaut (OH) Museum Newsletter by F.C.)

CANADIAN SHIPS. Canada, shortly before raising first-class postage rates, issued a set of four-in-block, old-rate 8¢ stamps each showing a different vessel, each named, each a different color: three steamers; two full rigged. The new rate is commemorated by a companion four-stamp set with four other vessels: two side-wheelers; a stern wheeler; and a propeller. Artistic, accurate, and handsome all.

THE HISTORY OF AMERICAN ENGINEERING is told entirely through the use of U.S. commemoratives, in an American Soc. of Civil Engineers slide film: The Builders of America, using 84 different stamps photographed in color. Engineers will be surprised and pleased to learn how many engineers and engineering achievements have been honored on stamps. 80 slides, with synchronized cassette tape narration and printed script, mounted in a carousel slide tray, $50. Film Comm Inc., 208 S. LaSalle St., Chicago, IL 60604. (Inquiries: Herbert R. Hands, ASCE. (212) 644-7661.)

TELEPHONE CENTENARY. At least 65 countries have issued stamp(s) on this theme, certainly a record, and underscoring its importance in our lives. First day covers alone are worth c$200; mint sheets and the other collectibles, a small fortune. F.C.

CHINA-JAPAN SUBMARINE TELEPHONE CABLE. Japan has issued a handsome 50-Yen stamp, depicting China & Japan in outline, a cableship, and a cable with repeater, commemorating the opening on 25 October 1976 of a 530-mile (850-km) 480-channel cable between Shanghai and Kumamoto Prefecture, the first cable communication with China since the early 1940s. (Abstracted from Cable & Wireless, Ltd., Zodiac by F.C.)

CANAL NEWS

ILLINOIS & MICHIGAN. Work has begun on the semi­restoration of I&M Lock 1 at Lockport, Ill. (JOLIET 114038). The two-year project is expected to restore only the lock masonry, however, as full restoration, with the gates, would flood a number of encroachments that have been built along the banks since closure of the canal in 1930. The work is being undertaken by the Ill. Dept. of Conservation as the first phase in a general plan to restore two of Lockport’s four locks and a length of canal towpath for cycling and hiking. The 110-mile canal, completed in 1836, connected Lake Michigan at Chicago with the Mississippi, via the Illinois River.

DELAWARE & RARITAN PROGRESS. The D&R Canal Comm’n, established by the N.J. legislature in 1974, has completed a master plan for the 65-mile-long canal park. Executive Director, James C. Amon, reported that in addition to planning for the development of the canal itself, work also had started on detailed scientific studies of soils, vegetation, hydrology, geology, and the history of the region along the canal. The comm’n has land-use authority over all projects within an area that might have impact on the canal park, and the studies will be incorporated into the land-use regulations governing this area. Other projects begun by the comm’n include interpretive signs and maps, and a design vocabulary book providing architectural and landscape architectural standards for park development.

FOX CREEK CANAL MEMORIALIZED. An early connecting link between the Merrimack River and the shipbuilding yards of Essex, Mass. was honored at a small ceremony 1 Sept. According to local historian Harold Bowen, initiator of the project to erect a granite marker, the mile-long canal (IPSWCH 536261), constructed in 1820, is “the oldest man-made tidewater canal in the U.S.” Any other contenders for this honor?

MIDDLESEX CANAL PACKET BOAT LAUNCHED. The Woburn [Mass.] Historical Comm’n, as part of its bicentennial effort, has completed full-scale replica of a Middlesex Canal packet boat of c1803. Launched on the waters of the canal in July, the _Colonel Baldwin_ has been moored at a newly-opened Canal Historic Park in Woburn (WILMINGTON 226075). The park, dedicated 15 Sept., also contains the Loammi Baldwin Mansion, moved to its present location a few years ago and also operated by the comm’n. Beginning next May, the packet boat is expected to make short excursions along a restored stretch of the canal. P.S.
THE WORK OF IA

The Eaton (Hopewell) Blast Furnace: First Industry in the Western Reserve

The Eaton Furnace on Yellow Creek in Struthers, Ohio (S. edge of Youngstown), built in 1802, is the earliest blast furnace west of the Alleghenies and the oldest industry of any kind in the Western Reserve. When the furnace went out of blast prior to 1812, the seasons took hold collapsing the massive sandstone structure and covering the gorgeside site with up to seven ft. of erosional overburden. The only visible remains were the tuyere opening and a small rim section of the refractory inner lining.

Archaeological excavation was begun in the summer of 1975 by the Youngstown State Univ. Dept. of Soc. Anthro. and in 1976 was expanded to include the workers' habitation area beyond the furnace headrace. The furnace remains have been entirely exposed, as have the casting floor, trompe area, and the stone foundations and cellar of a dwelling. Hundreds of artifacts attest that the furnace produced not pigs but readily cast ware such as stoves, utensils, and tools. Also found, beneath 3½ ft. of overburden, was a salamander representing the furnace's premature last cast. This "blow-out" runner of iron and uncooked impurities extended from the hearth mouth 20 ft. onto the casting floor. No further attempts ever were made to refire following this accident.

Extensive metallurgical analysis by specialists at Youngstown Sheet & Tube Co. seems to provide the clue to the furnace's relatively short duration: the poor desulfurizing capability of the slag created problems when the furnace switched fuel from charcoal to a mixture of charcoal and raw bituminous coal. This factor taken atop the sudden "blow out" may have been the final straw for Eaton. J.W.

PHILADELPHIA GAS WORKS. David G. Orr [SIA], Dept. of American Civ., Univ. of Pa., reports that work begun in 1974 at the Delaware Avenue Gas Works' Point Breeze Station continues. Of the four original structures of 1854, two are gone—the Gas Holder and the Retort House—the survivors the subject of the study. The Meter House has been measured and drawn by architect Herbert W. Levy [SIA], and Orr's students now are similarly documenting the Purifying House. A general inventory of all structures on the site is in progress and the company's extensive photographic archive is being catalogued. The first section—a list of the paper prints—is complete, with publication planned. Orr's Phila. Industrial Index, a card inventory, continues in work, entries for the Manayunk textile community, the Phila. Navy Yard, the Frankford Arsenal, and others, now complete.

1976 SUMMER INTERNS. George M. Danko [SIA], a Natl. Trust intern working at the State Hist. Soc. of Wisc., prepared an extensive report, The Development of the Truss Bridge, 1820-1930, with a Focus Toward Wisconsin. In the course of the work Danko located a large collection of early-20thC bridge construction progress photographs at the former works of the Wisc. Bridge Co., which have been donated to the Society.

Christopher J. Teasdale, a 1976 Skidmore graduate, for the Dutchess Co. (N.Y.) Landmarks Assn. prepared a report on the preservation of the Poughkeepsie (Cantilever) Bridge erected over the Hudson in 1889 by the Central New England RR; reinforced in 1906; discussed since a 1974 fire. It is heavily deteriorated and in jeopardy.

Hudson-Mohawk Industrial Gateway. The Gateway, under the guidance of Pres. Thomas Phelan [SIA Bd.] and Exec. Director Thomas McGuire [SIA], has made constructive progress during the year past in furthering its efforts to preserve, interpret, and adaptively use the IA of Troy-Cohoes-Watervliet, N.Y. A feature of the Gateway's program has been a series of tours for both local people and outside groups. Last Sept. an all-day tour of the area's IA was conducted by the American Assn. for State & Local History with Gateway sponsorship, combined with a series of talks on national and local matters of IA concern at key sites along the way.

HMIG has published two important reports, both models and of potential usefulness to similar undertakings. The Preservation & Utilization of 19thC Industrial Architecture in the Hudson-Mohawk Region resulted from a City Edges competition grant that permitted an intensive study of certain buildings and complexes, their historical and architectural worth, and potential for tourism and creative adaptive use for industrial or community purposes. The Burden Iron Co. Office Building—A Historic Structure Report, prepared by Mendel-Mesiek-Cohen, Architects, fully describes the 1882 building historically and architecturally (including an essay on its architect, R. H. Robertson), and presents a plan for its restoration and adaptation to a headquarters for HMIG. (32 and 44 pp. respectively. HMIG, 5 First St., Troy, NY 12180.)

BRICK KILNS. An extensive Report to the U.S. Agricultural Research Service on the Cultural History Values of the N.Y. Ave. Brickyard by architectural historian Dorothy R. Jacobson comprises an interesting account of the brick industry in Washington, D.C., and a detailed history of one of the city's more interesting industrial sites. The report is in consequence of the site's purchase by the Dept. of Agriculture for expansion of its Natl. Arboretum. (Executive Order 11593 requires such reports for any property to be affected by federally-funded projects.) The site's most impressive feature is a battery of 12 beehive brick kilns, built c1930. The Report considers the potential for arboretum use of the kilns as visitor facilities. (USARS, USDA, Wash., DC 20250.)

OIL PIPELINE SURVEY. In 1881 Standard Oil laid three 6-in. pipelines from Olean, N.Y., to Bayonne, N.J.—315 miles. The line ran due E. from Olean to Unionville, where it crossed the N.J. State Line. It then traversed NE N.J. through Sussex, Morris, Passaic, Bergen, and Hudson cos. This system pumped 30,000 barrels of oil/day from the fields of western Penna. to refineries in Bayonne and N.Y.C. The pipeline was abandoned in 1927 when the production from eastern oil fields waned. The North Jersey Highlands Hist. Soc., under the direction of archeologist Edward J. Lenik [SIA], is studying the construction and operation of this pipeline system, and its impact on people and the environment. Lenik conducted a survey along the route, recording pumping sites, village scenes, and pipeline features. His study locates remaining pumping stations and pipeline crossings in N.Y. and northern N.J. A section of pipe has been salvaged and will be preserved in the society's museum. (The survey was described by Lenik at the 1976 SIA Conference, Lowell.)

REED GOLD MINE STATE HISTORIC SITE. Six months of field research was completed in 1975 at this site in Cabarrus Co., N.C., directed by the Archeology Section of the state's Divn. of Archives & History. The mine was the site of the first gold find by western peoples in the new U.S., when a boy picked up a 17-lb nugget from Little Meadow Creek in 1799. This and subsequent finds on the property of John Reed started the U.S.'s first gold rush, in 1803. The research concentrated primarily on the site of the 1899 stamp mill, which represented the last phase of the mine's industrial operation. The stamp mill reduced partially crushed ore to powder so that the gold could be extracted. Numerous parts of the mill were uncovered by the excavations, including several parts recovered from a lake on the site by underwater archeologists. Extensive soil sampling was used in an effort to find evidence of the historically-documented shift from mercury to potassium cyanide in the chemical processing of the ore. Excavation was done by a crew of six using CETA, Title VI funds.
CONRAIL SURVEY. The Natl. Historical Publs. & Record Commn. has awarded the Eleutherian Mills-Hagley Fdn. a grant for the survey of the seven eastern U.S. RRs that form Conrail. The project goal, according to its director, Richmond D. Williams, is to preserve invaluable historical data from inadvertent or willful destruction. Over the last four months, EMHF's Hugh Gibb, Specialist in Industrial Collections, and Duane Swanson, Field Representative, Minn. Hist. Soc., will locate, describe, and appraise the records of the companies, develop working inventories, and recommend which materials should be saved or destroyed. Immediate concerns of the project are to find personnel to work with Gibb & Swanson on the survey, and storage space for the records that are saved. Institutions interested in collecting RR records are asked to supply staff members, whose expenses will be paid by the grant. Just as important is the creation of an alliance of RR curators, administrators, archivists, and research scholars who will provide long-term collecting and archival advice and assistance. EMHF, Greenville, DE 19807, (302) 658-2401.

SANITARY ENGINEERING. A Cultural Resource study was undertaken last summer by Stephen Israel [SIA], to document and register of Historic Places. Protection. A new and larger interceptor sewer is planned to replace the City of Trenton retained Rudolph Hering, eminent Philadelphia sanitary engineer, to design a comprehensive city-wide sewer plan. This was completed in 1885 and revised in 1889. Hering's brick gravity-flow sewers consisted of egg-shaped and circular, brick and terra cotta, and cast-iron sewers, laid in a prepared bed. The brick interceptor and main trunk sewers were constructed 1888-93. Thereafter, the smaller and shallower laterals were laid at a quicker pace. Trenton's last brick sewers were built in 1903; by then concrete lines had become more economical.

Substantial documentation was found on Trenton's early brick sewers. Their technological importance and the social/cultural implications of the system's benefits to Trenton residents assures the brick interceptor's eligibility for nomination to the Natl. Register of Historic Places.

NEW COVERED BRIDGE. A group of Penna. State Univ. civil engineering students, as a Bicentennial project, built a pedestrian covered bridge in Spring Creek (township) Park near State College. The 38-ft.-span timber structure follows classical lines, although in the construction a composite of traditional and modern fastening methods was used. All design and construction of the abutments and superstructure was carried out by the students. (Fuller account: Civil Engineering, Sept. 1976:109.)

GOLD MILL. The U.S. Bureau of Land Management has moved a 1909-1929 gold mill from the Henry Mountains of central Utah to a BLM visitor complex near Hanksville. The entire mill has been moved, including a two-ton waterwheel, 20 ft. in diameter, which was moved by helicopter.

CONTINUAL HARPING ON RECORDING NEEDED DEPT.: BULK MATERIALS STORAGE STRUCTURES. Truly, no one seems to be attending to these unobtrusive, unsung, but vital special structures that abound in every industrial area. With changing patterns of bulk-materials usage—especially fuels—they are disappearing at a good clip, and if we don't get out there and at least photograph them— but better, measure & draw—we'll regret it. Let's think coal for a start. From the smallest towns to the largest cities can still be found coal silos or elevators in a variety of configurations, invariably on rail sidings. In most cases, these were built and owned by coal companies rather than RRs. Below are two, recently noted at random within 4 miles of one another.

IA ORGANIZATIONS

We will continue, from time to time, to note organizations that, while not principally devoted to IA, embrace purposes and activities so closely related that we feel their existence is of interest. Those following are a random lot not having any particular relationship one to the other. We would be pleased to learn of others. A directory of all such would be a useful document. If anyone would like to take on its compilation, please contact the editor. Date following name is that of founding. Dues & fees noted are per annum.


AMERICAN CANAL SOCIETY. 1972. "To encourage the preservation, restoration, interpretation, and use of the historic canals of the Americas, particularly the U.S. & Canada... and the exchange of canal information on a worldwide basis." Quarterly American Canals; bulletins; data sheets; misc. publs.; field trips. U.S. & Canada $6. 809 Ralston Rd., York, PA 17403.

ECONOMIC HISTORY ASSN. 1940. "To stimulate interest in the study of economic history; encourage research in economic history and history of economic ideas; cooperate with societies devoted to the study of agricultural, industrial, or business history; and to collaborate with economists, historians, statisticians, geographers, and all other students of economic change." Quarterly Journal of Economic History (heavy in technological change, technology transfer, diffusion of innovations, & invention, from the economic historical standpoint). Members also receive triennial Economic History Review [GB]. U.S. $10 (students, $3); Canada $10.50 (students, $3.25). R.D. Williams, Secy-Treas EHA, Eleutherian Mills Historical Library, Wilmington, DE 19807. (302) 658-2401.

WIND ENERGY SOCIETY OF AMERICA. 1974. Development of wind energy technology by disseminating knowledge, coordinating research, and acting as central source of information. Annual symposium; excellent newsletter (a recent one containing an extensive wind bibl.); other publications. 1700 E. Walnut, Pasadena, CA 91106.
Paul Stephens, Hon. Secy., 23, Merrick Ave., Truro, Cornwall TR1 1NF, Engl.

UNION DES ASSOCIATIONS PROTECTORICES DES MOULINS. Assn. of all French mill organizations. Center for mill studies: technology, restoration, preservation, history. Journal; other pubs. 58, Rue St. Lambert, Paris 15 0.


NICKEL PLATE ROAD HISTORICAL & TECHNICAL SOCIETY. 1966. All aspects of the history of the N.Y. Chicago & St Louis RR, but principally its motive power. Quart. Newsletter; annual Magazine; other publications. Box 6212, Fort Wayne, IN 46806.

MICH. STATE UNIV. RR CLUB. Principally sponsoring "PROJECT 1225," the total restoration to working order of Pere Marquette Ry. Berkshire-type (2-8-4) locomotive 1225, built 1941 by Lima Locomotive Works, on outdoor display since 1957. This will be one of about four large American steam locomotives in operation when work is complete c1977. Work described in fascinating detail in monthly newsletter. $5. MSU Museum, E. Lansing, MI 48824.

 Zacchariah Allen built at Allendale, R.I. (now part of N. Providence) in 1822, adding to it in 1825. An 1830s fire caused major rebuilding c1839, when the by-then common slow-burning heavy-timber interior framing was installed. (It has become evident that contrary to general belief, Allen did not "invent" the system and first install it in this structure as original construction). Numerous additions and alterations were made later in the 19thC. More importantly, Allen experimented with high-speed line-shaft and leather-belt power transmission at this site in the early years, becoming recognized as an important figure in textile technology for this and other innovations. (See his "The Transmission of Power from the Motor to the Machine," New England Cotton Mfrs. Assn. Proc., No. 10, Boston, 1871.) The mill has been purchased by George Nathan Assoc., silk screeners, who will use about half the space, renting the other half. The new owners are appreciative of the mill's historical importance (it is in the Natl. Register and was recorded by the New England Textile Mill Survey in 1968) and are, in fact, planning to restore its water power.

ALLENDALE MILL CHANGES HANDS. It now is one of the most interesting textile mill sites in New England, the cotton mill built by Zachariah Allen at Allendale, R.I. (now part of N. Providence). In 1822, it was doubled in size to 1825. An 1830s fire caused major rebuilding c1839, when the by-then common "slow-burning" heavy-timber interior framing was installed. (It has become evident that contrary to general belief, Allen did not "invent" the system and first install it in this structure as original construction). Numerous additions and alterations were made later in the 19thC. More importantly, Allen experimented with high-speed line-shaft and leather-belt power transmission at this site in the early years, becoming recognized as an important figure in textile technology for this and other innovations. (See his "The Transmission of Power from the Motor to the Machine," New England Cotton Mfrs. Assn. Proc., No. 10, Boston, 1871.) The mill has been purchased by George Nathan Assoc., silk screeners, who will use about half the space, renting the other half. The new owners are appreciative of the mill's historical importance (it is in the Natl. Register and was recorded by the New England Textile Mill Survey in 1968) and are, in fact, planning to restore its water power.

KINGSTON, ONT. BREWERY. A community theater and crafts center opened last summer, in the stable yard of the old Dalton/Molson brewery (c1840 and later). The center is officially called the Olympic Theatre in honor of the 1976 Internatl. Games. Operations, which included a several events staged in Kingston Harbor. The quadrangle of limestone buildings (viewed on the fly during the 1973 SIA Rideau Canal Tour) faces Lake Ontario, a mile W. of the city's business district. In this century the property served a number of non-industrial uses, including a hospital, and military and public works storage. D.C.N.
**MISC. NOTES**

**ALTERNATIVE VEHICLE REGATTA—77.** For the past three years the Auto Rd. up the slopes of Mt. Washington, N.H. has been the scene of a strange auto “race,” [SIAN Jul./Sept 75:5] with cars and motorcycles toiling up 18% grades, around 99 turns and switchbacks to reach the 6288-ft. summit . . . propelled by flywheels, steam, I.C. engines, or electric motors . . . burning sewer gas, chicken manure, propane, salvaged jet fuel, used hamburger fat, charcoal, or alcohol; or consuming electric power generated by windmills and water wheels. The contest’s object is not speed. Any vehicle completing the course in under 25 minutes is disqualified. Rather, these unique cars being designed during the twilight of the Age of Petroleum call for a minimal expenditure of energy, and are encouraged to look elsewhere than the oil well for fuel. The Third AVR, 23-25 June, promises to bring forth a myriad of curious and interesting vehicles. All are invited to enter/observe. Information: Charles E. MacArthur [SIA] Administrator, Mt. Wash. AVR, 1505 John Fitch Blvd., Box 634, S. Windsor, CT 06074. (203) 289-6851.

**BUILD YOUR OWN IA MONUMENT!** We’ve all seen those handsome paper scale models of well-known historic buildings (the Governor’s Palace, Williamsburg; the White House; &c). Now one of the most picturesque American IA structures is obtainable in cut-out & paste-up form: the 1869 Chicago Water Tower which still graces Michigan Ave. Chief Engineer was Ellis S. Cheshire, architectural guidance provided by W. W. Boyington. The tower, one of the few survivors of the 1871 Great Fire, was honored by the American Water Works Assn. as “The First American Water Landmark” in 1899. The city designated it an Architectural Landmark in 1971. The model was created by Robert Basso. Avail: The ArchiCenter, 111 S. Dearborn St., Chicago, IL 60603. $2.50 PP. + 5% in IL. Does Mr. Basso have more IA structures in mind? T.S.

**18th-19thC INDUSTRIAL PRINTS—REPRODUCTIONS.** The First Iron Bridge (1782), The Upper Works at Coalbrookdale (1758), Amalgamated Soc. of Engineers’ Membership Certificate (1832), Mouth of Coal Pit near Blosbery (1788), &c, &c. Listing + postcards, publications, &c 35 mm slides avail. Shop in the Square, Ironbridge, Telford, Salop, TF8 7AW, England.

**INDUSTRIAL REVIVAL.** The last maker of silk top hats—Mark Spooreenberg of Eindhoven, Netherlands—two years ago closed his 160-year old business because of higher costs and what he saw as declining demand. A sharper judge—Carl Habig of Vienna—bought Spooreenberg’s equipment, went into business, and now barely can keep up with orders, even at $80 a throw: from magicians, equestrians, and who knows who-all else, world wide.

**PUBLICATIONS OF INTEREST**


Norman Brouwer, Eric Canal Boats. In Sea History, July, p. 22. A number do survive, both wood and reinforced concrete! Pretty tatty, the lot, but the author believes some are restorable. (See History itself a worthy, high quality publ., on all aspects of the sea, mostly sail. Same issue contains article on American clipper hulks in the Falklands. Natl. Maritime Historical Society, 8 Fulton St., Brooklyn, NY 11201.)


Joseph & Frances Gies, The Ingenious Yankee: The Men, Ideas, & Machines that Transformed a Nation, 1776-1876. N.Y.: Thos. Y. Crowell Co. 376 pp, illus. $12.95. A new and improved look at the “standard” inventors and technological landmarks, with a good many fresh insights. In four quarter-century sections: 1776-1801 (Fitch, Slater, Evans, Whitney); 1801-1826 (Steamboats, covered bridges, F. C. Lowell, Eric Canal); 1826-1851 (the RRs, Hall, Colt & the “American System,” the reapers, Goodyear, the telegraph, the sewing machine); and 1851-1876 (Roebing at Niagara Gorge, Kelly & steel, Civil War technology, Eads at St. Louis, the typewriter, the telephone, Edison).


Robert H. Loeb, New England Village, Everyday Life in 1810. N.Y.: Doubleday. 98 pp. $5.95. For young people. Photos of Old Slater Mill and Old Sturbridge Village. One chapter takes us on a stagecoach trip to an industrial village, which is Pawtucket.


Bradley L. Peters, Maine Central RR Co.—A Story of Success & Independence. In Maine Central Messenger, Fall. 16 pp. suppl., illus. on the RR’s history. With chronology. PR Dept., MCRR, 222 St. John St., Portland, ME 04102.


Robert C. Reed, The Streamline Era. San Marino, Cal.: Golden West Books (Box 8136, 91108.), 1975. 396 pp. $25. Principally RRs—the locomotives and trains of the 30s—but touches other aspects of the movement as well. (Review: RR History, Fall.)


Stuart M. Rich, RR Shops & Car Building at Fond du Lac. In RR History (RLHS), Fall, pp. 5-33.

J. B. Richardson, Metal Mining. Longmans IA Series No. 12. London: Allen Lane, 1974. 207 pp., illus. $10. Good general study on the history & technology, in U.K.


Douglas Tyburcy, Reading & the Reading: A Town & a RR Growing Up Together. In Historical Review of Berks County, Winter 1974-75. (940 Centre Ave., Reading, PA 19601.)


James A. Ward, J. Edgar Thomson & the Georgia Railroad. In Railroad History, Spring, pp. 4-33. When completed the longest RR in the US under one management. Designed & built by J.E.T. who later presided over the largest corp. in the world: the Penna. RR.


The Lightning Route. Assembly of articles on the 1st electric streetcar in the U.S.: Montgomery, Ala., 1886. Elec. RRer's Assn., 145 Greenwich St, NYC 10006. 32 pp. $2.50 + post.

Paterson Bicentennial Journal. Paterson Bicentennial Comm., 72 McBride Ave., Paterson, NJ 07401. 68 pp., illus. §3.50. Old & new, photos and illustrations of the city's 200-yr history, to the present revitalization of the Great Falls Historic District.


SPECIAL PUBLICATIONS


Civil Engineering. Special Issue: Bicentennial & Civil Engineers, July 1976. Several historical articles: Philadelphia: Three Ages of a City; Highlights of 200 Years in the History of CE; Birth of a Skyscraper (Jenny's Home Insurance Bldg., Chicago, 1885); Empire State: Greatest of all Skyscrapers; America's Transportation Revolution; Evolution of Urban Transportation; America's Greatest Suspension Bridges; Benjamin Latrobe: Helping Cleanse America (Phila. water supply); George Waring: Giving Sanitation Status. (ASCE, 345 E. 47th St., NYC 10017.)

Panama Canal Review, Bicentennial Edn. Panama Canal Co., Box M, Balboa Heights, Canal Zone. $7.50 PP. Good historical articles.

Urbanism Past & Present. Successor to Urban History Group Newsletter. Semi-annual: articles; bibliography; &c on all aspects of urban affairs. $5/year individuals; $10 institutions. Univ. of Wis. Milwaukee, Dept. of History, Milwaukee 53201.


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