

SOCIETY FOR INDUSTRIAL ARCHEOLOGY

NEWSLETTER

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PATERSONIAN SADDLE-TANK RETURNS TO NATIVE SOIL

For some 5 years the Great Falls Development Corp., the non-profit body charged with overseeing all preservation and other historical efforts within the historic district of Paterson, N.J., has been in fervent search for a Paterson-built locomotive. The city had been the home of no less than 6 locomotive builders at varying times between 1836 and 1923 and hundreds of engines were outshopped during that period. But locating a single example — by any builder, of any type, of any age — to represent in a nascent industrial museum that particular one of the city's major industries, had begun to appear hopeless.*

During the search some 60 surviving Paterson locomotives were, in fact, located, both in the U.S. and Latin America, but not one available at anything like a realistic price, if at all. The most celebrated of the far-flung and untouchable alumni are the *General* (1855) and the *Texas* (1856), chasee and chaser in the Great Locomotive Chase of 1862. They were built by Rogers Locomotive Works and Danforth, Cooke & Co. respectively. Both are preserved in museum settings in Georgia.

The search ended this summer with the location of an 0-4-0 tank locomotive produced late in 1910 by what then was the Cooke Works of American Locomotive Co., a result of the great 1902 consolidation of builders that produced ALCo. The little locomotive that was born to become No. 1 in the motive-power stable of American Brake Shoe & Foundry Co. is a true child of the no-nonsense school of locomotive design, half a century in time and a hundred generations in taste removed from her Civil-War forbears. But nothing wrong with all-business, and No. 1 will tell perfectly well the story of locomotive design and construction in Paterson.



American Brake Shoe No. 1 about to go seek its fortune, 1910. ALCO Historic Photos.

No. 1 turned up in the hands of a small tourist RR near Allentown, Pa., having passed through various industrial hands during her life, working until 1964. Her condition generally is original and good, although a complete restoration is, of course, planned. The funds for her purchase and transport home were raised through local popular subscription. Restoration funds are now being sought. GFDC has hopes of acquiring other Paterson locomotives as they come to light.

* The museum, which will feature the city's textile, machinery, and other industries as well as locomotive building, is to be housed in the former erecting shop of the Rogers works (absorbed by ALCo in 1905), a striking 4-story brick building of 1871 with transverse erection bays.

COLUMBUS, GA. SITE NATIONAL LANDMARK

On 16 June, Secy. of the Interior Cecil D. Andrus designated the Columbus Historic Riverfront Industrial District a Natl. Historic Land-



The Eagle & Phenix Mills, Columbus. HAER photograph by Jet Lowe.

mark. As you will recall, this is scheduled to be the site of the SIA's 8th Annual Conference, 26th-29th April, 1979.

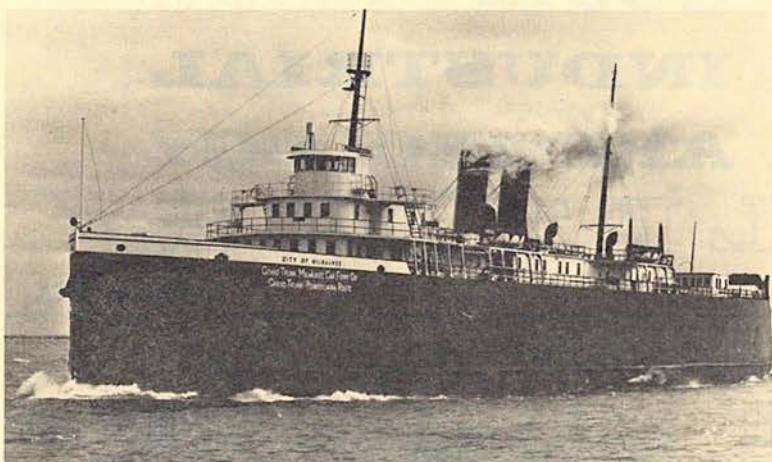
The District, located along the east bank of the Chattahoochee River, consists of four noncontiguous areas reaching from 8th St. north to 38th St. The mills located within the District include the Columbus Iron Works, the Eagle & Phenix Mills, Muscogee Mills, City Mills, and the Columbus Plant of the Bibb Co. They are historically significant because Columbus (Muscogee Co.) was one of the earliest large-scale textile centers in the South. During the War Between the States, Columbus supplied more manufactured goods to the Confederacy than any city except Richmond.

Mills destroyed during the War were rebuilt during Reconstruction. By 1880 Muscogee County led the South in textile production. These mills are the best surviving concentration of the 19th and early 20thC hydro-mechanical and hydro-electrical engineering systems relating to both grist and textile mills in the South.

The Historic American Engineering Record completed an intensive summer survey at these mills in 1977, co-sponsored by Historic Columbus Foundation, Inc., who is serving as host for our next conference. D.M.S.

1979 FALL FIELD TRIP: ANTHRACITE

The Society's first-ever trip based expressly on a SINGLE MINERAL SUBSTANCE: in the region of Scranton, Pennsylvania. Mines, breakers, railroads, the lot. Hold the date, details to follow: **Friday & Saturday, 26th & 27th October 1979.** Note also: the 1980 Annual Conference, **DETROIT**, is to be held the first weekend in June.



RAILROAD FERRY OPERATIONS SINKING FAST

Two aging RR freight-car ferries on Lake Michigan are in danger of abandonment by the Grand Trunk Western Ry. Service originated in 1858 with two large steamships, which carried cars across the lake from Grand Haven to Milwaukee. At that time the operation had several advantages that made it profitable. The ferry was more efficient and time-saving than the alternative RR route via Chicago, with the delays of switching through the freight yards there. Now GTW is seeking abandonment of the ferries on the same basis that motivated their inception originally: efficiency, arguing that the ferries are not economically viable in today's railroad economy.

The present ferries are the *Madison* and the *City of Milwaukee*. The *Madison* was built in 1927, and thus is more than fifty years old. The *City of Milwaukee*, somewhat later, was built to the same design. Its twin-screw, triple-expansion engines originally were powered by bunker-C fuel oil, but conversion to #2 oil took place recently. With a speed of 12 knots, 6 1/2 hours are required for a one-way crossing. GTW claims that the fuel consumption of 3,900 gallons for the 88-mile trip would be sufficient to haul a similar number of cars from Detroit to N.Y. In other words, the ferry uses 6-7 times the fuel of a rail operation using modern diesel locomotives. The RR also cites the heavy crew cost, 33 men being required to shepherd 25 cars across the lake, equivalent to the operation of two 100-car trains on a 300-mile round trip. All in all, GTW claims an operating loss of \$1.1 million attributable to the ferry operations, pointing out also that modern terminal facilities in Chicago have virtually eliminated the lost time for through traffic that was the earlier justification for the ferry run.

A similar petition of the Chessie system would lead to **abandonment of the former Ann Arbor RR ferry** across the lake on a parallel route. Thus two of the three ferry lines across the lake would be abandoned if the ICC acts favorably on the petitions. The Chesapeake & Ohio has offered to donate a ferry for preservation to one or both of the states involved. It probably is administrative delay more than anything else which keeps these ferries in operation; there seems to be relatively little ground for their retention.

A related and somewhat more hopeful case is that of the *Chief Wawatam*, built in 1911 and **the last remaining hand-fired reciprocating steam-powered ship on the Great Lakes**. Plans were in hand before the Mich. State Highway Commn., which regulates the run, for cutting down the *Chief* to a barge, but it has been saved for another year by the advantages of steam power for ice breaking in the Straits of Mackinac where it operates. In this case it was the Detroit & Mackinaw RR, her owner, which argued for temporary retention and possible replacement. The 339-ft. vessel carries three triple-expansion engines totalling 4500 hp. — one forward and two aft — and has been saved, at least temporarily, by the impracticality of using a tug-powered barge in these waters. Her condition is original and quite good, and the increasing use of the Straits ferry link may lead the Highway Commn. to continue operations. Rail traffic only is carried, and the *Chief* may be preserved after its one-year reprieve if local sentiment can be sufficiently aroused.



THAMES SHIPYARD ENDANGERED

Despite the concern of local preservationists, and listing in the National Register, the Thames Shipyard near New London, Conn. faces an uncertain future. The most important feature of the yard is a steam-powered marine railway, capable of hauling out boats up to 4,000 dead-weight tons. A Historic American Engineering Record emergency recording team documented the site in 1975, inducing the Coast Guard to abandon its plans to destroy the buildings and equipment and build a modern Coast Guard station on the site, which is adjacent to the Coast Guard Academy. Currently the Coast Guard and the Conn. State Historic Preservation Officer are seeking ways to preserve the buildings by transferring the property from the Coast Guard to a private owner such as a museum or ship-repairing firm able to use the machinery and yard for its original purpose. Once transferred, however, there is no assurance that the site would not be altered or the machinery replaced, which makes finding a responsible owner all the more important. Anyone need a good base to repair his 4,000 ton yacht? *R.I.F.*

MARITIME PRESERVATION

The National Trust for Historic Preservation, the Federally-chartered organization that embraces all aspects of traditional "architectural" preservation in the U.S., recently has broadened its scope by taking under its wing the heretofore fragmented cause of Maritime Preservation. The Trust's delineation of "maritime" is satisfyingly wide ranging. It takes in, of course, vessels of all types, on all waters, used for all purposes; but as well, related verbal and graphic relics and documents, and all waterfront structures such as lighthouses, wharfs, shipyards, and the like. The trust, moreover, has put its money where its mouth is, through an active program of grants to worthy restoration and other projects. For a descriptive folder and special Maritime Supplement to *Preservation News*, write: NTHP, "Maritime," 740 Jackson Pl. NW, Washington, DC 20006.

RAISE THE MONITOR?

Probably the most famous Civil-War vessel is John Ericsson's *USS Monitor*, which served as a prototype for the development and construction of armored vessels around the world. Less successful in oceanic navigation, the *Monitor* foundered in a storm 16 miles off Cape Hatteras, N.C. in 1862. She was discovered in 1973 by a research expedition, upside down in 220 feet of water. [Described in great detail in *Natl. Geographic*, Jan. 1975. See also *SIAN* Mar/May 75:12.]

Now thoughts are being given to the possibility of raising and making her into a historic monument. A Memorandum of Agreement among a number of government and academic bodies, ratified on 24 August 1976, provided for scientific research on the *Monitor* site — a designated Marine Sanctuary — for 14 months. All research must be carried out under authority of the Natl. Oceanic & Atmospheric Admn. (NOAA) and its executive agent, the N.C. Dept. of Cultural Resources (NCDRC).

While all the results of that research are not yet in, a conference was

held last April in N.C. to consider the results of the survey and the possibilities for raising the vessel. An account of the conference follows. The chief problem is that a substantial portion of the hull plating has so deteriorated that it is doubtful if the vessel would hold together in a move. Any attempt to deal with the deterioration would require incredibly expensive (\$ millions) stabilization.

Currently some technical research on the hull is being conducted. An accidentally dislodged plate is one of the few artifacts that have been touched at the wreck site, another being the red lantern hoisted to the top of the mast just prior to her abandonment off Hatteras after her epic battle (a draw) with the Confederate *Merrimac* in Hampton Roads, Va. R.I.F.

For more on this remarkable saga, write/join *Monitor Research & Recovery Fndn., Inc.*, Box 1861, Norfolk, VA 23501. (804) 625-1862.

MONITOR CONFERENCE

A major conference was held 2-4 April to bring together all those organizations that over the past several years have been examining both the vessel and possible means for her recovery. The event is described in the following report by Philip K. Lundeborg, Curator of Naval History, the Natl. Museum of History & Technology.

I participated in an exceptionally productive and important conference on the future of the *Monitor* Marine Sanctuary sponsored by the Natl. Trust for Historic Preservation, the NOAA (Dept. of Commerce), and the Divn. of Archives & History of NCDRC. Held at Raleigh, the

conference was attended by over 90 persons. Among these were representatives of the Fedl. Govt., numerous historians, underwater archeologists, the press, and delegates from various coastal communities hopeful of securing the *Monitor's* remains as a prime visitor attraction.

The conference focused on those critical areas involved in developing a sound master plan for the historic vessel. Of critical importance was the need to consider the professional judgement of archeologists, salvage experts, conservators, and maritime historians in order to avoid a hasty attempt at recovery of the *Monitor* that would in reality destroy most of her fragile fabric.

Statements by technical experts included an estimate by an experienced Navy salvage specialist that careful recovery would approximate \$10,000,000. Conservators emphasized that no recovery should be undertaken until a major conservation facility had been established and staffed. The cost ratio between the salvage and the conservation phases was identified by one speaker as 1:11. I sought to emphasize the importance of exhaustive documentation of the *Monitor* as an indispensable basis for the ultimate interpretation of such elements of her structure as may eventually be recovered or located *in situ*.

The complete conference proceedings are now available, dealing not only with the *Monitor* specifically, but also in summary with the state of underwater archeology and the preservation of submerged vessels. Opinions on wood and iron preservation problems are included. *The Monitor: Its Meaning & Future*. 132 pp., paper. \$6.50 + \$1.50 postage, from: Preservation Bookshop, 740 Jackson Pl. NW, Washington, DC 20006.

THE MUSEUMS

A 70-ton McGiffert log loader, c1915, from Klamath Falls, Oregon, is being secured for the Lake Superior Museum of Transportation in Duluth, Minn. The loader, built in Duluth by Clyde Iron Works, revolutionized the logging industry in the 1920s, increasing production 500%. Empty rail cars ran underneath the McGiffert and were loaded by a boom. According to local experts, the logger could "move itself on the rails by its own steam, stamp its toes down on the ties, tuck its wheels up into its belly, pull the empty car through its legs, slap on a load of logs, and reach back for another car." The average amount of lumber loaded was about 357,000 board feet a day on 40 rail cars. Today, an average load on a log truck contains 4,500 to 5,000 board feet.



A McGiffert Log Loader at full cry—toes down, wheels up empties at ready. From *Clyde Iron Works catalog*, Natl. Museum of History & Technology.

Other IA sites brought to our attention include Ironville, in the town of Crown Point, N.Y., long regarded as the "birthplace of our electric age". Experiments with electromagnetism began there in the 1820s; later, the first documented use of electricity in industry occurred with use of magnetic ore separation at the nearby ironworks. Vestiges of the Crown Point Iron Co. ironworks still are evident, including a charcoal blast furnace of 1845. The iron industry in Crown Point is interpreted in a series of exhibits at the history museum, part of the Penfield Foundation which administers the Ironville Historic District.

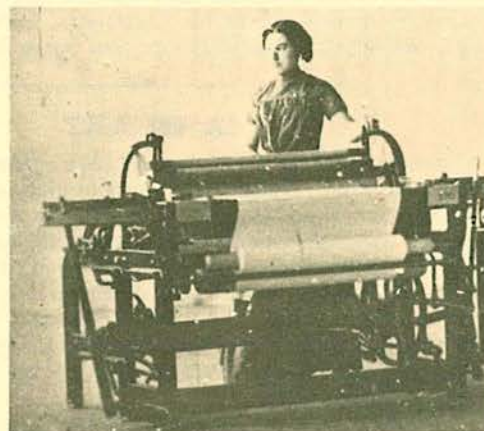
Reports from Millwood, Va. indicate that the **Burwell Morgan Grist Mill** has an overshot water wheel with wooden gears dating from 1750, in operating condition(!?). The mill is in the Natl. Register and is said to be an outstanding example of 18thC architecture and technology. The

mill, owned and operated by the Clark Co. Historical Assn., is open to visitors throughout the year.

A timely note from Waltham, Mass. informs us that the **Waltham Museum** offers exhibits on the history of the watch-making industry established there in 1853, plus several antique automobiles. D.A.

AN EARLY WEAVERETTE

One of the earliest known photographic images of a woman in an industrial setting has been acquired by the Merrimack Valley Textile Museum, N. Andover, Mass. A 1/6-plate daguerreotype of c1850, the image depicts a woman operative at a loom.



The provenance indicates a New England location. Because the woman and the machine are isolated, not shown in a weave room with numerous other looms, it is possible that the loom was photographed in the factory's machine shop as a new or improved model. Many textile mills had their own machine shops for the manufacture and repair of equipment, however, and the evidence of cloth on the loom and a woman operative suggest a textile mill rather than a machine manufacturer as the location.

The image joins a collection of some 20,000 prints, drawings, and photographs illustrating the history of American textile development available for use by researchers. Contact: Helena Wright, MVTM, 800 Mass. Ave. 01845. (617) 686-0191.

CONTRIBUTORS TO THIS ISSUE

David V. Abramson, N.Y.C.; Gerald T. Bloomfield, Univ. of Guelph; Russell I. Fries, Univ. of Maine; James C. Massey, National Trust for Historic Preservation; David M. Sherman, National Park Service.

TICCIM & TICCIIH

At the Third International Conference on the Conservation of Industrial Monuments (TICCIM) that convened in Sweden from 29 May to 5 June 1978, 130 representatives from 20 nations voted to establish **The International Committee for the Conservation of the Industrial Heritage (TICCIH)**.

The purpose of TICCIH is to promote international cooperation in the safeguarding, conservation, investigation, scientific research, documentation, and presentation of the world's industrial heritage. To accomplish this, TICCIH encourages, and provides a forum for, the exchange of scientific, technical, practical, and organizational information among professionals and amateurs active in the field, museum and monuments & sites services staffs, industrial-sites preservationists, restorationists, archivists, archeologists, historians, scientists, teachers, industrial firms, labor unions, and owners of historically-important industrial sites.

The term "Industrial Heritage" as used here includes the industrial evidence (landscapes, sites, structures, plant, equipment, products, and other fixtures and fittings); written and graphic documentation; and the records — from interviews and diaries — of the memories and opinions of the men and women who have been a part of industrialism.

TICCIH provides a forum for the exchange of ideas through regularly-scheduled international conferences and encourages occasional international meetings on specialized topics. Future conference proceedings will be published and, from time to time, other information concerning principles, policies and techniques that fall within the scope of its purpose.

The General Assembly at the Swedish conference elected a seven-member Board to govern the affairs of TICCIH until the next international conference, which it is anticipated will be held in 1981. The members are: Theodore Anton Sande [SIA] (USA), chairman; Philip Bosscher (Netherlands), secretary; Wolfhard Weber (Federal Republic of Germany), treasurer; John Harris (Great Britain); Adriaan Linters [SIA] (Belgium); Marie Nisser (Sweden); and Eberhard Wachtler (German Democratic Republic). Besides representing their individual countries, several members have regional responsibilities as well: Harris for the U.K., Nisser for Scandinavia, Weber for Western Europe, Wachtler for Eastern Europe, and Sande for North America.

Bosscher and Linters are members-at-large. Additionally, there are 13 corresponding associates at present representing Austria, Canada, Denmark, Finland, France, Hungary, Italy, Japan, Norway, Northern Ireland, Poland, Scotland, and Switzerland. Formal recognition from the governments of these countries is now being sought and TICCIH is exploring the prospects for association with UNESCO. The next meeting of the Board is planned for late summer 1979 at Birmingham, England.

The Board already has created two sub-committees, on conferences and membership. The first, chaired by Harris, is preparing a questionnaire that has been circulated to representatives who expressed a desire at TICCIM to host the next international conference. Austria and France are the two contenders. A decision on this will be reached by the Board in early summer 1979.

The membership sub-committee, headed by Wachtler, is working toward developing the broadest possible base of international support. It is expected that a number of countries not represented at TICCIM will want to have corresponding associates and to participate in TICCIH activities. TICCIH was not created with the intention of replacing the various present national IA societies, but will serve to foster international exchange and cooperation in all facets of conserving the industrial heritage. Thus, the membership sub-committee will be seeking information on established relevant societies world-wide with the eventual aim of publishing a directory so that members will have a clearer idea than at present who their counterparts are in other countries.

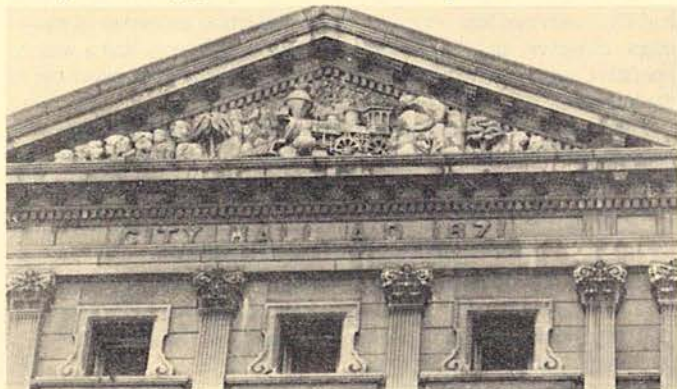
The TICCIH address is that of the chairman: Theodore A. Sande, Chairman, TICCIH, Office of Historic Properties, Natl. Trust for Historic Preservation, 740 Jackson Pl., N.W., Washington, DC 20006, USA.

TICCIM was attended by five N. American delegates: Douglas L. Griffin, Susan H. Myers, Dianne Newell, Theodore A. Sande, and Robert M. Vogel [all SIA]. Newell and Sande chaired working sessions; Griffin, Myers, and Vogel delivered papers at sessions. All contributions will be available in the conference proceedings, out by mid-1979. See SIAN July 1978:7 for availability of the conference's *Natl. Reports*.

IA IN ART

The locomotive was as widely employed a symbol of progress as any during the 19thC, rendered in just about every medium you might mention; though not often in so permanent a one as stone. A beautifully depicted American-standard type Progressively bursting forth in high relief from a pile of stones that might be taken for the crushing ponderousness of Tradition — is nestled in the tympanum of the pediment atop the Louisville City Hall. The scene is embellished further with a palm and a deciduous tree of some basic type that we might further assume is meant to symbolize the joining of the North and the South in those mending post-war years.

The *Progress* is a striking example of stone carving, for its detail is both generous and accurate, patterned, no doubt, after an actual Louisville & Nashville engine that sat for the sculptor. Like many locomotives of her time, she bears not only a name but a number: 1871, which is, as you correctly guessed, the date of the City Hall.



TECHNOLOGIES REVIVALS

Riley Stoker Corp. of Worcester, Mass. it is reported in *Metalworking News*, is about to market a coal gasification unit first built c1880 by Morgan Contruction Co., also of Worcester. (Morgan is notable also for having decided in the late 1960s to renovate its in-city 19thC office and plant rather than flee to the burbs.) The Morgan units were built up to the early 50s, principally for the steel, glass, zinc, ceramic, and other industries requiring large volumes of relatively low Btu gas. Of the 9,000 built, most have been replaced, but with a variety of improvements to increase efficiency and operational safety, and decrease pollution, Riley is convinced that a new market for the venerable device exists—even among utilities—as the cost of natural gas continues its mad ascendancy.

WORKING PLACES

The Society's widely acclaimed slide-film on the re-use of industrial buildings is once again available for rental in 16-mm, color, sound form.

TERMS: \$15. rental fee + return postage. Written requests ONLY, at least four weeks prior to date required, to:

Courtney Fisher
Society for Industrial Archeology
P.O. Box 369
Warren, Vermont 05674

WORKING PLACES is also available for purchase at a cost of \$225. Orders to the above address.

THE LANDMARK TRUST

SIA members travelling in Britain may be interested in the adaptively produced residential properties owned by the Landmark Trust, which was started in 1965 by John Smith, former Member of Parliament, council member of the Natl. Trust, and a committed preservationist. The LT's 60 properties are widely dispersed geographically, from Scotland to the Channel Islands, and range in age from a hall built in 1250 to late-19thC buildings. Included are medieval cottages, 18thC "follies" (towers, Gothic temple, and the like), coastal forts, and a variety of former industrial structures. About 10,000 people have stayed in the various properties which all are fully equipped as self-contained apartments. Average summer tariff for a 4-person apartment is about \$160/week.

Eleven of the properties have IA interest and are located in areas rich in the remains of industrial history and scenery. One house overlooks the celebrated Iron Bridge (1779). Two textile mills — one at Edale in the Derbyshire Peak District (c1795); the other at Cookstown, Northern Ireland (formerly a beetling mill, the last stage in linen making, 1765) — have been converted for holiday accommodation. The master's house at Longton, Staffordshire is in the heart of the Gladstone Pottery Museum. The engine house of the Danscombe Mine (copper & arsenic) at Calstock, Cornwall (1822) in the Tamar Valley, now has accommodation for five. Other places of interest include an 1849 country railway station, three workers' dwellings, and a water tower. One of the workers' dwellings is in a group built by Richard Arkwright in 1771; another was converted from a pair of framework knitter's cottages.

The Trust's properties are exciting examples of adaptive re-use of building types which tend to fall through the preservation net. The idea may well be adaptable to N. America and could serve as a means of conserving buildings which would otherwise decay. The Manifold Trust, established in 1962, is closely associated with the LT and has disbursed some \$6.8 million since formation, mostly on buildings and industrial preservation.

Information: The Landmark Trust, Shottesbrooke, Maidenhead, Berkshire, England. *The Landmark Handbook* describes all the properties, including photos, plans, and maps: \$2.75 PPD. G.T.B.

TAX INCENTIVES FOR REHABILITATING HISTORIC STRUCTURES

The 1976 Tax Reform Act provides the first major federal tax concessions for the rehabilitation of certified income-producing historic buildings. This is covered by Sect. 2124, PL 94-455, available through 1981. The law applies to historic properties individually listed in the Natl. Register, located in a NR Historic District and certified by the Secy. of the Interior as being of historical significance to the district, or located in a historic district designated under a statute of the appropriate state or local government if the statute is certified by the Secy. of the Interior. The property *must* be used for income production.

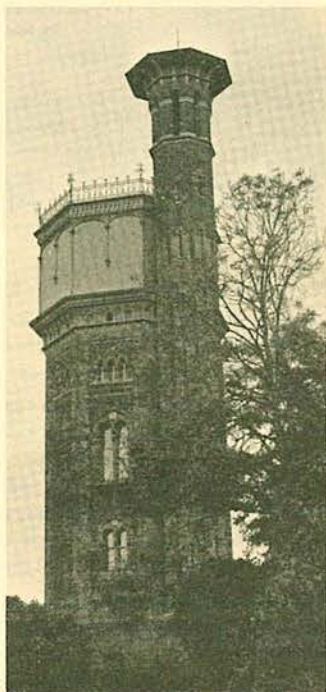
Generally covered is restoration and rehabilitation work contributing to the historical character of the property. The law provides tax incentives by permitting amortization of the rehabilitation over 5 years, even if the expected life of the improvement exceeds that, and provides for accelerated depreciation of substantially rehabilitated historic property. Similarly, to discourage the demolition of historic properties, the Act *prohibits* the use of accelerated depreciation for any structure replacing such a historic building, and prohibits deduction of expenditures or losses resulting from demolition of the historic structure itself. Since factories, warehouses, and other industrial buildings have been widely

used for adaptive purposes, there are substantial opportunities for those concerned with IA to take advantage of these laws. Detailed information is available in a brochure published by the Office of Archeology & Historic Preservation, HCRS, Dept. of the Interior, Washington, DC 20240. Also available are guidelines for applying Interior's rehabilitation standards. Information and assistance also can be obtained from the individual State Historic Preservation Officers. J.C.M.

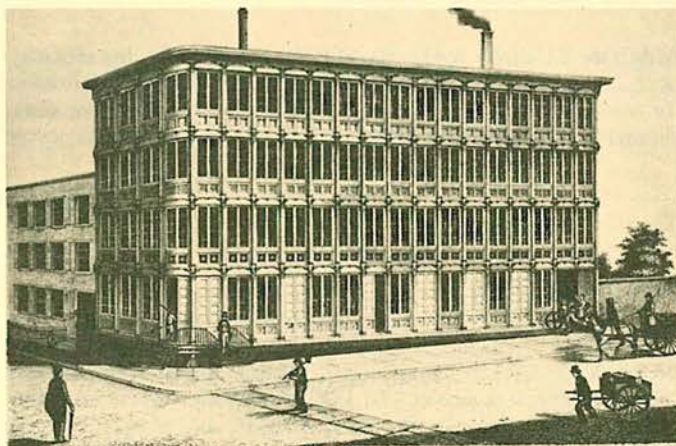
THE FIRST AMERICAN CAST-IRON BUILDING?

Although better known for its concern with a more elegant face of the past, *Antiques* on occasion brings up something of genuine interest to IA. In the "Clues & Footnotes" section of the Feb., 1978 number Jeanne H. Watson contributes a letter to the editor that appeared in the *N.Y. Times* for 29 July 1853. It's worth quoting in full: "In your paper of this morning there is a statement that a building on the corner of Center and Duane Streets, erected in 1848, is not only the first building erected entirely of cast iron in this country, but the first in any part of the world [James Bogardus' celebrated structure]. This is a great mistake—for, by reference to the *Journal of Commerce*, about the month of November, 1841, you will find that, at the suggestion of William Kemble, Esq., to make a building of cast iron, I planned and attended to the construction of the building, being wholly of cast iron, and had it erected in North Moore street, all complete for public inspection, before it was sent to the Island of Cuba, where it is erected on the Moro Castle, at St. Jago, over the door of which are the arms of Spain, and my name, 'New York, 1841'. By correcting the above mentioned errors you will much oblige, Yours very respectfully, James Rodgers."

It is a fact that Cuba closed down pretty well before historians of engineering were aware of the treasures it might hold. Does, for example, Rodgers' building survive? What is known of Rodgers and his other works? Wendel Bollman, the Baltimore civil engineer and iron-bridge builder in the late 1850s built a number of stations and bridges—presumably all in iron—for the Havana & Matanzas and at least three other Cuban railroads. Nothing is known of their survival or fate. The country again is open to—a degree—possibly even to historians. Perhaps it's the right time for someone to have a crack at what might be a regular bonanza of 19thC structural (and mechanical?) ironmongery.



The Landmark Trust's Appleton Water Tower, near King's Lynn, Norfolk. Sleeps 4, shower, fire places, electric cooking/lighting; £ 130/week mid-July—Sept.; £ 48/week winter low season. Fine view of surrounding countryside. Landmark Trust photograph.



THE FIRST CAST IRON HOUSE ERECTED.
ERECTED BY JAMES BOGARDUS, Builder of CAST IRON BUILDINGS and MANUFACTURER OF
IRON AND STEEL.
James Bogardus' cast-iron "house" erected 1848 at Center & Duane Sts., N.Y.C., generally acknowledged by historians to be the first in the world and absolutely claimed by Bogardus to hold that priority: if not inscribed in stone at least cast in iron (pilaster base, commercial building, Cooperstown, N.Y.) Lithograph, Museum of the City of N.Y.



STATIONS & DEPOTS



Camden Station and Camden Warehouse — (L) Principal front, on Camden St. (R) Looking NW, the warehouse on the left, the stumps of the trainsheds seen just behind the station.

THE B&O's CAMDEN STATION, Baltimore appears headed for a new life. The terminal, what remains of the train shed, and the enormous adjacent Camden Warehouse all will be restored and adapted in a multi-use plan being devised by architect Vlastimil Koubek and developer Oliver T. Carr. The plan offers a variety of uses including residential and/or office (possibly in the warehouse), a restaurant (perhaps in the station), and shopping and other commercial uses (perhaps in new buildings).

The station was constructed in 1852-57, designed by Joseph Kemp in the "Railroad Italian style." It was to be one of the world's most impressive. However, the B&O reduced the scope of the project due to lack of funds. Between 1865 and 1867 Niernsee & Nielson were hired to add wings and towers to the main building. These survive, except for the lanterns and the tower's third level. The interior dates to an 1890s remodeling with later alterations. Camden station is the oldest urban railroad station in use in N. America.

MACON BUYING RAIL STATION. Southern Ry. has officially accepted an offer from the city of Macon, Ga. to purchase the historic Terminal Station at the lower end of Cherry St., the main downtown thoroughfare. Mayor Buck Melton said the Southern agreed to accept



Aerial photograph by Wm. Edmund Barrett for *Historic American Engineering Record*, 1970.

\$150,000 for the building and its three-acre site. The City will begin restoration work after which the building can be sold to private developers who it is hoped will create an office and retail complex.

ALBANY UNION STATION may not fare as well however. After the city spent \$10,000 to study re-use proposals for the N.Y. Central's Beaux Arts classical building (1900), the state of N.Y. — which now owns it — rejected the consultant's proposals. Historic Albany Foundation challenged the State to develop its own proposals and noted that the station's ruinous condition was entirely due to the State's neglect. HAF also noted that successful reuse could serve as a prototype for urban revitalization and preservation throughout the state.

Two N.Y. State Stations recently were placed in the Natl. Register of Historic Places, reports the Newsletter of the Preservation League of New York:

The N.Y. Central's Poughkeepsie Station, Dutchess Co., built in 1918 of brick with terra cotta trim to the designs of Warren & Wetmore. It is hoped that it will continue to serve as a transportation center with the revitalization of mass-transit facilities in the Mid-Hudson Valley.

The Malone Freight Depot, Franklin Co. is a survivor of the once influential Northern RR. It was built of local sandstone in 1852. D.V.A.

SIA AFFAIRS

CHAPTER NEWS

THE ROEBLINGS. The Chapter's Fall Trip took place on 28 Oct., covering a variety of major sites in heavily industrialized Newark, N.J., a city whose reputation in social and political matters unfortunately often overshadows its merits, one of which is its stupendous IA. An informative guide pamphlet with detailed descriptions of the sites visited — Pennsylvania Station, The Celluloid Co., Murphy Varnish Works, Watts-Campbell Co. (former Corliss engine builders), Clark Thread, Worthington Pump, and the Orange Brewery — is available from Chapter Pres. Terry Karschner, 10 West St., Bordentown, NJ 08505.

SOUTHERN NEW ENGLAND. At its annual meeting on 19 Nov. new officers were elected: Patrick M. Malone, Slater Mill Historic Site, Pres.; Nancy Goodwin, Winchester, Mass., Secy.; William K. Good-

win, Jr., Winchester, Treas.; Michael B. Folsom, Mass. Inst. of Tech., Program Coordinator.

NEW CHAPTERS . . . as the Gospel spreads new chapters arise. The **NORTHERN CALIFORNIA CHAPTER FOR INDUSTRIAL ARCHAEOLOGY** has been formed, its Pres. Raymond L. Wilson, 1231 Kedith St., Belmont, CA 94002. So too has the **GREAT-LAKES CHAPTER**, the contact for which, in the absence for the moment of proper officers, is John Bowditch, the Henry Ford Museum, Dearborn, MI 48121. Precisely how much of the rather extensive area that can be construed as "Great Lakes Vicinity" is to be within the chapter's sphere of influence has not been divulged, but Greater Detroit & Windsor definitely is, making this, thus, the Society's first *international* chapter.

MISC NOTES

RESEARCH INQUIRIES

GREAT LAKES LIGHTHOUSES. In the spring of 1979 Carol Poh Miller [SIA] will be conducting an HAER inventory of lighthouses on lakes Erie and Ontario, in which effort she requests any pertinent

information, both verbal & graphic, particularly unique or rare material and that from unlikely sources. The HAER inventories, bear in mind, are perhaps the most important documents being produced in the U.S. in the entire field of IA. Your help here will thus be applied to a particularly worthy end. 1260 Granger Ave., Cleveland, OH 44107. Simultane-

ously, Charles K Hyde [SIA] will be covering lakes Superior, Mich., & Huron. The same sentiment applies. C/o HAER, HCRS, Dept. of the Interior, Wash., DC 20240.

SLAG ANALYSIS. Victor Rolando [SIA] is attempting to learn whether slag from 18th & 19thC ironmaking processes can be analysed to determine if it resulted from a blast furnace or some forging operation. Also—can slag be tested to reveal more specifically the process: i.e., charcoal vs anthracite fueled; hot vs cold blast; &c? Knowledge, speculation, bibliographic references, even expressions of remote interest in cooperating in what seems to be a blind venture are invited. Parsonage Apt. 3S, Nassau, NY 12123.

WEST POINT FOUNDRY. This famed Cold Spring, N.Y. works, producers of heavy ordnance, machinery, and architectural ironwork between 1820 and 1916, is to be redeveloped. The site consists of 93 acres with 25 acres of ruins and one standing building: the brick



Victorian office. Edw. Rutsch [SIA] is the project's principal industrial archeologist. Information on location of WPF products eagerly sought, by Ralph Brill [SIA], 77 Main St., Cold Spring, NY 10516. (914) 265-2326.

STREET TRAFFIC CONTROL TOWERS, as seen at major intersections in large cities, c1900-30. Information sought on origins, types, operation, design. James M. Goode, S.I. Building, Rm. B-4, Smithsonian Institution, Wash., DC 20560.

OPPORTUNITIES OF VARIOUS SORTS

PRINCIPAL INVESTIGATOR WANTED to conduct inventory of Gaston Co., N.C., covering farms, housing, commerce, and IA. Area contains important textile mills & villages and other industrial survivals. IA and architectural history; inventory; photography & writing skills req. One year. \$15-16,000. Catherine W. Bishir, Archeology & Hist. Pres. Section, Divn. of Archives & History, Raleigh, NC 27611. (919) 733-6545.

NATURAL CEMENT PLANT available—the last in the richest area in the U.S. where this substance was mined & processed: Rosendale, N.Y. (The first found was used in construction of the Delaware & Hudson Canal, 1825.) The Century Cement co., 400 acres, operating until 1970. Good highway access, underground storage. For sale: lands, mines, plant, at "reasonable price." Lloyd R. LeFever, Box 207, Kingston, NY 12401. (914) 331-0373.

GRANTS. Early American Industries Assn. will offer three \$750 grants to individuals or institutions for/research/publication projects relating to study of EAls in homes, shops, farms, or on the sea. Deadline for 1979 series: 15 March. Information, applications: Charles F. Hummel, Winterthur Museum, Winterthur, DE 19735.

COMMUNIQUE. We noted last issue the existence of this utile publication, organ of the Assn. for Preservation Technology. F.Y.I. the address has changed: Barbara Daniels Swannack, Ed., Box 2165, Albuquerque, NM 87103. (505) 766-4721.

RESPONSES

Gentlemen:

Mr Morley, commenting on the Taylor Machineless Air Compressor [SIAN Nov. 77], states that the article may contain a technical error and suggests that the blow-off feature is due to volume rather than pressure. In fact, both phenomena are involved.

The volume of air "ingested" by the compressor is constant. Assuming for the moment that this is exactly the same as the demand at the outlet, the water level in the underground chamber will stabilize at the 281.7-ft. level assuming also a 122-psi outlet pressure (.433 psi per foot of head).

If the air-vent pipe's lower edge is at the, say, 288.6-ft. level, it would be covered by 6.9 ft. of water under the above conditions. Should air consumption *decrease*, a greater volume of air will be trapped in the chamber. The only direction in which expansion can take place, however, is downward and for this to occur the pressure of air must increase to overcome the greater head of water. At 125 psi—an increase of 3. psi—the head will be 288.6 ft., level with the vent opening. In effect, the head of water is being used as a safety valve by placing the vent at a point slightly lower than the "normal" water level in the chamber.

In short, the *Newsletter* paragraph is absolutely correct except that it might have read, "When more air was being produced than used the stored volume increased and as the pressure rose above 125 psi the water level was depressed and the excess air blown out."

The above depth/pressure figures are theoretical and undoubtedly varied in practice due to inertia of the moving mass of water, hydraulic friction in the conduits, and change in specific gravity of the water as temperature and air absorption characteristics changed. Conrad H. Milster, Jr., Brooklyn.

Presidential addresses are not the highest form of academic expression but I commend the one by Dianne Newell for saying so very much in the brief space of two pages [SIAN suppl. 9].

The content and course of IA I have followed only in a limited way since attending back in 1961 or 1962 at Univ. of Manchester the IA conference organized, if I recall correctly, by E.E.R. Green. The SIA *Newsletter* I read with great interest and illumination. IA is indeed good and important as a hobby. It is doing a splendid job in calling attention to the past that is all around us—and frees us from the limitations of a past embalmed within the walls of museums, essential as the latter are for preservation purposes.

It seems to me that Ms Newell has raised the right questions and indicated the probable direction of growth for IA. Louis C. Hunter, Brookline Village, Mass.

IA: The Journal...

Because of IA's scheduling as an annual, we propose, for the sake of timeliness, to present commentary on its articles herein, in some cases in condensed form. The full version may appear in the subsequent issue of IA. The following, then, refer to contributions from Vol. 4 No. 1, 1978.

With regard to the Omnibus article on the Barker turbine at Hacienda Buena Vista, the isometric projection is by Reinhard, not Edward, Valle. I also think that credit should be given to Dr. Benjamin Nistal-Moret [SIA] who was responsible for the historical research on the Hacienda and the Vives family. Francisco Javier Blanco, *Conservation Trust of Puerto Rico, San Juan.*

In White & Vogel on B&O Stones, I take slight issue with the conclusion that the locomotive was not consiuered in the early days of the company. The Directors were very conscious of the potential for steam power at the commencement of construction. The road was intended for horse power only until the steam locomotive could be perfected to American requirements, at which time the B&O embraced steam with all haste. Also, the statement about the "low-capacity, cheap ry." is perhaps a subject for debate. Despite the scarcity of venture capital in the U.S. then, the B&O did strive to put down a first-class structure

whenever possible, especially during those early years.

The point comes out strongly in the article: the double tracks of stone sills; the substantial masonry viaducts; and the great quantities of earth moved. The impermanent structures were relatively few in number and relatively unimportant—Jackson's Bridge carrying the Washington road over the RR, e.g. The use of masonry for culverts might also be cited as evidence that the line was far more sophisticated than an ordinary turnpike.

A short section of stone stringer was exposed at Sykesville and I did find stringers in the river and used as fill at the station there, confirming that the stringer rail was used that far west. I would also call attention to the fact that the B&O was experimenting with timber preservation treatment during the period in question, the problem of rot being recognized and steps being taken to mitigate that very serious flaw. *John Hankey, B&O Museum, Baltimore.*

PUBLICATIONS OF INTEREST

Charles Albi & Kenton Forrest. **The Moffat Tunnel, 1928-1978.** Colorado RR Museum (Box 10, Golden, 80401), 1978. 32 pp., illus., paper \$2.95.

Sisley Barnes, **George Ferris' Wheel: The Great Attraction of the Midway Plaisance.** In *Chicago History*, Fall 1977, pp. 177-82. The original Ferris Wheel, built 1893 for the World's Columbian Exposition, Chicago: 250-ft. diam., 36 wood cars each 27 ft. long, rim-driven by a 100 hp steam engine with at win in reserve. In 1906 dynamited and scrapped.

Elmer W. Becker, **A Century of Milwaukee Water: A Historical Account of the Origin & Development of the Milwaukee Waterworks.** In *Milwaukee*, 1977, p. 329.

William Bergstrom II, **Cigarmaking in Milwaukee: the Eclipse of an Industry.** In *Historical Messenger* (Milwaukee Hist. Soc.), Spring 1977, pp. 25-36.

Henry H. Bisbee and Rebecca B. Colesar, **Martha: the Complete Furnace Diary & Journal, 1808-1815.** Authors, 1976 (avail: Bygone Shop, 214 High St., Burlington, N.J. 08016). 106 pp., illus., maps, bibl. Paper \$9.98. Operated 1793-c1884. From MS in Eleutherian Mills Historical Library.

Alexander Crosby Brown, **Colonial Williamsburg's Canal Scheme.** In *The Va. Mag. of Hist. & Biography*, Jan. 1978, pp. 26-32. Ill-fated late-18th — early-19thC canal plan with 1818 drawings preserved in Va. State Library.

Peter Chapman, ed., **Navigating the coast: A History of the Union Steamship Company.** In *Sound Heritage*, 1977, pp. 1-77 (entire issue).

Shirley E. Clemens, **The Water Mills in Monkton.** In *History Trials*, Winter 1977-78, pp. 5-8, illus. (Balto. Co. Hist. Soc., 9811 Van Buren La., Cockeysville, MD 21030.)

Alan Dawley, **Class & Community: the Industrial Revolution in Lynn [Mass.].** Cambridge: Harvard U. Pr., 1976. viii + 301 pp. \$17.50.

Philip S. Foner (Ed.), **The Factory Girls.** Chicago: U. of Ill. Pr., 1977. 360 pp. \$15. (Rev.: *NY Times Book Review*, 29 Jan. 1978.)

Jean Gimpel. **The Medieval Machine: the Industrial Revolution of the Middle Ages.** N.Y.: Holt, Rinehart & Winston, 1976. xiv + 274 pp., \$12.95.

Lewis Green, **The Gold Hustlers.** Anchorage: Alaska Northwest Publ. Co., 1977. xv + 399 pp., illus., maps. \$7.95 paper. History of placer mining in the Klondike, 1896-1966: the promoters and engineers.

Erik F. Haites, James Mak, & Gary W. Walton, **Western River Transportation: The Era of Early Internal Development, 1810-1860.** Balto: Johns Hopkins U. Pr., 1975. 209 pp. \$12.50.

W.J. Hawkins, **The Grand Era of Cast-Iron Architecture in Portland.** Binford & Mort, 1976 (avail: Oregon Hist. Soc., 1230 S.W. Park Ave., Portland 97205). 207 pp., \$25/\$15.

Charles K. Hyde [SIA], **Technological Change and the British Iron Industry 1700-1870.** Princeton: Princeton Univ. Press, 1977. 283 pp., illus. \$18.50.

James Lee (Ed.), **Tales the Boatmen Told.** Canal Press (Port Warren, Stewartville, N.J. 08886), 1977. 330 pp., illus., \$12.95. "Oral history/folklore interviews with former canal people."

Edward J. Lenik [SIA], **The first Major Oil Pipeline System.** In *New Jersey Hist. Commn. Newsletter*, Sept. 1977, p. 2. Standard Oil Co., 1881. (See also Lenik's article in *IA* 1976, 2:29-34).

C. Harold McCollam, **The Brick and Tile Industry in Stark County [Ohio], 1809-1976.** Kent, Ohio: Kent State U. Pr., 1976. 337 pp., \$12.50.

Ronald Jan Plavchan, **A History of Anheuser-Busch, 1852-1933.** NY: Arno Pr., 1966. viii + 250 pp. \$18.

Adam Ward Rome, **Connecticut's Cannon: the Salisbury Furnace in the American Revolution.** Conn. Hist. Commn., *Revolutionary Series* Vol. 24, 1977. 60 pp., illus. \$2.50

Walter Rundell, Jr., **Early Texas Oil: A Photographic History, 1866-1936.** Texas A & M Univ., 1977. 260 pp., illus. \$19.50.

William D. Sawyer [SIA], **The Western River Engine.** In *Steamboat Bill*, Summer 1978, pp. 71-80, illus. The engines evolved to power the shallow-draft stern and side wheelers in the western rivers of the U.S., with unusual attention to details and operation; boilers. Good drawings by author.

William H. Sheppard, **Tidewater Terminals of the Erie-Lackawanna Ry.** Author: Box 812, Denville, N.J. 07834. 20 pp. + fold map. Brief descr. of each facility in NYC area with detailed map, and two area maps. Fine record.

Austin N. Stevens (Ed.), **Yankees under Steam.** Dublin, NH: Yankee, Inc., 1970. An anthology of the best stories on the world of steam published in *Yankee Magazine* since 1935. Forward by Lynwood Bryant [SIA]. 253 pp., heavily illus. \$7.95 paper. Nice thing. Homey.

Gerald J.J. Tulchinsky, **The River Barons: Montreal Businessmen and the Growth of Industry & Transportation, 1837-53.** Buffalo: Univ. of Toronto Press, 1977, xiv + 310 pp. \$20.

R.F. Tylecote, **A History of Metallurgy.** The Metals Soc. (Sales Dept., 1 Carlton House Terrace, London SW1Y 5DB). viii + 182 pp. \$30. PPD. Earliest times to present. Development of skills and techniques by various civilizations; Industrial Revolution. Maps, illus., tables, glossary. (In ordering quote "Code 182")

Al Walton, **Bottleneck in Baltimore: the History & Operation of the B & P and Union Tunnels.** In *Rails Northeast*, Aug. 1978, pp. 13-21. (Box 135, McKeesport, Pa 15035. \$2.25/copy). Fine, well illus. account of the PRR's 1873 tunnels through Baltimore, still in full mainline operation to the undelight of the operating dept.

Geoffrey Ward, **New Old Sturbridge.** In *Americana*, Jan/Feb 1978. Plans for, and emergence of, the new mill village.

From Horsecars to Streamliners: An Illustrated History of the St. Louis Car Co. 1978. Transport History Press (Box 201, Park Forest, IL 60466) \$22.50.

Stamp Mills Date to 17thC. In *Western Museum of Mining & Industry Newsletter*, July 1978. (1025 Northgate Rd., Colorado Springs CO 80908). Gratis

REVIEW

Homespun to Factory Made: Woolen Textiles in America, 1776-1876. N. Andover, Mass.: Merrimack Valley Textile Museum, 1977. 103 pp., half of which are B&W illus. \$7.50 PPD.

The Textile Museum's current exhibition is well documented in this attractive catalog. Its title, however, does not entirely reflect the catalog's contents. Almost all its early illustrations, from pre-1776 European sources, have settings and worker's garb — and sometimes equipment — that differs somewhat from those in America. Two noticeable omissions are fulling stocks, which had been used in this country since the 17thC, and an 18thC American woolen fabric, the end product of all the implements and processes shown. This catalog is especially useful for its illustrations of 19thC American machinery from contemporary publications and from the museum's collections. **Rita J. Adrosko, Natl. Museum of History & Tech.**