

SOCIETY FOR INDUSTRIAL ARCHEOLOGY

NEWSLETTER

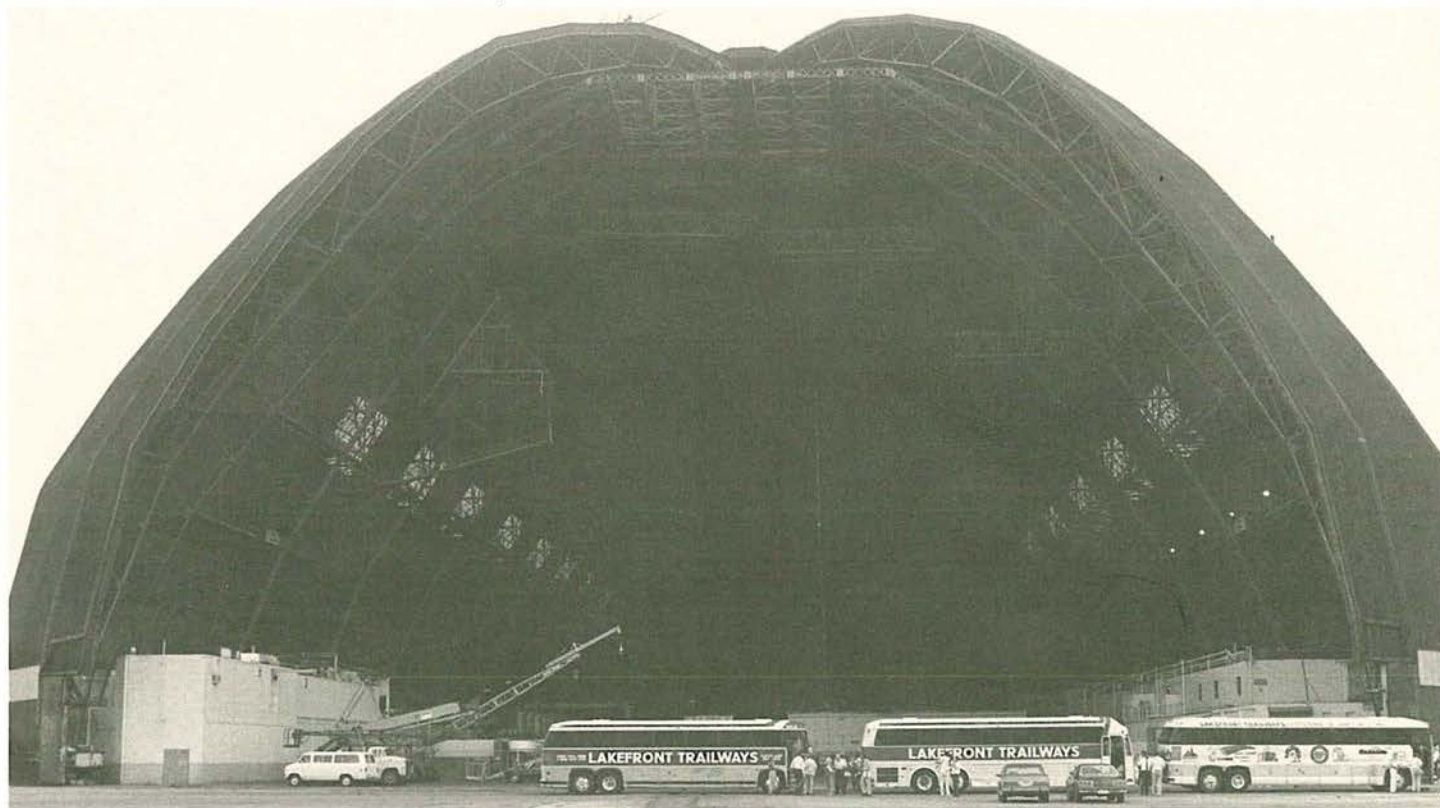
Volume 15

Fall 1986

Number 3

15th Annual Conf., June 12-15

CLEVELAND, AKRON — OUR KIND OF TOWN!



SIA tour buses shrink to matchbox toys before the titanic Goodyear Airdock (1929) in Akron. You don't visit it, you experience it. R. Frame photograph.

Member of important professional association: "I just returned from our meeting in San Francisco [or New York, Chicago, Honolulu]. How about you?"

SIA member: "We were in Cleveland."

Important person: "Oh yes...I heard that it's 'back.'"

It's true, Cleveland is back. We saw ample evidence of that. New nightlife, cleaned-up waterfront. Why, a lot of us went to see the Minnesota Twins play the Cleveland Indians—an important game if ever there was one—and became part of Municipal Stadium's biggest ballpark crowd of the year.

But the SIA came to Cleveland (and nearby Akron) to check out the stubborn, tenacious, obscure—at times obsolete—parts that never left: the industrial plants, some thriving, some now closed, the bridges, canals, and other like objects of normal, IA prurient interest.

There could hardly have been a more fitting choice for the 15th Annual Conference HQ than the famous **Terminal Tower**, opened in

1930, whose subterranean Cleveland Union Terminal once handled over 250 trains per day. Even if you arrived by plane, you still could take rail transit direct to the Terminal and to Stouffer Inn on the Square, located in the Terminal complex. Some of us were lucky enough to have a room overlooking the Cuyahoga River, whose broad floodplain, known as the "Flats," was the site of Cleveland's earliest commerce and industry. Spanned by over 20 bridges in a wide variety of types, this may not be the Cleveland of "Cleveland's back" fame, but it was the Cleveland that some 200 SIA conferees were thinking about as they headed for registration on Thursday, June 12th.

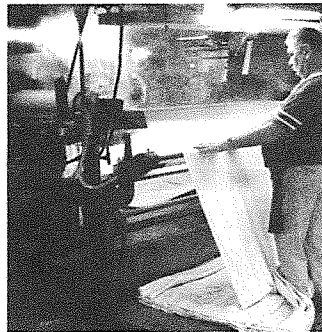
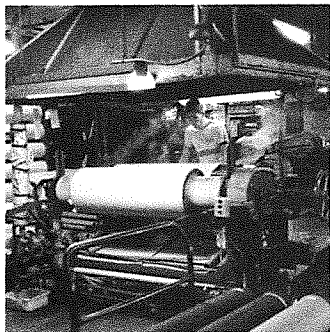
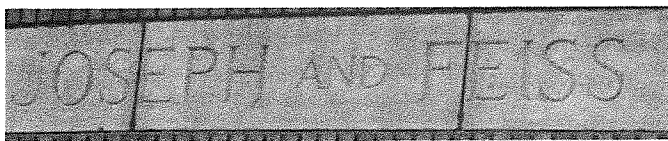
The festivities were launched with a first-rate reception at a loft apartment in the **Bradley Building**, a renovated warehouse in Cleveland's Historic Warehouse District. The Bradley certainly is "back," and provided a terrific twilight view of Lake Erie. A good-natured and well-informed slide lecture by John Grabowski on the city's industrial history eased us into the appropriate attitude for the industrial process tours the next day.

Friday presented the annual round-robin IA tour bus ritual, with
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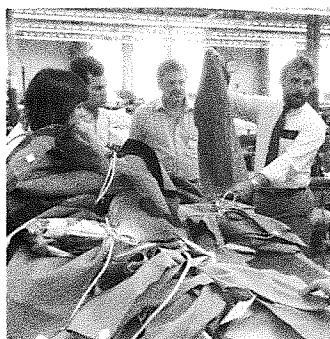
CLEVELAND *continued from page 1*

groups heading off to different plants and sites, all hoping to make the right stops at the right time. Some of us first headed off to **LTV Steel's 84-Inch Hot Strip Mill**, a no-nonsense, hard-core IA site that was reminiscent of the 1982 conference visit to Bethlehem Steel's Steelton, Pa., plant. The 84-inch mill began production in 1971, replacing a 1937 98-inch mill, then the largest of its kind in the world. This was a chance to study an industrial process, an important function of the conference's two days of site and plant tours. The half-mile-long mill's purpose is to roll 22-ton steel slabs from their original 32-ft.x50-in.x9-in. size down to hot coils of metal, some 2,800 to 3,200 ft. long and as thin as .052 in. From a catwalk high above, we watched the red-hot strip make its 2½-min. transit through roughing and finishing roll stands and then slam, steaming, into the water-cooled coiler. Half the mill's product goes to the auto industry.

The pace changed with the tour of **The Joseph & Feiss Co.**, the oldest manufacturer of men's clothing in the U.S. The process is far less intense in this complex, which was built 1900-20, spreads over some 40 acres, and once was touted as America's largest clothing

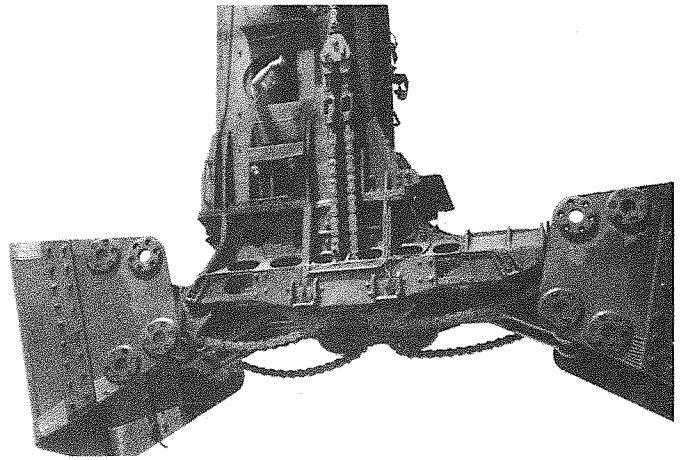


JOSEPH & FEISS CO. Above, left & right: Steam in the clothing factory: pressing and straightening the fabric before cutting. Below right: Hand-operated cutting. Below left: Thousands of individual pieces awaiting assembly into coats and jackets. R. Frame & R.M. Vogel photographs.

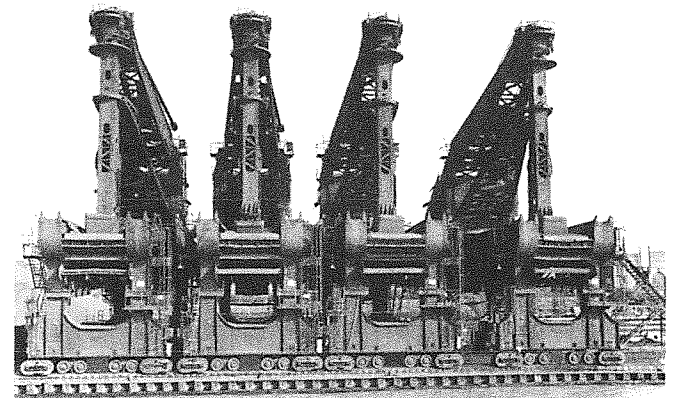
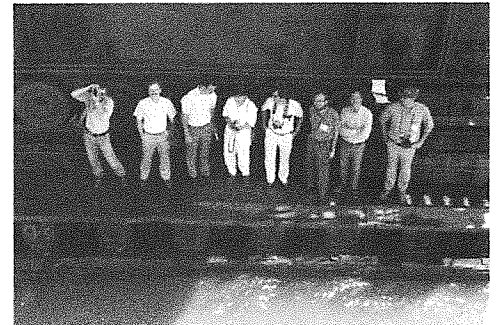


factory. Less intense, but at times complicated to the point of incomprehensibility as workers maintain control over thousands of small packets of fabric. Each parcel ultimately must result in a single garment of the correct size. No wonder Feiss was among the first companies to incorporate Taylorism. Great effort goes into inspecting, preshrinking, stabilizing, and straightening the fabric—putting in the “hand” as it's called—before a single pattern cut is made. Computer-controlled pattern layout is provided by a Gerber Cutter, but the actual cutting seems minor compared to the fabric preparation and the subsequent sewing, where all pieces are carefully matched. Finally comes the pressing, where quantity steam is an absolute necessity. “If you can't press a garment, you're out of business,” said the guide. Six 125-hp boilers provide the steam.

Following lunch in the Flats—literally in the shadow of one of Cleveland's now-abandoned and thus permanently open and



THE AMAZING HULETT'S. Above: View from the dock, with David Shayt at the controls. Right: Looking down from the control cab. Below: Hulett's being serviced by their shunt engines. Bottom: The giants at rest. R.M. Vogel & R. Frame photographs.



towering bascule bridges—we headed off to the **Pennsylvania Railroad Ore Dock** (1911-12). There reside four marvelous mechanical monster ore unloaders designed by Cleveland George H. Hulett. As Carol Poh Miller's guidebook put it, “the Hulett unloader practically defies description, so unusual is it in appearance and motion” (Jet Lowe photos of Hulett's were featured in *SIAN* 14[2]:15). The most eye-catching item is the vertically maneuvered, 17-ton-cap. clamshell bucket, immediately above which sits the operator, riding the bucket in and out of the boat's hold. To the undying envy of everyone, a lucky few rode in the control cab. Unfortunately, we missed having an ore carrier to work with, so our Hulett demonstration involved bucket dips into the lake at dockside.



THE CUYAHOGA AND ITS BRIDGES. Above: Panorama from high in Terminal Tower reveals the river's tortured course through the Flats. Left: A majestic pair of early 20th-C, rolling-lift bascules. Right: Center Street Bridge (1901, King Bridge Co.), Cleveland's last remaining swing bridge. R. Frame photographs.



Needless to say, this vintage 1912 operation, with its associated narrow-gauge electric shunt engines moving full and empty cars in and out, was spectacular. The advent of self-unloader boats marks the impending demise of the Hulett's, of which these are the last four on the Lakes.

In this well-orchestrated day of tours, going from the awesome Hulett's to the **Euclid Lamp Plant of the General Electric Co.** (1880, 1909-12) was like hearing Beethoven followed by Bach. Here on the site of the **Brush Electric Light Co.**, founded in 1880 by Cleveland inventor Charles F. Brush, specialty incandescent lamps are manufactured. With surprising care, automatic, vertical bulb-blowing machines turn glass tubes into tiny spheres. Several E-3 flare machines (1924) and rough-service stem machines (1920s), among others, produce glass flares and stems. Then comes the building and mounting of filaments, a hand assembly process so sophisticated and consummately delicate as to be nothing less than the sculptor's art. Like so many tiny bonsai trees wrought in wire, the assembled filaments stood in forests awaiting the next step. The mounted filaments were joined to the bulbs, a vacuum was created when each bulb was exhausted, and the bases were affixed with heat. Sealing machines from the 1930s remain in use.

A boat tour of some six industrialized miles of the **Cuyahoga River** provided the only proper end to the process-tour sequence. It was almost a bridge a minute, it seemed, as we followed the river's tortured course through the Flats, separating the city's west side from the downtown commercial district. For the insatiable among us, the evening concluded hours later with the traditional IA slide 'n film, show 'n tell session, at the hotel.

Saturday brought a day of paper sessions, a number of which focused on Ohio and the Midwest. Barrie Trinder of the Institute of IA at Ironbridge Gorge addressed the plenary session at the end of the afternoon. Throughout the day, conference participants had an opportunity to visit, free of charge, the Terminal Tower's observation deck on the 42nd floor; from there, the entire city, including the Flats and the harbor, could be surveyed. In the evening, it was off to the **Frederick C. Crawford Auto-Aviation Museum of the Western Reserve Historical Society**, where conference steering committee chair (and WRHS director) Ted Sande had scheduled a

multiplicity of IA sights and sounds, followed by a terrific buffet banquet.

Awaiting the diners was a special outdoor display of operating internal-combustion and steam engines, provided by the Historical Engine Society, Inc. Inside was "Made in Cleveland," an exhibit of conversation-stopping HAER photographs of Cleveland by staff photographer Jet Lowe. Lowe's work resulted from a documentation project begun in 1975 and sponsored by HAER and the Cleveland Landmarks Commission. If all that wasn't enough, there also was a special exhibit of Cleveland's urban and industrial growth, 1850-1930, along with the rest of the society's galleries, including a fascinating collection of historic music boxes and automatic instruments.

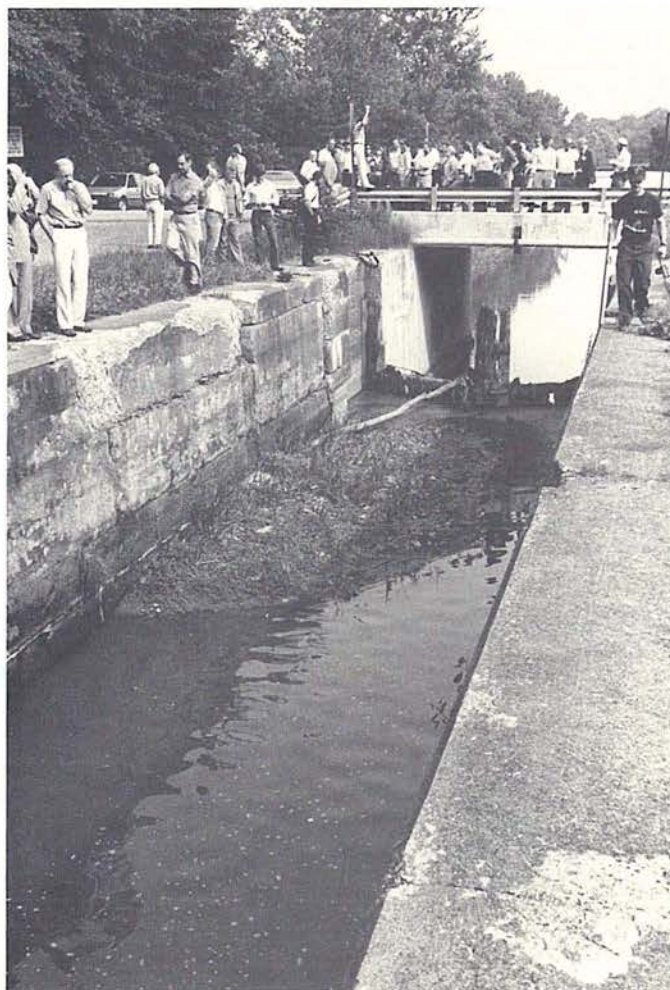
Conference attendees dined amidst one of the world's finest assemblages of historical vehicles, gathered and donated to WRHS by Crawford, who served as the conference's honorary chairman. In a special videotape shown after dinner, he recalled the history of Cleveland's place in the automobile industry.

Beginning early Sunday morning, our bus caravan continued Friday's tour of the Cuyahoga, extending some 22 miles through the Cuyahoga Valley National Recreation Area (CVNRA) to Akron. Two sites were of particular interest: the **Ohio & Erie Canal**, opened between Cleveland and Akron in 1827, and the **Jaite Paper Mill** [NR] with its associated workers' housing and general store.

The canal, still watered, parallels the river. Originally it was 26 ft. at the base, 40 ft. at water line, and 4 ft. deep. It suffered from railroad competition and tolls had decreased dramatically by the Civil War. It was abandoned and decaying when in 1904 the state authorized repairs in the northern division, largely for pleasure boating. A 1913 flood ended all canal use, except as a water source for steel mills in Cleveland. We stopped at the ruins of a lock where local canal experts described the technology.

The Jaite Paper Mill, built in 1905, was converted about 1926 to the Fourdrinier process, and we toured the mill and machinery, all in use until 1984. The mill and nearby village of Jaite are part of the CVNRA.

We continued into Akron, once home to the "Big Four"—Goodyear, Firestone, Goodrich, and General—none of



Stopping at a lock on the Ohio & Erie Canal, between Cleveland and Akron. R. Frame photograph.

which makes passenger-car tires there today. All have converted largely to research and development. Although we were in the "Rubber City," our first stop was at **Quaker Square** and the **Quaker Square Hilton**, where beginning in 1973 the abandoned mill and grain elevator complex were redeveloped into a retail and entertainment complex. The conversion of the 36, 120-ft. concrete grain silos (1932) into the 196-room Hilton Hotel was one of the largest concrete sawing jobs (for the windows) ever done on a commercial building project. It opened in 1980 and the work was featured in the SIA-produced film *Working Places*. A happy coincidence for conference railfans was the train show being held in the complex.

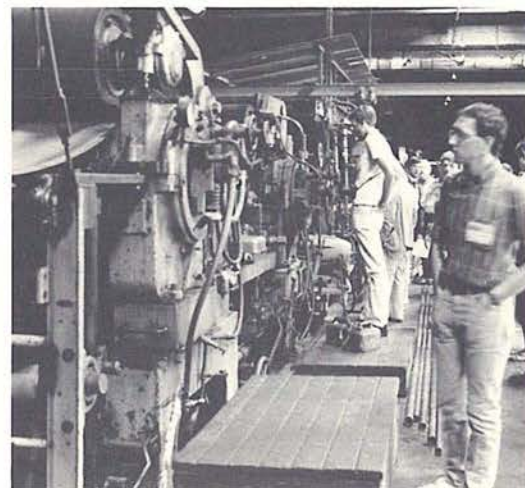
Lock 2 Park, containing a 1983 canal "dry dock" with a full-scale, stylized canal boat reproduced in metal outline, was the setting



The full-size, stylized canal boat in Lock 2 Park, Akron. R. Frame photograph.



Above: Looking toward the converted grain silos (1932) of Quaker Square Hilton, Akron, from the narrow-gauge Gotha locomotive at The Depot Restaurant. Right: Studying an 88-in. Horne Fourdrinier at Jaite Paper Mill near Akron. R. Frame photographs.



for lunch. Then, a short walk to the **Akron Civic Theater** (1929), brought us to perhaps the most pleasant surprise of the weekend. Extraordinarily ornate in its restored, Moorish Revival, "atmospheric" decor, the theater itself was a wonder for everyone. We had been enticed with an offer to view early footage of Akron aviation and airships. As the films were about to begin, however, a full theater organ rose up out of floor, playing its two ranks of pipes flanking the stage. The organ is equipped with complete sound-effect devices, to accompany silent films and stage shows.

Enroute to the conference tour's final visit, we made a quick stop at **Goodyear Tire & Rubber Co. Plant II**. Plant II once was the home



Built as Goodyear Tire & Rubber Co. Plant II, this complex was tech'd-up in the 1980s to become today's Goodyear Technical Center. R. Frame photograph.



GOODYEAR AIRDOCK. Above: On the roof — from here you can see Akron. Below left: Up, up to the roof in the cable car. Below center: Gripping the railing on the wood-plank catwalk, 200 feet in the air. Below right: One of the door segments. R. Frame photographs.



Inside the Goodyear Airdock, drawing lots for 24 cable-car rides to the top. R. Frame photograph.

of the company's bias-tire production, but closed in 1978. With a modernized exterior, it reopened as the centerpiece of the 3,000-acre Goodyear Technical Center.

No doubt about it, the incredible **Goodyear Airdock** was the high point of the conference. Its long and massive, black form was visible through the bus window from some distance away. At 1,175 ft. long, 325 ft. wide, and 211 ft. high, with 364,000 sq. ft. of floor area, it is one of the largest buildings in the world without interior supports. It was built in 1929 for the Goodyear-Zeppelin Corp. to house the construction of two super-zeppelins for the U.S. Navy. An inclined cable-car, riding rails suspended from the arched interior, carries workers to high maintenance catwalks and on to the roof. We drew lots for 24 precious rides to the top. That short trip in the open-cage car was for some a white-knuckle experience—as was the thrill of inching along the wood-plank catwalks hung 200 ft. above the rest of the tourers. Some of us got a shock while up there, when it looked as though there was an electrical problem with the car. That shortlived scare, soon resolved, nevertheless sent one group quickly down the

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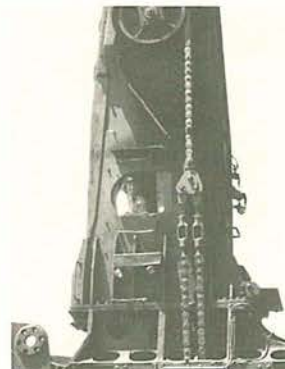
open metal stairs, not wishing to be stuck in the car, halfway up and halfway down. Needless to say, the view from the roof, which just sort of curved off into space, was grand indeed.

It was a fine conference, carried off with clockwork timing. If we stayed an extra day we had a chance to explore the historic area near the Terminal Tower, including The Arcade (1890), a five-story, architecturally superb retail center. Diehards also could visit Metals Park, world HQ of the American Society for Metals, and the Plidco Pipeline Museum, dedicated to the history of pipelines.

Special thanks to Clev. Electric Illuminating Found., M.A. Hanna Co., Mr./Mrs. J.D. Ireland, Mr./Mrs. J.W. Lampl Jr., R.C. & G.B. McDowell, N.Am. Coal Corp., Ohio Arts/Humanities councils, Std. Oil Co., Stouffer Inn on the Sq., Mr./Mrs. J.L. Tormey, and TRW Inc. And to the Steering Comm.: F.C. Crawford, T.A. Sande, D. Stapleton, D.L. Benson, C.P. Miller, J. Edmonson, E. Johannesen, J. Grabowski, S. Blanchard, H.R. Valley, B. Herman, and S.F. Buerling.

SIA member: "Next year we're meeting in Troy."

Important person: "Lucky you! I just love the Aegean."



PARTING SHOTS. Left: Super tour-planner Carol Poh Miller in the Hulett cab. Right: Getting a few last photos of Cleveland's handsome Arcade (1890). R. Frame photographs.

BUTTE-ANACONDA HISTORICAL PARK SYSTEM

The Butte [Mont.] Historical Society (BHS) has completed a master plan for the Butte-Anaconda Historical Park System, a project aimed at preserving and interpreting historic industrial sites in and between the two communities associated with Butte's copper industry. Renewable Technologies, Inc., of Butte prepared the plan for the BHS with funds provided by a Critical Issues Fund grant from the National Trust for Historic Preservation, grants from the Montana State Historic Preservation Office and the Anaconda Minerals Co. (a subsidiary of ARCO), and locally raised funds. The BHS also drew over \$30,000 of donated consulting services into the planning effort.

The plan details a 12-15-year phased program to develop about 25 separate sites which depict the history of mining in the Butte-Anaconda area from prehistoric times through the placer mining era (1860s) to the underground era (1870s-1982), and concluding with the open-pit era (1955-83). Other sites depict the history of related industrial activities, such as milling, smelting, manufacturing, and railroads. Structures at many of these sites survive from 1887-1920, when Butte was the world's largest copper producer.

The BHS has completed the first project identified in the plan, a published guide to the mines in Butte. The guide features a summary history of mining in Butte, including corporate, labor, and technical topics, as well as brief histories of each of the 13 mines with extant steel headframes in Butte. These mines range from the Diamond, with its 1898 steel headframe built by the Gillette-Herzog Mfg. Co. of Minneapolis, and the Granite Mountain, which was the scene of the worst U.S. hardrock mining disaster in 1917, to the Kelly, which was developed in the late 1940s in conjunction with the new block-cave mining method, the last phase of underground mining in the Butte district. Handsomely illustrated, this guide is available for \$2 from the BHS, P.O. Box 3913, Butte MT 59702.

The first large-scale project identified in the plan will be the preservation of the Anselmo Mineyard [HAER], the only historic mineyard in Butte with virtually all of its ancillary structures still standing. At other local mineyards only the headframe and perhaps the hoist house remain. The Anselmo still has its headframe and hoist house, as well as an auxiliary hoist house, the dry (change) room, the carpenter shop, the lamp-charging room, the mine office, sheds and warehouses, and much of the surface equipment that supported the underground operation. Interpretive staff and exhibits will explain the preserved mineyard to the public in the context of the city's mining history as well as in the context of American industrialization.

Subsequent projects identified in the plan include interpretation of the giant stack in Anaconda (at 585 ft., the tallest, free-standing, masonry stack in the world; *SIA* Fall-Winter 84:13), a tourist train connecting Butte and Anaconda along the tracks of the Butte, Anaconda & Pacific Rwy., a tourist trolley linking mines on the Butte Hill along a BA&P line which hauled ore from the mines, interpretation of other mineyards in Butte including an underground tour, interpretation of the still-operating foundry and railroad shops in Anaconda both of which were part of the Anaconda Co.'s large industrial complex in the area, and interpretation of a prehistoric quarry site nearby which will offer a much broader perspective on the history of the regions mining.

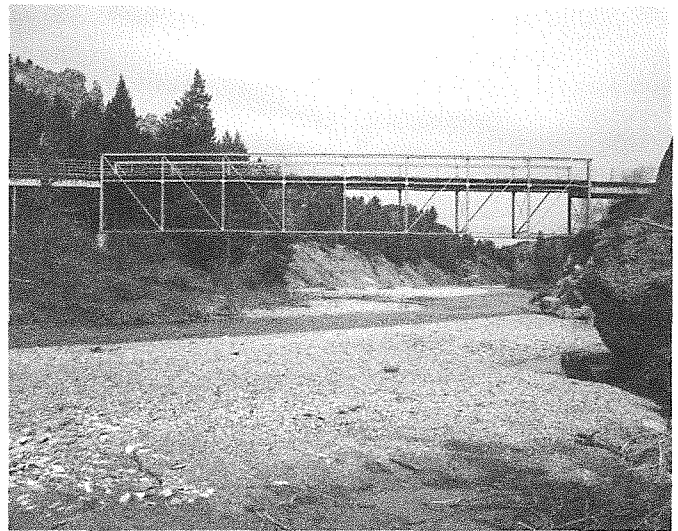
To implement the plan, the BHS is organizing a separate non-profit organization to manage the various parts of the park system. The BHS is working with local government and legislators to prepare a request to the next legislative session for a special appropriation to be derived from Montana's Resource Indemnity Trust fund, which is generated by a tax on all mineral extraction in the state. The request will be modeled on Mass.'s Heritage Parks System, being implemented in a variety of historic industrial cities such as Lowell and Fall River, and Minn.'s Iron Range Resources & Rehabilitation Board, which is integrating the preservation and interpretation of historic iron-mining sites with the rehabilitation of mine lands.

One uncertainty for the park system is the attitude of the new owner of the Butte mines. During the plan's preparation, the

Anaconda Co. had been very cooperative, providing access to information and donating the services of mining engineers to examining the plan's technical aspects. Toward the end of the planning period, the company agreed to donate the surface rights and structures of the Anselmo and the Original mines to the BHS to be incorporated in the park system. Before BHS could accept liability for the sites, however, Anaconda sold all its Butte holdings to the Washington Corp., a large Mont. construction firm, which hopes to re-open the concentrator and one of Butte's open-pit mines. Although the likelihood of renewed underground mining is extremely remote, Washington has not yet revealed its plans for all of the Butte mining properties not related to the open-pit operation. Meanwhile, the BHS continues to develop its legislative strategy in the hopes that a donation of the desired sites will soon be negotiated.

Further info. on the park project is avail. from Fred Quivik [SIA], RTI Inc., P.O. Box 4113, Butte MT 59702.

MONTANA BRIDGE UPDATE



DEARBORN RIVER HIGH BRIDGE (1897, King Bridge Co.), near Augusta, Mont. *Jet Lowe photograph.*

Lewis & Clark County has completed repairs on the Dearborn River High Bridge near Augusta after a grain truck exceeding posted weight limits crashed through the deck, damaging the superstructure elements including floor beams and vertical members. The county road crew hired an Everett, Wash. firm to use a "flame straightening" technique for repairs. Built in 1897 by the King Bridge Co., Cleveland, the pin-connected Pratt truss (160-ft. main span) is nationally significant as one of few, if any, extant half-deck trusses (so named because the floor beams are connected to vertical members midway between upper and lower chords) in the U.S. Further info.: Jim Ellis, Road Crew Foreman, Lewis & Clark Co., Helena MT 59601.

The Mont. Hwy. Dept. (MHD) has taken a novel approach in trying to save the Wolf Point Bridge over the Missouri River. Erected in 1930 by the Missouri Valley Bridge & Iron Co. of Leavenworth, Kan., it was the first highway bridge built over the Mo. R. along the 350-mi. stretch between Ft. Benton, Mont., and Williston, N.D. The three main spans are riveted Pennsylvania trusses, the longest being 400 ft.—by far the longest in Mont. However, its narrow width does not meet current traffic standards, hence the need to replace. MHD, however, is attempting to sell the bridge to the utility company that uses it to carry gas pipelines and transmission wires over the river. As an "inducement," MHD is threatening to charge the utility a stiff fee for moving its lines to the new bridge. For further info. on this interesting technique, contact Mitzi Rossilon, Environ. Div., MHD, Helena MT 59620.

Fred Quivik [SIA], source of the above bridge info., authored the HAER-published Historic Bridges in Montana (1982). Ed.

SIA MEMBERS INVENTORY HISTORIC ARIZONA BRIDGES



PINTO CREEK BRIDGE (1949, Ariz. Hwy. Dept., 371-ft. span) in Gila Co., photographed at completion. It is one of 15 steel arches in the inventory, which was extended into the 1950s to include all examples of this type. ADOT photograph.

A comprehensive, statewide inventory of vehicular bridges in Arizona is under way for the Ariz. Dept. of Trans. by Fraserdesign, a Loveland, Colo.-based consulting firm, headed by Clayton Fraser [SIA]. Covering approximately 650 pre-1945 structures, both on and off the Federal Aid system, the survey will include such bridge types as steel trusses, steel and concrete arches, steel and concrete girders, and concrete slabs.

The year-long project will compile a historical directory of publicly owned spans and provide a comprehensive overview of Arizona bridge-building. Like similar statewide inventories, this one is designed to satisfy ADOT's mitigatory responsibilities for its Hwy. Bridge Replacement & Rehabilitation Program (HBRRP). The project will culminate in a Historic American Engineering Record (HAER) overview and inventory, a National Register thematic nomination, and a pictorial article in *Arizona Highways*.

An arid state not known for an abundance of bridges, Arizona presents a unique bridge profile. The region was settled relatively late in U.S. history—into the early 20th C in some areas. Concerted road and bridge construction occurred even later. As a result, few vehicular spans predate 1920, and none is known to have survived from the 19th C. The majority of the bridge construction was undertaken after the passage of the 1916 Federal Hwys. Act, which directed state participation in bridge work. The state engineer, therefore, designed and contracted for most of Arizona's earliest major vehicular spans. County bridge activity was unusually abbreviated.

Although most of Arizona's bridges are locally engineered and relatively small in scale, a few major structures have been built, primarily over the Colorado River, which forms the state's western border. Notable examples include the Red Rock Bridge (1890; razed), a cantilevered railroad truss designed by J.A.L. Waddell; the Cameron Bridge (1911, abandoned), a steel suspension bridge for which Ralph Modjeski served as consulting engineer; the Needles Bridge (1916; converted to non-vehicular use), a 592-ft., three-hinged steel arch; and the Tempe Bridge (1911; abandoned), a multispan, open-spandrel concrete arch structure built with territorial prison labor.

The state also has several long-span steel arches which stretch over breathtaking desert canyons. The most spectacular of these is the Navajo Bridge (1929), a 616-ft. deck arch spanning the Grand Canyon. Unlike other states in which metal trusses comprise the largest group of significant structural types, Arizona has only 35 trusses among its inventoried bridges. The counties and the state highway commission largely eschewed the truss in favor of concrete arches, girders, and slabs, which could be built economically using local materials and labor.

Certainly the most unexpected and astonishing span in this or any state inventory is the legendary London Bridge (1821-30)—dismantled, shipped to the U.S., and reassembled over a man-made lake where it now serves as an off-system structure.

ADOT staff archeologist Bettina Rosenberg [SIA] is supervising *SIA Newsletter*, Vol. 15, No. 3, Fall 1986

the project, with assistance from Roger Brevoort [SIA] of the State Historic Preservation Office. Clayton Fraser has conducted similar statewide bridge inventories in Colorado and Wyoming and currently is completing a nationwide HAER thematic inventory of large-scale railroad bridges designed by noted engineer George S. Morison. The Colo. Dept. of Hwys. recently published the report of its bridge inventory in *Historic Bridges of Colo.* (\$15 from Kim Gambrell, Div. of Trans. Planning, Colo. Dept. of Hwys., 4201 E. Arkansas Ave., Denver CO 80222). [See also Fraser's "Bridging History," with color photos, in *Colorado Heritage*, 1985, Issue 3. Ed.] For further info. about the Arizona effort, contact Fraser in Colo. (303-669-7969) or Rosenberg in Ariz. (602-255-8641).

C.B.F.

DOT HONORS 15 IA PROJECTS

Historic Preservation Awards for outstanding accomplishment in the area of transportation/historic preservation were announced in May as part of the biennial program sponsored by the U.S. Dept. of Trans. and the Advisory Council on Historic Preservation. The projects all have great IA merit. Especially notable is the award to **Emory L. Kemp**, SIA vice president, in recognition of his distinguished career as a civil engineer, industrial archeologist, and historic preservationist, particularly in the area of bridges. Other awards include:

—Pa. Redevelopment Authority, for the rehab of Harrisburg's Pennsy RR station, including its two long-span, metal-truss roof train sheds [NHL], into a rail/bus transit hub.

—Openheimer Properties, N.Y.C., for the rehab of the St. Louis RR terminal and train sheds into a hotel-retail-restaurant-entertainment complex that is the largest reuse project in the U.S.

—U.S. Lighthouse Society, in recognition of its work in maritime preservation.

—Colo. Dept. of Highways for developing and implementing a state bridge survey (completed by Clayton Fraser [SIA]; see story on his work in Colo. & Ariz. in this issue).

—Lowell Hist. Pres. Commn., for implementing a trolley system to serve the city and the Lowell Nat'l Historical Park, obtaining original equipment from Australia and replica trolleys built in Iowa.

—N.J. Transit, for revitalizing and preserving 55 historic RR stations. The survey of these stations, the subsequent thematic NR nomination, and the preservation plan were recognized in 1985 with a National Trust Commendation Certificate [*SIAN* 14(2):7].

—Tim Peirce, general manager of New York's LaGuardia Airport, and Geoffrey Arend, publisher of *Air Cargo News*, for restoration of the mural "Flight" at LaGuardia. The mammoth painting (12 ft. high, 235 ft. in circumference) by James Brooks was the last mural painted under the fine arts program of the WPA.

—The Shafter [Calif.] Historical Society, for preserving and restoring their 1917 Santa Fe RR depot.

—Hudson River Maritime Center, for establishing a maritime museum and renovating and opening the 1912 Rondout Lighthouse in Kingston, N.Y.

—City of Fayetteville, N.C., for responsibly monitoring historic and archeological resources while constructing a downtown transit mall. Noted features included streetcar tracks, an 1847 brick storm tunnel, waterworks system, and an 1849 plank road.

—Oregon DOT, for preservation of Columbia River Scenic Hwy. historic resources, including the Jordon Covered Bridge.

—East Brother Light Station, Inc., for restoration of the 1873 San Francisco Bay lighthouse into a bed & breakfast inn.

—New Haven Parking Authority, for coordinating the rehab of the 1920 New Haven RR station into a transportation center.

—N.J. DOT, for its massive Trenton Hwy. construction archeological program.

SITES & STRUCTURES

LANDMARK BOULTON & WATT ENGINE. The first Boulton & Watt rotative engine with parallel motion, built in 1785 and now in an Australian museum, has been designated the 19th International Mechanical Engineering Landmark by the American Society of Mechanical Engineers (ASME). B&W erected the engine for the London brewery of Samuel Whitbread to drive the malt crushing mill. It appears first on a drawing dated Nov. 1784 as a single-acting engine displaying the parallel motion and sun-&-planet gear that enable shaft rotation. Conversion to double action in 1795 doubled the power output. Its iron beam and flyball governor were later modifications. It was replaced in 1887 by a more compact and powerful compound steam engine. Archibald Liveridge, a trustee of the Power House Museum, Sydney Museum of Applied Arts & Sciences, was presented with the engine and had it sent to Sydney in 1888. Last year it was restored to working condition for its bicentennial. With a speed of 20 rpm., a mean effective pressure of 10 psi., and a 25-in. by 6-ft. cylinder, the engine would have produced about 35 hp. in its prime.

OHIO'S MUNICIPAL POWER-PLANTS are being inventoried in a project for the Ohio Hist. Pres. Office. The work is being done by Gene Glasco, a lifetime public-utilities worker, who has already prepared corporate histories of the state's largest municipal power companies. To date, some 20 generating plants have been documented, ranging from Toledo's Acme Plant (1918) to the modern Davis-Besse Plant (1977) near Port Clinton.

BIG TIME RAILROAD REHAB. Cincinnati's Union Terminal (1929-33), surely one of the world's great RR stations [visited during the 1978 SIA Annual Conf.], is utterly worthy of the \$41.7 million rehab money authorized this spring by Hamilton County voters. Matched with an \$8 million state grant, the dollars will fund conversion of the nearly deserted terminal into a new home for the Cincinnati Hist. Soc., the Museum of Natural History, and the Children's Discovery Center. Also included will be an IMAX wide-screen theater, a re-creation of the 1850s city riverfront, and mammoth exhibits on prehistoric life in the area.

Some \$50 million went to convert the 1888 **Indianapolis Union Terminal** into a complex of restaurants, shops, and offices. One of the train sheds (1913, 1918) encloses a 276-room hotel, the only Holiday Inn built within an existing structure. The rooms, with the original beams and walls intact, include 26 suites in 13 Pullman cars that sit on original tracks.

Cincinnati Enquirer & Architectural Record

AN 1887 LENTICULAR-TRUSS BRIDGE was up for sale this spring in Stamford, Conn., according to *The New York Times*. The wrought-iron, 150-ft., single-span, Pulaski Street Bridge over the Rippowam River was to be disassembled and stored if there were no buyers.

SIX COVERED BRIDGES are on the hit list in Rush Co., Ind., where the county commissioners reportedly plan to raze them all. At 196 ft., one of them is the longest single-span covered bridge still open to traffic in the state, and the fourth longest such span in the U.S., according to the Nat'l Society for the Preservation of Covered Bridges. Another, at 334 ft. and two spans, is among the longest covered bridges in the nation. For further info., write Russell Dougherty, 602 N. Denny St., Indianapolis IN 46201.



SMITH BRIDGE (1877), a single-span, Burr truss over the Flatrock River in Rush Co., Inc. Russell Dougherty photograph.

ALL 400,000 EDISON ARTIFACTS and 3 million documents at the West Orange lab need more conservation cash, said curator Edward Pershey [SIA], kicking off a fund drive in conjunction with the June celebration marking the 100th anniversary of the site's opening as Edison's third and last laboratory. Pershey thinks that about \$150,000 would help a lot. Contributions to Friends of the Edison Nat'l Historic Site, c/o the site, Main St. & Lakeside Ave., W. Orange NJ 07052.

"PRESERVATION TECHNIQUES" (formerly Restore Philadelphia) is a technical, non-profit educational organization, which discovers and teaches the most effective ways of maintaining and restoring commercial and institutional buildings, while keeping the architectural integrity of the structure. PT is chaired by Gersil N. Kay [SIA]. One project is videotaping every traditional trade needed to work on an older building. Crafts from the roof to the floor are included, with emphasis on the installation of modern mechanical and electrical systems into the original fabric with the least amount of damage or cost. Real jobs with real workers—no actors—are shown, under actual time and budget constraints. PT's 2nd annual "British Connection," presented in Oct, was a transatlantic exchange of ideas between leading preservation architects brought from the U.K. for the occasion.

G.N.K.

EXHIBITS

"TUNNELING BENEATH BALTIMORE" is open at the Baltimore Public Works Museum, located in the Eastern Ave. Pumping Station (1912). Featured is the 1872 Baltimore & Potomac RR Tunnels, the city's oldest, along with the newest, the Fort McHenry Tunnel just completed beneath the city's harbor. A special slide show explains the innovative construction methods used in the latter, the world's widest vehicular tunnel. Also included are the B&O's Howard St. Tunnel and the tunnels that provide water to the Ashburton and Montebello filtration plants from outlying reservoirs. Info.: Nancy A. Fenton, Curator, BPWM, 701 Eastern Ave., Balt. MD 21202 (301-396-5565).

MONTANA COAL. The Western Heritage Center in Billings is documenting Montana's underground coal-mining industry from 1889 through WW II, in preparation for a major exhibit in Feb. 1987. Project staff are interviewing miners and their families about life and work in the coal towns and are collecting photos and mining artifacts. A travelling photo exhibit also will be available. Info.: Virginia Heidenreich, WHC, 2822 Montana Ave., Billings MT 59101 (406-256-6809).

"MARRIAGE OF IRON & GLASS: THE CRYSTAL PALACE" is an exhibit of contemporary prints of the 1851 structure, from the Elton Collection of Industrial Art at Ironbridge Gorge Museum, England. The show runs through Nov. 24 in the Upper Gallery, Picker Art Gallery, Colgate Univ., Hamilton, N.Y. Info.: Prof. Jane Pinchin (315-824-1000).

BLACKSMITHING FESTIVAL & EXHIBIT. Artist-blacksmiths from across the U.S. will be hosted by Sloss Furnaces [NHL], Birmingham, Ala., for the third Annual Birmingham Blacksmithing Festival, Oct. 26-Nov. 1. An exhibit of blacksmiths' work runs Oct. 25-Jan. 15. Twenty participating blacksmiths, ranging from intermediate to advanced levels of expertise, will attend daily workshop sessions directed by internationally recognized Manfred Bredohl of Aachen, W. Germany. Bredohl will be assisted by his former student Glenn Gilmore, now resident smith at John C. Campbell Folk School in Brasstown, N.C. The festival blacksmiths will pool their talents in workshop sessions to create a large front entrance gate for Sloss, following a tradition that has produced permanent iron works for Sloss the past two years. Info.: Paige McWilliams, Sloss Furnaces, 1st Ave. N. & 32nd St., Birmingham AL 35202 (205-254-2367).

SIA Newsletter, Vol. 15, No. 3, Fall 1986



SOCIETY FOR INDUSTRIAL ARCHEOLOGY NEWSLETTER

PUBLICATIONS OF INTEREST

A SUPPLEMENT TO VOL. 15 NO. 3

1986

Compiled by Sandra L. Norman, Slater Mill Historic Site and Marguerite A. Darroch & Robert M. Vogel,

National Museum of American History

GENERAL SUBJECTS

Advisory Council on Historic Preservation, REPORT TO THE PRESIDENT OF THE U.S. Washington, 1985. 98 pp. Among the various properties and sites dealt with during the year were the St. Louis Union Station, mills in New England, the Joseph Dixon graphite works in Jersey City, Albany Union Station, and a number of others of IA interest, most described and illustrated.

William T. Alderson & Shirley Payne Low, INTERPRETATION OF HISTORIC SITES, 2nd edition. American Assn. of State & Local History (172 Second Ave. North, Suite 102, Nashville, TN 37201), 1985. 202 pp., illus., \$14.95. A popular book that included the pros and cons of varying interpretive methods to help the reader develop the best interpretive program for the site.

Thomas Brown, THE MASSACHUSETTS WHIGS AND INDUSTRIALISM. In *Historical Journal of Massachusetts*, Jan. 1986, pp. 25-42. Massachusetts Whigs feared manufacturing & the rise of a working class during the Jacksonian era.

COLLECTIONS GUIDES: HAGLEY MUSEUM & LIBRARY. A series of these covering the most important of the industrial holdings at Hagley:

PENNSYLVANIA POWER & LIGHT CO. Records of over 1000 companies that merged to form PP&L, 1880-1955. Indexed by subject, place and name. 226 pp. \$10.

CORPORATE IMAGES: PHOTOGRAPHY & THE DU PONT CO., 1865-1972. Essay and guide to 80,000 Du Pont photos. 72 pp., \$5.

A GUIDE TO THE MANUSCRIPTS IN THE ELEUTHERIAN MILLS HISTORICAL LIBRARY: ACCESSIONS THROUGH. . . 1965. Vast holdings of Du Pont and other Delaware Valley firms and institutions. 1205 pp., \$10.

SUPPLEMENT to above for 1966-1975. Aircraft, carpets, chemicals, coal, drugs, explosives, firearms, steel, textiles, waterwheels. 293 pp., \$15.

(Publications Dept., Hagley Museum & Library, Box 3630, Wilmington, DE 19807. Checks to HM&L. \$1.50 shipping for all orders.)

Stephen H. Cutcliffe (ed.), SCIENCE AND TECHNOLOGY IN THE EIGHTEENTH CENTURY. Lehigh U. (Bethlehem, PA), 1984. 69 pp., \$4.95. Rev.: *Journal of the Early Republic*, Winter 1985. 3 essays delivered as papers at 1984 symposium of the Gipson Institute for Eighteenth Century Studies at Lehigh. Includes Darwin H. Stapleton's "William Weston, Benjamin Henry Latrobe & the Philadelphia Plan for Improvements" which examines the requirement of engineering knowledge in the construction of canals and turnpikes before the Erie Canal.

John S. Garner, THE MODEL COMPANY TOWN: URBAN DESIGN THROUGH PRIVATE ENTERPRISE IN 19th-CENTURY NEW ENGLAND. U. Mass. Pr. (Amherst), 1984. 228 pp., illus. \$22.50. Good exposition on the phenomenon of the company town in NE and its possible influence on urban design. Rev. by Richard Candee (SIA) in *IA*, Vol. 12, 1986.

Bertrand Gille (ed.), THE HISTORY OF TECHNIQUES. Gordon & Breach Science Publs (Marketing Dept., STBS, Box 786 Cooper Stn., NYC 10276/ Box 197, London WC2E 9PX), 1986. 2 vols., 1446 pp, illus., \$295. or \$80. to members of Science & Arts Society. (Flyer on book & SAS avail. from publisher.) "A major synthesis that must be added to the list of classic general histories of technology. . ." Relates technology to other areas of culture.

Douglas B. Hague, THE ARTIST AS WITNESS (ROLT MEMORIAL LECTURE, 1985). In *Industrial Archaeology Review*, Spring 1986, pp. 127-146, illus. "The Artist must have imagination, the Witness must not." A consideration of how Hague's knowledge and understanding of buildings and structures in the field has been supplemented by information gleaned from topographical drawings, ranging from useful bad drawings to unreliable good ones, the media ranging from mosaics, coins, sculpture and fabrics to postcards. A delightful, provocative essay with heavy emphasis on H's favorite topic, Lighthouses. (Assn. for Industrial Archaeology, The Wharfage, Ironbridge, Telford, Shropshire TF8 7AW, UK)

Geoffrey D. Hay & Geoffrey P. Stell, MONUMENTS OF INDUSTRY: AN ILLUSTRATED HISTORICAL RECORD. Royal Commn. on the Ancient & Historical Monuments of Scotland. (Avail.: Bernan Assoc., 10033-F, Martin Luther King Hwy., Lanham, MD 20706), 1986. 250 pp., illus. £28. Illustrated account of the industrial and engineering monuments recorded by the Royal Commn. since the 1950s: iron smelting; machinery manufacture; kipping (as in fish); and bridges and buildings. Good process and technical material, not merely the structures. 380 photos and 100 line drawings. Parallel to the work of the HAER.

INDUSTRY & THE CAMERA. Royal Commn. on the Historical Monuments of England (Avail as in HAY, above), 1985. 96 pp., illus. £5.95. Historic & modern photographs tracing the history of British industry from prehistoric flint mines to the present in a wide-ranging variety of structures and plants. Discusses the historic use of the camera as a recording tool.

Claudia Kren, MEDIEVAL SCIENCE & TECHNOLOGY: A SELECTED, ANNOTATED BIBLIOGRAPHY. Garland Publ Co. (NY), 1985. 369 pp. \$53.

Pamela Moore, THE INDUSTRIAL ARCHAEOLOGY OF REGIONS OF THE BRITISH ISLES: No. 2 HAMPSHIRE. In *Industrial Archaeology Review*, Autumn 1985, pp. 28-41. The industrial heritage of Hampshire was based upon its coastal proximity and maritime activities.

Michael Nash, BUSINESS HISTORY AT THE HAGLEY MUSEUM & LIBRARY. In *Business History Rev.*, Spring 1986, pp. 104-120. Good general review of the holdings of this preeminent archive, that holds great volumes of industrial records, both verbal and graphic. (See Hagley Collections Guides, above.)

Arnold Pacey, *THE CULTURE OF TECHNOLOGY*. MIT Pr. (Cambridge, MA), 1983. 210 pp., tables, &c. \$17.50/7.95. Lukewarm review (*Technology & Cult.*, April 1986) finds P's position waffley--neither for nor against. He should be somewhere.

Marilyn Palmer & Peter Neaverson, *A GUIDE TO THE IA OF THE EAST MIDLANDS: PARTS OF NORTHAMPTONSHIRE, LEICESTERSHIRE, DARBYSHIRE & NOTTINGHAMSHIRE*. Assn. for IA & the Leicestershire Industrial History Soc. (54 Chapel St., Measham, Burton-on-Trent DE12 7JD, UK). ND. 52 pp., illus. Nice pocket guide arranged geographically with classified index.

James W.A. Price, *THE INDUSTRIAL ARCHAEOLOGY OF THE LUNE VALLEY*. Centre for North-West Regional Studies (U. of Lancaster), Occasional Paper No. 13, 1983. 95 pp., 20 ill., 15 diagrams, £2.95. (ISBN 0 9016 99977). Rev.: *Industrial Archaeology Rev.*, Aut. 1985. Concentrates on industrial history of North West region, especially textiles. Also includes chapters on domestic crafts, extractive industry, iron and steel, and transportation. Excellent field guide and reference.

Paul E. Rivard (SIA) & Marilyn Norcini, *MADE IN MAINE*. In *History News*, Nov. 1985, pp. 7-12. In 1985 Maine State Museum opened "Made in Maine" exhibit offering an overview of 19th-C manufacturing in Maine which consists of 12 recreated work environments--all full-scale and 3-dimensional. The evolution of the Museum has been linked with this exhibit which displays the artifacts within the social & technological perspective of work environments. Best exhibit in a decade.

P.H. Sydenham, *MEASURING INSTRUMENTS: TOOLS OF KNOWLEDGE AND CONTROL*. History of Technology Series No. 1. IEEE Service Center (PPL Dept., 445 Hoes Lane, Piscataway, N.J. 08854-4150), 1980. 528 pp., \$80. casebound. Traces the development of ideas and their practical implementation in measuring instruments from ancient times through the electrical era to the electronics of the 20th C.

TECHNOLOGIES FOR PREHISTORIC & HISTORIC PRESERVATION. Congress of the US, Office of Technology Assessment (Washington, DC 20510), Sept 1986. Pamphlet OTA-E-320. 40 pp. Summary of a series of conferences on various aspects of preservation technology and law. Useful reference.

STRUCTURES

T. Lindsay Baker, (SIA), *BUILDING THE LONE STAR STATE*. Texas A & M Pr. (Drawer C, College Station, TX 77843-4354). 1986. 336 pp., 255 illus. \$37.50. An illustrated guide to the construction of over 100 historically important Texas buildings and structures. Historical and modern photos and some measured drawings included; finding directions to the sites.

HISTORIC HIGHWAY BRIDGES IN PENNSYLVANIA. Pa. Historical & Museum Commn. & Pa. Dept. of Transportation (Harrisburg), 1986. 207 pp., illus. 1986. No \$ given. The second of these important and interesting published statewide inventories (after Ohio), listing and describing 180 bridges of adjudged historical significance. Trouble is, only those on the state highway system are covered, leaving a raft of early and important spans on the lesser systems without this sort of official notice and protection. Still, a wonderful document covering all major structural types, arranged by type. Good graphic material as well.

Fritz Leonhardt, *BRIDGES: AESTHETICS & DESIGN*. MIT Pr. (Cambridge, MA), 1984. 308 pp., illus. A rather personalized view of what's good and what's bad. Large format with high-quality reproduction. English & Deutsch. Favorable review by Emory Kemp (SIA) in *Tech. & Culture*, April 1986.

R.M. Menti & Joseph M. Eglot. *TUNNEL CEILING REPLACED OVER TRAFFIC*. In *Civil Engineering*, June 1986, pp. 80-83. Replacement of Holland Tunnel ceiling and Lincoln Tunnel floor, NYC.

Neil Parrett, *NEW APPROACHES TO REHABBING OLD DAMS*. In *Civil Engineering*, June 1986, pp. 74-76. Reconstruction of several western US dams by the Bureau of Reclamation.

Barbara E. Perry, *ARROWROCK DAM IS BUILT*. In *Idaho Yesterdays*, Spr. 1985, pp. 15-23. The highest dam in the world in 1915 was completed near Boise. Photographic history of the phases of construction from Idaho State Historical Society's collection.

POWER FOR THE USE OF MAN. American Soc. of Civil Engineers (N90067, Marketing Svcs., 345 E. 47th St., NYC 10017-2398), 1978. \$17.25. Based on Telford's celebrated definition of civil engineering, addresses the question of how 'the great sources of power in nature can best be utilized for the use and convenience of man.' Several speakers summarize the achievements of CE over the past 150 years and assess the problems facing the field today.

R.C. Riley, *PORTSMOUTH DOCKYARD: AN INDUSTRIAL ARCHAEOLOGICAL OVERVIEW*. In *Industrial Archeology Rev.*, Spring 1986, pp. 177-193. Survey of the remains of this important site of late-17th-C origins, with emphasis on the docks and basins. Many of the 18th-C buildings are to remain in a reorganization scheme, as storehouses. (Assn. for IA; see Hague above.)

THE ROLE OF IRON IN THE HISTORICAL ARCHITECTURE OF THE FIRST HALF OF THE 19th CENTURY. . . THE SECOND HALF OF THE 19th CENTURY. . . & THE FIRST HALF OF THE 20th CENTURY. ICOMOS (US/ICOMOS 1600 H St. NW, Wash. D.C. 20006). 3 vols. 1978, 1981, 1984. Proceedings of 3 symposia organized by the German Comm. of ICOMOS, in German and English. Avail. separately or as 3-vol. set. \$5 per vol. to members of US/ICOMOS; \$7/vol. non-members, plus \$3.50 post.

Frances H. Steiner, *FRENCH IRON ARCHITECTURE*. UMI Research Pr., 1984. ISBN 0 8357 1544 2. 290 pp., illus., £45.25. The route from the late 18th C to the Paris world's fair of 1889 (Eiffel Tower and Galerie des Machines with its great 3-hinged arches of 375 ft.), in numerous examples. Review in *Construction History*, Vol. 2 chafes at the insularity of most writers on structural history.

Earl A. Zarbin, *ROOSEVELT DAM: A HISTORY TO 1911*. Salt River Project (Phoenix, AZ), 1984. 250 pp., illus., \$24.95. More a publicity tool of the Salt River Project, than a history.

MATERIALS

David Cranstone (ed.), *THE MOIRA FURNACE, A NAPOLEONIC BLAST FURNACE IN LEICESTERSHIRE*. (North West Leicestershire District Council), 1985. 148 pp., 16 plates, figs, £4.00. (ISBN 0 950119016). Rev.: *Industrial Arch. Rev.*, Aut. 1985. Moira is well preserved and was operational from 1806 to 1811 and as a foundry until ca1850. Reviewer feels text could have been condensed into the size of a journal article.

Francois Leblanc, *LES FORGES DU SAINT-MAURICE. . . WE'VE SEEN THIS BEFORE. NO, NOT REALLY. HAVE A CLOSER LOOK. . .* In *Bulletin: The Assn. for Preservation Tech.*, Vol XVIII, No 1 & 2, 1986, pp. 13-14. The preservation approach was "volumetric expression of the industrial process." Architectural firm of Gauthier, Guite, Roy designed 3-dimensional spatial frames to house the ruins of this industrial site. This design, although contemporary, reflects the functions of the original building. The architectural interpretation of this oldest known industrial site (ca1738) in Canada is the culmination of a decade of research involving historians, archeologists, landscape architects, anthropologists, interpreters, curators, architects, and engineers. See Roy, below.

Edward Pyatt, *THE NATIONAL PHYSICAL LABORATORY: A HISTORY*. Adam Hilger (Bristol, UK), 1983. 270 pp., illus. \$48. (Avail.: Heyden & Son, 247 S. 41st St., Phila., PA 19104). NPL is the British equivalent of the Bureau of Standards, predating it by 2 years (1899). Question-raising but generally favorable review in *Technology & Culture*, April 1986.

Robert Raymond, *OUT OF THE FIERY FURNACE: THE IMPACT OF METALS ON THE HISTORY OF MANKIND*. Penna. State U. Pr. (215 Wagner Bldg., University Park, PA 16802), 1986. 288 pp., illus., \$35.00/\$20.00. The role of metals throughout the world and all times; the technological development and political and human implications.

Keith Reedman & Mark Sissons, *UNSTONE COKE OVENS*. In *Industrial Arch. Rev.*, Autumn 1985, pp. 78-85. History of beehive coke ovens at Ramshaw.

Ellis D. Roberts, *THE BREAKER WHISTLE BLOWS*. Scranton Anthracite Museum (Rd 1, Bald Mt. Rd., Scranton PA 18504). Chronicles the development of the anthracite coal industry through four major mine disasters: Avondale (1869), Twin Shaft, Pittston (1896), Baltimore Tunnel (1919), and the Knox (1959).

Jean-Marie Roy & Laurent Goulard, LES FORGES DU SAINT-MAURICE BLAST FURNACE COMPLEX. In *Bulletin: The Assn. for Preservation Tech.*, Vol. XVIII, No. 1 & 2, 1986, pp. 33-37. In operation from 1738 to 1883. The ruins consist of the blast furnace, foundations of the buildings, and some industrial remains. Discussion of the architectural reasoning and interpretation of the site. and. . .

Roch Samson & Achille Fontaine, LA MISE EN OPERATION, DES FORGES DU SAINT-MAURICE (1736-1741): UNE ETUDE PLURIDISCIPLINAIRE. THE SETTING UP OF THE ST. MAURICE FORGES (1736-1741): A MULTIDISCIPLINARY STUDY. In French; translation avail. for \$1.50 (APT, Box 2487, Station D, Ottawa, Ontario, Canada K1O 5W6.) Development of the hydraulic mechanisms of blast furnace at St. Maurice Forges (1736-1741). Topography of site and history of ironmaster's (Pierre-Francois Olivier de Vezin) plan. Description of operation of waterwheels and blast furnace bellows mechanisms. Concludes with discussion of original multidisciplinary conception of building the ironworks in 18th C and the development in the 20th C.

Curtis Seltzer, FIRE IN THE HOLE: MINERS & MANAGERS IN THE AMERICAN COAL INDUSTRY. U. Pr. of Kentucky (Lexington), 1985. 276 pp., illus. \$28. Apparently about half-&-half early and current history. Favorable rev. by Arthur Donovan (SIA) in *Tech. & Culture*, April 1986.

Michael Stratton, THE TERRACOTTA INDUSTRY: ITS DISTRIBUTION, MANUFACTURING PROCESSES & PRODUCTS. In *Industrial Arch. Rev.*, Spring 1986, pp. 194-214. Splendid synopsis of the industry in England, but other than geographical considerations nearly identical to America's. (Assn. for IA: see Hague above.)

H.S. Torrens, MEN OF IRON: THE HISTORY OF THE MCARTHUR GROUP. (Privately publ. by McArthur Group Ltd., Foundry Lane, Deep Pit Rd., Speedwell, Bristol BS5 7UE), 1984. 76 pp., 30 illus. (ISBN 09509375 0 9), Rev.: *Industrial Arch. Rev.*, Aut. 1985. Description of 19th-C industrial entrepreneurs, the McArthur family, and iron stockholding trade which grew and diversified throughout U.K. & Ireland. Thoroughly researched with footnotes and references but lacking an index.

Geoffrey Tweedale, METALLURGY & TECHNOLOGICAL CHANGE: A CASE STUDY OF SHEFFIELD SPECIALTY STEEL & AMERICA, 1830-1930. In *Tech. & Culture*, April 1986, pp. 189-222. Important essay on the pre- and post-Bessemer production of small-lot, specialized steels, for tools, cutlery, and special machinery in the steel center of the world.

E. Hazard Wells & Randall M. Dodd (eds.), MAGNIFICENCE AND MISERY: A FIRST-HAND ACCOUNT OF THE 1896 KLONDIKE GOLD RUSH. Doubleday (Garden City, NY), 1984. 254 pp. Map, photos, line drawings, \$17.50 cloth. (ISBN 0-385-18458-1). Rev.: *Journal of the West*, July 1986. Includes articles Wells sent to the *Cincinnati Post* as well as personal letters and excerpts from his diaries. Fascinating reading, according to the reviewer.

James T. Yenckel, PANNING FOR HISTORY IN GOLD COUNTRY. In *Historic Preservation*, July/Aug. 1986, p. 61. Restored gold mining towns in California including Sutter Creek, Coloma and Columbia.

MISC. INDUSTRIES

R.M. Black, THE HISTORY OF ELECTRIC WIRES AND CABLES. History of Technology Series No. 4. IEEE Service Center (PPL Dept., 445 Hoes Lane, Piscataway, NJ 08854-4150), 1983. 304 pp., \$60. The story of the gradual evolution of electric wires and cables from those used in the early experiments in electrostatic telegraphy to such modern examples as supertension power cables and optical-fibre telecommunications cables.

Chas. W. Cheape, FAMILY FIRM TO MODERN MULTINATIONAL: NORTON COMPANY, A NEW ENGLAND ENTERPRISE. Harvard U. Pr. (Cambridge, MA), 1985. 424 pp., \$25. Business history of the firm's 100+ years in the abrasives industry. (The corp. sponsor of SIA's Norton Prize.) Rev.: *Business Hist. Rev.*, Aut. 1985.

Frank E. Comparato, CHRONICLES OF GENIUS & FOLLY: R. HOE & COMPANY & THE PRINTING PRESS AS A SERVICE TO DEMOCRACY. Labyrinthos (6355 Green Valley Circle 213, Culver City, CA 90230), 1979. 846 pp. illus., bibl., index. \$39.95. Anecdotal history of the house of Hoe, based on archives but not well organized. Much information on design, construction, and sale of printing presses; mechanical evolution in the printing industry; failure of the firm in the 1970s after 150 years of innovation.

Michael French, STRUCTURAL CHANGE & COMPETITION IN THE U.S. TIRE INDUSTRY, 1920-1937. In *Business Hist. Rev.*, Spring 1986, pp. 28-54. Relationship among the market, the size of the firm, and the degree of competition in determining industry position. Essentially business history.

Gary J. Kornblith, THE CRAFTSMAN AS INDUSTRIALIST: JONAS CHICKERING AND THE TRANSFORMATION OF AMERICAN PIANO MAKING. In *Business Hist. Rev.*, Aut. 1985, pp. 349-368. Craftsman's role in transforming piano mfr to industrial operation, smoothing acceptance of technological change within the trade as well as transition to industrial capitalism.

Martha Linde, SAWMILLS OF THE BLACK HILLS. Fenske Printing Inc. (Rapid City, SD), 1984. 136 pp., illus. A history of the saw mills of South Dakota, for the last hundred years. More a study of people and management than of technology.

Irena Poplawska & Stefan Muthesius, POLAND'S MANCHESTER: 19th-C INDUSTRIAL & DOMESTIC ARCHITECTURE IN LODZ. In *Journal of the Soc. of Arch. Historians*, XLV (June 1986) pp. 148-160. Notable for its rapid growth in the 19th C and for its degree of preservation in the 20th, Lodz is a textile industry town like Manchester UK or US. Well-illus. article describes its development, including surviving structures: factory bldgs, workers' & owner's housing.

Kenneth L. Smith, SAWMILL. U. of Arkansas Pr. (Distr. by Texas A & M U. Pr., Drawer C, College Stn., TX 77843-4354), 1986. 352 pp., illus. \$28/15. History of logging in the Ouchita Mountains of Arkansas & Oklahoma, 1900-1950. Social and industrial history; good photos of the period.

Duncan A. Stacey (SIA), SOCKEYE & TINPLATE: TECHNOLOGICAL CHANGE IN THE FRASER RIVER CANNING INDUSTRY, 1871-1912. Heritage Record No. 15, British Columbia Provincial Museum (Victoria), 1982. 62 pp., illus. \$4.50 (Can.). Full review of the technology of the salmon-canning industry. Rev.: *IA*, Vol. 12, 1986.

Christopher Steele, THE AMERICAN WEIGH. The Taft Museum, Cincinnati, OH, 1984, 60 pp. Exhibition catalog of vintage penny weighing scales from the author's collection. Not your ordinary drug store fortune-telling scales but the gaudy deco creations of the teens, 20s, and 30s that also happen to tell your weight. Lush color photos, historical essay, scales shown are for sale!

John S. Thompson, THE MECHANISM OF THE LINOTYPE [and] HISTORY OF COMPOSING MACHINES. Garland Publ. Co. (136 Madison Ave., NYC 10016), 1980. \$46. Reprints of two works orig. pub. 1902 & 1904, in one vol. Part of Garland's excellent series of reprints in 19th-C printing & book-arts field. Thompson, operator and improver of the Linotype, wrote the MECHANISM as a conversation between Machinist and Operator, illus. with line drawings. The HISTORY describes and illus. 75-80 machines from 1822 to 1904.

A VISIT TO THE PRINTER. Bowne & Co. Stationers (South St. Seaport Museum, 207 Front St., NYC 10038), 1986. 16 pp., illus., pamphlet. \$5.50 Pp. Hand-set and hand-printed booklet, based on 1850s BOOK OF TRADES, describes tools and methods of a 19th-C printer.

Thomas R. Winpenny, PERILS IN TRANSFERRING TECHNOLOGY TO THE FRONTIER: A CASE STUDY. In *Journal of the Early Republic*, Winter 1985, pp. 503-521. Case study describing the introduction of steam-powered textile production to Cannelton, Indiana in 1850s. (The mill still stands.)

POWER

J.H. Andrew, THE SMETHWICK ENGINE. In *Industrial Arch. Rev.*, Aut. 1985, pp. 7-27. Research on this canal pumping engine by Boulton & Watt involved documents, field work, and excavation of the engine house in Smethwick; the engine is displayed in the Birmingham Museum of Science & Industry, England.

FAITHFULLY YOURS BOULTON & WATT. *Full Ahead*, Vol 1, New York Technological Society, 178 Emerson Place, Brooklyn, NY 11205, \$7.50. Aural IA at its best! Cassette sound recordings document now-lost stationary, marine and railway steam engines, interspersed with a minimum of scene-setting narration. NYTS has seen fit to let steam talk for itself. By capturing every nuance of sound from the firm click of a latch in a

valve mechanism to the pause and sudden aspiration of an engine thrown into reverse, the listener is enveloped in the subject. Some, no doubt, will find steam too ethereal for an evening's entertainment. It is, however, a superb accompaniment for work in the home shop. Missing though is the fragrance of oil on hot iron. Perhaps a logical next step is Ol(d)factory IA?

J.D. Poulter, AN EARLY HISTORY OF ELECTRICITY SUPPLY. History of Technology Series No. 5. IEEE Service Center (PPL Dept., 445 Hoes Lane, Piscataway, N.J. 08854-4150). 224 pp., \$45. Using the municipal council at Leeds, England as an example, discusses the story of electricity in England, and the problems both mechanical and political.

Otfried Wagenbreth & Eberhard Wachtler, DAMPFMASCHINEN: DIE KOLBENDAMPFMASCHINE ALS HISTORISCHES ERSCHENUNG & TECHNISCHES DENKMAL. (Steam Engines: the Reciprocating Steam Engine as a Historical Phenomenon & Technological Monument. VEB Fachbuchverlag, (Leipzig), 1986. 367 pp., heavily illus. Superb general history of the engine in both stationary and motive use. One of best features is the illustrative technique: many fine diagrams and drawings of details and entire engines in the best tradition of German technical illustration; photos and tables as well. The best general history of the steam engine since Matchoss.

RAIL TRANSPORT

David Brooke, THE ADVENT OF THE STEEL RAIL, 1857-1914. In *The Journal of Transport History*, Mar. 1986, pp. 18-31. The Bessemer process marked the introduction of steel rail renewal during this period.

George H. Drury, THE TRAIN-WATCHER'S GUIDE TO NORTH AMERICAN RAILROADS. Kalmbach Pub. Co. (1027 N. 7th St., Milwaukee, WI 53233), 1984. 220 pp. illus. \$10.95 paper. "Significant facts, figures, & features on more than 140 RRs in US, Canada, & Mexico," those in operation today. Includes brief historical info.

_____, THE HISTORICAL GUIDE TO NORTH AMERICAN RAILROADS. Kalmbach Pub. Co. (1027 N. 7th St., Milwaukee, WI 53233) 1985. 376 pp. illus. \$20.95 paper. History and statistics on more than 160 RRs abandoned or merged since 1930, inc. mileage, rolling stock, etc. For those which have a portion of the line still in operation, gives HQ & operator(s). For example, 7 pp on the New Haven inc. formation & demise, map of the road, sketch of its most controversial CEO, P.B. McGinnis.

Bernard de Fontgalland, THE WORLD RAILWAY SYSTEM. Cambridge U. Pr. (Cambridge), 1984, 224 pp. \$16.00. Rev.: *The Journal of Transport History*, Mar. 1986. Lacks index; according to reviewer marketing and management strongest aspect but entire book is too simplistic.

James N.J. Henwood & John G. Muncie, THE LAUREL LINE: AN ANTHRACITE REGION RAILWAY. Interurban Pr. (Box 6444, Glendale, CA 91205), ND. 208 pp., illus. \$36.45 PpD. The Lackawanna & Wyoming Valley, electric line between Scranton & Wilkes Barre, that hauled both coal and passengers until the early 1950s.

Thomas J. Humphrey & Norton D. Clark, BOSTON'S COMMUTER RAIL--THE FIRST 150 YEARS. Boston Street Ry. Assn. (Box 102, Cambridge, MA 02230-0102). 1986. 112 pp., prof. illus., maps. \$19. PpD. Complete history of all commuter lines around Boston, from 1835 to the present.

Seymour Kashin & Harre Demoro, THE PCC CAR: AN AMERICAN ORIGINAL. Interurban Pr. (P.O. Box 6444, Glendale, CA 91205), 1986. 200 pp., illus., \$34.95. The story of the PCC streetcar, a triumph of American know-how back in the 1930s; many still running.

Edward A. Lewis, AMERICAN SHORTLINE RAILWAY GUIDE. Kalmbach (1027 N. 7th St., Milwaukee, WI 53233), 1986. 240 pp. illus. \$12.95 paper. Data on lines of less than 100 miles currently operating. Some historical data; appendix of lines closed since 1970.

William D. Middleton, CHINA BY RAIL. Interurban Pr. (P.O. Box 6444, Glendale, CA 91205), 1986. A travel book with a difference. A comprehensive look at China's steam and electric railways.

Edward Nowak, NEW YORK CENTRAL. Transport History Pr. (Box 201, Park Forest, IL 60466), 1977 (2nd printing). \$22. Photo essay by the former NYC company photog. Steam and diesel eras.

Glenn Yago, THE DECLINE OF TRANSIT: URBAN TRANSPORTATION IN GERMANY AND U.S. CITIES, 1900-1970. Cambridge U. Pr. (NY), 1984. 293 pp., illus. \$29.95. The influences: financial, political, and other that shaped urban transit, especially comparing Frankfurt A/M and Chicago. Rev.: *Tech. & Culture*, Apr. 1986.

Albright G. Zimmerman, IRON FOR AMERICAN RAILROADS, 1830 to 1860. In *Canal History and Tech. Proceedings*, Vol. V, Mar. 22, 1986, pp. 63-108. Documents sudden enormous demand for railroad iron between 1830 and 1834 which was supplied by mills in U.S. and Wales. During mid-19th C, the iron industry underwent technological revolution involving transition to coke, mineral coal and anthracite coal and was characterized by new processing methods.

OTHER TRANSPORT

John Harland, SEAMANSHIP IN THE AGE OF SAIL: AN ACCOUNT OF THE SAILING MAN-OF-WAR 1600-1860, BASED ON CONTEMPORARY SOURCES. Conway Maritime Pr. (London), 1984. 320 pp. \$30. Rev.: *The Journal of Transport History*, Mar. 1986. History of the navy from material gathered from museums, galleries, and private collections throughout Europe. A detailed and extensively illustrated reference book.

David R. MacGregor, MERCHANT SAILING SHIPS: THE SOVEREIGNTY OF SAIL, 1775-1815. Conway Maritime Pr. (London), 1985. 224 pp. \$15.00. David R. MacGregor, MERCHANT SAILING SHIPS: HEYDAY OF SAIL, 1850-1875. (Conway), 1984. 256 pp. \$15. Rev.: *The Journal of Transport History*, Mar. 1986. Both books summarize transport and economic history. Thoroughly researched and extensively illustrated, they include engravings, paintings, original documents and photos.

Guy A. McLain Jr., STEAM POWER ON THE CONNECTICUT. In *Historical Journal of Mass.*, June 1986, pp. 135-145. History of the steamboat on the Conn. River in the 19th C.

William J. Miller Jr., A FERRY TALE: CROSSING THE DELAWARE ON THE CAPE MAY-LEWES FERRY. Delapeake Co. (Box 1148 Wilmington, DE 19899), 1984. 110 pp., illus. \$7.45. PpD. The service that started in 1954 with three used, deep-draft vessels (3 of them steamers) and lost money until 1974 when shallow-draft boats appeared greatly reducing dredging costs to put it all into the black.

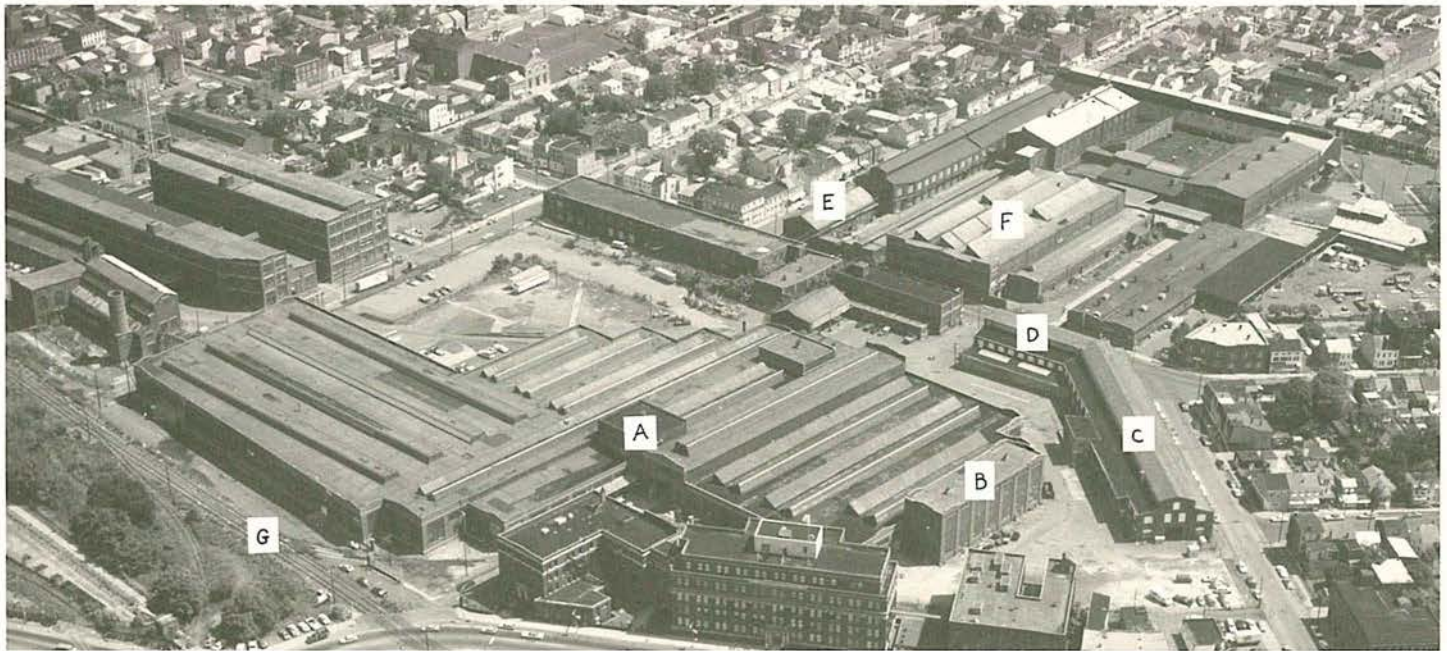
Brian S. Osborne & Donald Swainson, THE SAULT STE. MARIE CANAL; A CHAPTER IN THE HISTORY OF GREAT LAKES TRANSPORTATION Parks Canada (Canadian Government Publishing Centre, Supply and Services, Hull, Quebec, K1A 0S9), 1986. 148 pp., illus., \$9.00, Can. (outside Canada, checks to: Receiver General for Canada), Cat. no. R61-2/9-32E. A study of the building of the Canadian canal at the Soo.

Thomas J. Schlerth, U.S. 40: A ROADSCAPE OF THE AMERICAN EXPERIENCE. Indiana Historical Soc. (Indianapolis), 1985. 150 pp. Maps, illus. \$13.95. Rev.: *Indiana Magazine of History*, June 1986. General history of U.S. 40 emphasizing architecture and nearby engineering structures such as bridges and utilities. Little or no primary historical or geographical research. Superb illus. (146 maps, diagrams and photos).

Robert J. Schwendinger, assisted by J.J. Lamb. INTERNATIONAL PORT OF CALL: AN ILLUSTRATED MARITIME HISTORY OF THE GOLDEN GATE. Windsor Publ., (Woodland Hills, CA), 1984. 175 pp. \$22.95. Rev.: *California History*, Fall 1985. Commercial maritime history of the San Francisco Bay area. Narration of the early period through the Gold Rush; the final sections describe the development of international trade. Beautifully illustrated.

William H. Shank (ed.), THE BEST FROM AMERICAN CANALS No. III American Canal & Transportation Center (809 Rathton Rd., York PA 17403), 1986. 88 pp., illus. \$6. Latest of these wonderful anthologies, drawing feature articles from *American Canals* (journal) Nov. 1983 to May 1986. (Vols I & II, List of other AC&TC publications and information on American Canal Soc. avail. from publisher.)

NEW PLANS FOR HISTORIC ROEBLING COMPLEX



JOHN A. ROEBLING'S SONS CO. complex in Trenton's Chambersburg area, which is visible in the background.

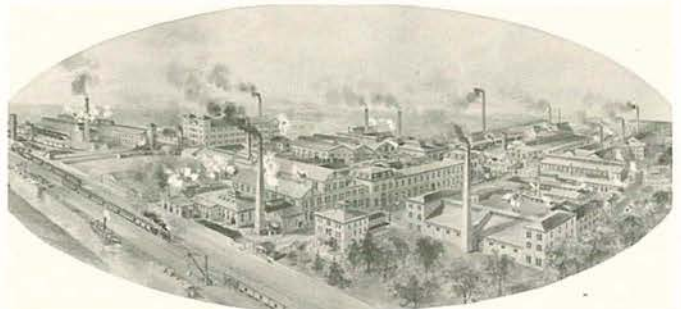
A. Wire Rope Closing Machine Building (1893). B. Wire Rope Testing Building (1927). C. Machine Shop (1901 section). D. Machine Shop (1890 section). E. Flat Rope Division Office (1899). F. Flat Shop "daylight factory" (c1924). G. Location of Delaware & Raritan Canal (1834). *Leigh Photographic Group.*

Below right: 1898 rendering of Roebling complex by H.B. Longacre of Phila. State Museum, Trenton & Leigh Photographic Group.

The problem was how to preserve the John A. Roebling's Sons Co. industrial complex in the Chambersburg section of Trenton, N.J. The plant ceased production of wire rope and related products in the 1970s, and the 25-acre site, with its 20 historic buildings, was sold in parcels to different owners. Most of these have operated interim warehouses, leading to high vacancy in many buildings, inadequate maintenance, and demolition of two important structures. Since the late 1970s, developers' proposals for reusing portions of the site have invariably called for demolition of the existing buildings, which gradually would destroy the complex's significance.

A four-month study of the complex during Fall 1984 proposed the "Roebling Works," a mixed-use redevelopment which would assure preservation of the complex's 15 important buildings through adaptive use. After six months of meetings and considerable discussion, community and civic leaders, and local business people and professionals formed the non-profit Trenton Roebling Community Development Corp. (TRCDC) in July 1985 to promote and plan the revitalization of the complex according to this proposal. The project's goals are to preserve the historic and architectural integrity of the site, to revitalize the formerly bustling area by attracting substantial private investment, and to provide uses that would enhance and complement the surrounding community.

John A. Roebling purchased the Chambersburg site along the Delaware & Raritan Canal in 1848, at the suggestion of Peter Cooper, for relocating his burgeoning wire-rope business. Cooper



had founded the Trenton Iron Works in 1841 on the canal's west side across from the Roebling site, and he strongly recommended the area's location between the two major markets of Philadelphia and New York, its access to canal, railroad and highway transportation, and its readily available skilled workforce.

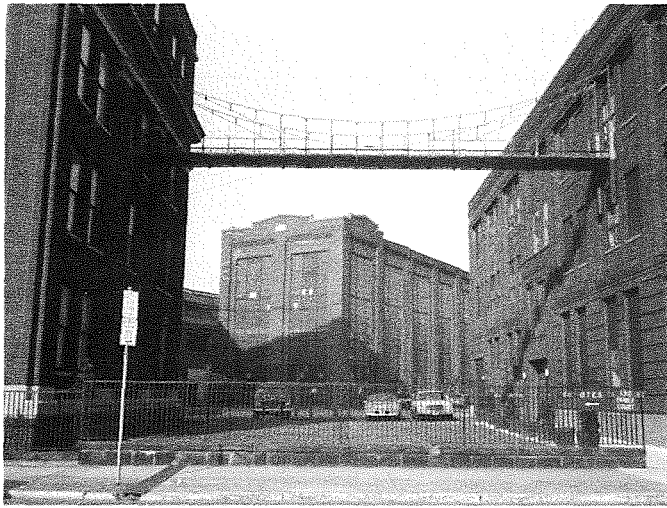
Roebling had begun his wire rope business on his farm in Saxonburg, Pa. (near Pittsburgh) in 1841 while working as an engineer on the Pa. Canal. While he did not invent wire rope, he developed a method of spinning it efficiently for use in hauling coal barges over the Allegheny mountains which interrupted the canal. Demand for his product had outgrown the capacity and location of his original site, sending him in search of greater opportunities.

In addition to manufacturing wire rope, Roebling was increasingly busy designing suspension canal aqueducts and bridges. Although he spent much of his time away from Trenton building bridges, he



Far left: Machine Shop (1901 section). Left: Machine Shop interior (1901 section). Right: Cold Rolled Products Div. Office (1897) at left, Flat Rope Shop (1924) at right. C.W. Zinc photographs.





Administration Building (1929) at left, Physical Testing Laboratory (1929) at center, and Research & Development Laboratory (1930) at right. C. W. Zinc photographs.

maintained constant communications with his manager, Charles Swan, relaying explicit instructions for manufacturing processes and development of the site. Roebling built the first wire-rope shop and a house for himself on the Broad St. side of the complex. He designed numerous wire-rope machines, and several of his drawings for these, and for a wire-rope shop of the 1850s, survive in the Roebling Collection at Rensselaer Polytechnic Inst. in Troy.

At the time of his death while surveying the centerline of the Brooklyn Bridge, his will created the John A. Roebling's Sons Co. (JARSCO) and gave equal shares to his four sons. While Washington Roebling assumed his father's job as chief engineer for the Brooklyn Bridge, Charles and Ferdinand Roebling managed the family business in Trenton. Charles became the president in 1876, when the company grossed \$700,000 in sales. An 1898 rendering of the site by H.B. Longacre of Phila. shows it in full production, with dozens of buildings and much activity on the canal and adjacent rail line. Longacre's original drawing is in the collection of the N.J. State Museum, and the TRCDC is publishing it as a poster this fall.

The company's growth in the 1890s was so great that a second plant, called the Backthorn plant or "Lower Works," was established about a mile south along the canal. In 1905 the Kinkora Works was built 10 miles south of Trenton. Charles designed an entire town around this plant, including schools and civic buildings. The place later was named Roebling. By the end of WW I the company employed over 8,000 and grossed \$48 million. Although

buildings survive on all three sites, the Upper Works in Chambersburg is the most important.

JARSCO was quite innovative in production processes, with the result that obsolete buildings were regularly torn down and replaced with more efficient structures. Views of the site from 1848 onward show its evolution and the growth of the surrounding community. The company's own architectural and engineering department designed the buildings and most of the equipment and also maintained full-time crews in the various trades—bricklayers, carpenters, and riggers—which did most of the construction.

The Board of Directors' minutes show frequent and regular expenditures for construction. As time progressed, the early multistory mill buildings, of traditional brick bearing-wall construction, were replaced by larger concrete-frame buildings after 1900 and, later, by very large, single story, steel-frame structures. Since brick was the characteristic building material in Trenton, the later concrete and steel-frame buildings still were built with brick facades. This consistency contributed enormously to maintaining the visual integrity of the site. The layout of successive buildings also was carefully designed to be compatible with surrounding neighborhoods of workers' housing. Thus today, the brick factory buildings are exceptionally well integrated with the row-house streetscapes that abut the complex on most sides.

Altogether, the 20 surviving buildings on the site have a total floor space of over one million square feet. The one- and two-story mill buildings have rough-faced brownstone foundations, brick piers, and load-bearing walls usually 16 in. thick. The piers typically define regularly spaced bays and in between have double wood-sash windows with bluestone sills and arched lintels. Most of these buildings, dating from the 1880s to 1912, have monitor roofs with clerestory windows.

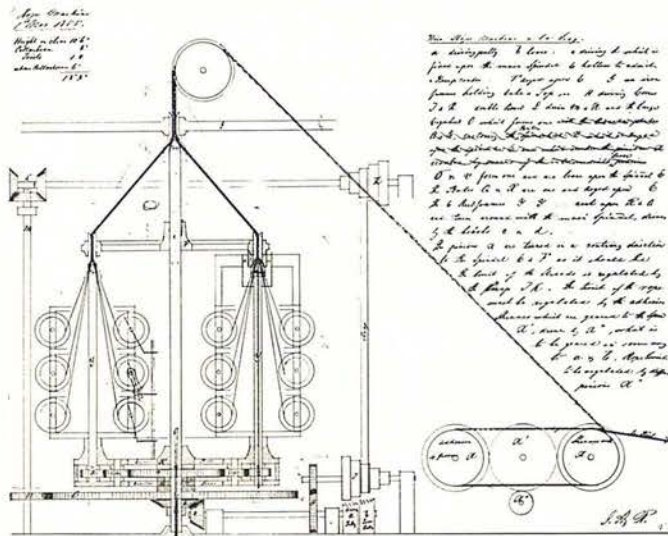
The most important building on the site is the former machine shop (1890, 1901). It is of typical machine-shop, nave-and-aisle construction, with the nave open to the monitor and the aisles having two floors. The interior frame of the 1890 portion is timber, while that of the 1901 section is timber and steel. The shop has three cranes, the oldest of which (5 ton cap.) was built by the Shaw Electric Crane Co., Muskegon, Mich.

The concrete-frame buildings date from the later teens and early 1920s. These two- to four-story buildings follow the daylight factory style, with large steel-frame windows and skylights. The concrete floor slabs extend to the exterior surfaces, but they have brick pilasters covering steel columns on the facades, and brick spandrels below the windows and brick parapets. The flat roofs usually have extensive sawtooth skylights.

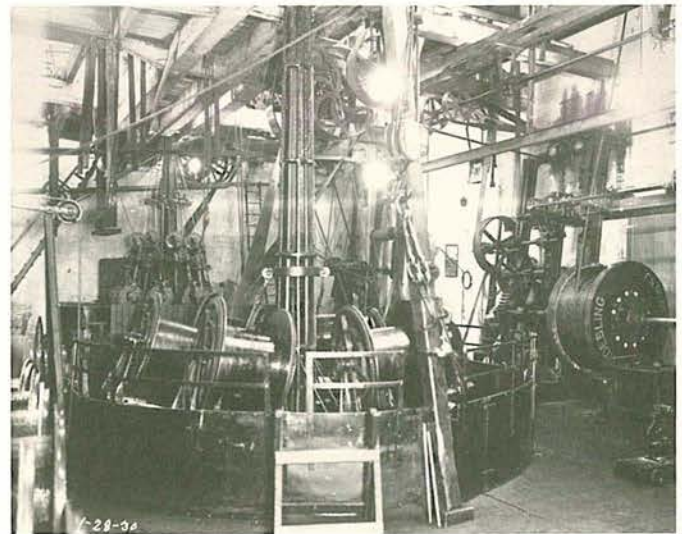
The large, steel-frame work sheds are of one story, reflecting later trends toward manufacturing efficiency. The facade walls are brick, to blend with the rest of the complex, with concrete sills, lintels, and



Left: Early Rope Shops (c1881). Right: Loading Roebling Wire Rope for shipping. In background is the 20-Ton Rope Machine Building (c1881). Rensselaer Polytechnic Institute Archives.



Left: John A. Roebling drawing of rope machine, 1855, with description for use. Right: 1930 photo of the 80-Ton Wire Rope Machine designed by Charles Roebling in 1893 and still in place today. It was last remodeled to spin 5-in. rope at 18 rpm. Rensselaer Polytechnic Institute Archives.



parapet caps, large steel-frame windows, and extensive skylights. In several cases, these single story structures were attached to, or built around, existing buildings. One continuous building covers over six acres and served as the wire-rope assembly shop. One of the earlier structures within this large building is also one of the most important. It is a three-story brick building erected in 1893 to house an 80-ton wire-rope spinning machine designed by Charles Roebling. This is a "closing" machine, wherein up to seven smaller rope strands were joined to form a larger rope. The machine rises three stories, with another story of gears and motors below ground. Wally Stack, chief engineer for the Trenton division of Briden American Corp., successor to the Trenton Iron Works/U.S. Steel wire-rope facility still in operation across the canal from the Roebling complex, has noted that the 80-ton rope machine last was modified in 1928 to "close" 5-in. wire rope for large strip-mining shovels, and that it operated at 18 rpm.

The TRCDC is working with the developer of this portion of the complex and the N.J. State Museum to establish a N.J. Museum of Industry on the site, which will utilize the closing machine as a centerpiece exhibit. Preliminary plans call for a 20,000-sq.-ft.

museum highlighting the Roebling complex as part of Trenton's industrial heritage, including the iron, pottery, and rubber industries. The museum would also address the founding, development, and contribution of innovative industries throughout the state.

Besides the museum, the redevelopment plan calls for converting buildings into housing, a speciality market and other retailing, a small theater, offices, and research and development facilities. The latter use will be particularly fitting: a developer has proposed a high-tech and business-incubator facility which will continue the site's tradition for innovative technology and maintain some of the buildings in an industrial use.

The potential combination of industrial history, historic preservation and economic development is an exciting aspect of the Roebling project, and should become a model for the preservation of other important industrial complexes. Comments and suggestions from members of the SIA are welcomed by the TRCDC (223 E. Hanover St., Trenton NJ 08608, 609-396-2002).

C.W.Z.

NOTES & QUERIES

THE UNIVERSAL WOOD-WORKER ASSN. is a new society bringing together devotees of the Universal Wood-Worker, produced during the first few decades of the 20th C by the Crescent Machine Co., Leetonia, Ohio. It was a mechanical creation that included a band saw, a jointer, a shaper, a table saw, and a borer—all mounted on one base to save factory floor space. Five men could work at the various machines simultaneously without interfering with each other. Membership is \$10/yr. and includes the bimonthly newsletter. Info.: UW-WA, Rt. 1, Box 262, Middlebourne WV 26149.

19TH-C DISTILLERY information is needed by the Westmoreland-Fayette Historical Society, whose 11-building site is dominated by a gutted, six-story grist mill/distillery. Only business ledgers survive. Now WFHS wants to mount an exhibit on distilling and how the process worked in their building. Suggestions and info. to WFHS, West Overton, Scottsdale PA 15683.

HAGLEY RESEARCH FELLOWSHIPS for 1987-88 are available to support integrative and comparative research into the social context and consequences of American industrialized society since 1850. Funding is from the National Endowment for the Humanities and the Andrew W. Mellon Foundation. Scholars from any humanistic discipline or from related social sciences are encouraged to apply. The minimum residency is six months and the maximum

stipend is \$25,000 for an academic year. NEH guidelines prohibit an award to degree candidates or for study leading to advanced degrees. Completed applications must be received by Feb. 1, with awards announced by April 1, 1987. Info.: Elizabeth Gray Kogen, Hagley Museum & Library, Box 3630, Wilmington DE 19807 (302-658-2400).

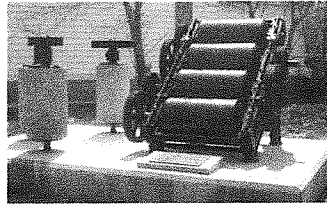
BRIDGE DEMOLITION T-SHIRT. If you got excited by the grain elevator T-shirt offered in the last issue [SIAN 15(2):8, "Buffalo Elevators"], here's another that's tailor-made to IA specs. The shirt's image is almost identical to this newsletter's cover photo of St. Paul's 1889 High Bridge spans being blasted into the Mississippi last year [SIAN 14(1):1]. Sure, it wasn't a happy occasion, but it does remind us of the preservation struggle. T-shirts (black, white, raspberry, turquoise) are \$9.50 ppd.; sweat shirts (black, white) are \$20 ppd. Sizes S-M-L-XL. Orders to Colleen Bartle, 315 W. Annapolis, West St. Paul MN 55118 (612-222-1306).

TESLA REMEMBERED. The 1986 International Tesla Symposium was held July 31-Aug. 3 at Colorado College in Colorado Springs to recall and study the life and work of Nikola Tesla (1856-1943), Croatian-born inventor of the AC generator and induction motor. In Colorado, Tesla built a laboratory to generate massive lightning bolts. The symposium offered a variety of historical, biographical, and technical lectures, along with a demonstration of a Newman-type motor. It was co-sponsored by the Int'l Tesla Society and the Inst. of Electrical & Electronics Engineers. Info., program from ITS/IEEE, 330-A W. Uintah, Suite 215, Colo. Springs CO 80905 (303-570-0876).

LONDON [ONT.] SOAP COMPANY MONUMENT

It was a sad day in Spring 1985 when we last visited the London Soap & Cosmetic Co. factory [*SIAN* 14:2, p.1]. A fire that April destroyed the building where the oldest soap manufacturing plant in Canada had been in continuous operation since c1875.

A year later, over 50 faithful, including many from the Ontario Society for IA, helped dedicate a unique monument to the site and to celebrate a year of cooperation between the City of London and OSIA. The city had owned the building since 1980 and intended to establish a museum.



Christopher Andreae photograph.

Immediately following the blaze, the OSIA gained city permission to sift the ruins for surviving artifacts. Several significant pieces were identified, but all were too large or specialized to be of museum interest. Clearly, installation in a monument was the only possibility of saving any objects.

Within two months the building ruins were removed. Because the site now is zoned as a flood plain, new construction is not allowed, and the property will become part of the city park system.

Among the salvaged equipment was a massive iron soap milling machine. Used in producing fine toilet soap, it mixed soap flakes with different fragrances. Its sculptural form, dominated by a bank of rolls and gears, enhanced its status as a potential monument.

Even before construction funds were secured, London architect Nicholas Hill prepared a design sympathetic to the unusual artifacts. His plans helped in approaching potential funding sources and in dealing with city planning requirements.

From the outset, all agreed that the equipment was being preserved as art rather than as historic artifacts, thus removing questions about museum standards of conservation. Metal parts were cleaned with a high-pressure water spray and coated with rust retarding paint. A maintenance schedule calls for repainting at long (one hopes) intervals. Given the sturdy structure of the machinery, vandalism should be limited to spray painting.

The milling machine dominates the monument's simple, 13x8x2-ft. concrete slab. A brass plaque, recognizing the site's significance and noting the work of the OSIA and others, is bolted to a raised plinth in front. Three handsome, polished granite rollers from another machine are mounted alongside.

The OSIA supervised construction and, at the dedication, the city assumed ownership. The London Public Utilities Commission will provide maintenance. The project cost \$3,200. It was more expensive than a mere brass marker, but it is a far more significant and appropriate memorial, and had the additional virtue of involving the OSIA and governmental agencies in a joint effort. C.A.A.

during the 1920s, it is an example of the Billings area development that followed the discovery of oil in central Mont. An unusual feature at Cenex is a building constructed of asphalt blocks.

Next to Fromberg where, undaunted by traffic, all assembled on the deck of a bridge over Clark's Fork of the Yellowstone River. Quivik reviewed the history of the three-span concrete arch designed by county engineer C.A. Gibson which, built in 1914, is one of the earliest of its type in the state. Concrete was chosen over steel to help the local economy, since the concrete was produced in Fromberg.

In the afternoon the group moved south to Belfry, once the HQ for the Mont., Wyoming & Southern RR. Built in 1905-06 as the Yellowstone Park Rwy. (changed to MW&S in 1909), the 25-mi. line connected Bearcreek-area coal mines with the Northern Pacific at Bridger. At Belfry is a large, one-story station, and a wooden engine & car shop. In the creek bottom between the buildings is the crumpled shell of a McKen motor car, locally called the "submarine," which was the rwy.'s passenger carrier from 1919 to the early '30s, when service ended. MW&S ceased hauling freight in 1953 when coal mining ended at Bearcreek. Tracks were pulled up soon after.

On to Bearcreek, where Virginia Heidenreich of the Western Heritage Center in Billings led the gathering through Smith Mine structures, including the hoist & boiler houses, steam plant, and other shops. In 1943, 74 miners died in Smith in one of the worst U.S. coal-mine accidents. Coal production lasted until the late '50s.

The next day, Carbon County Hist. Soc. members led the chapter through the historic coal-mining city of Red Lodge. Founded in the 1880s, it prospered after 1889 when the NP built a branch from the main line at Laurel. Most of the coal was used by railroads and by the Anaconda Copper Mining Co. (ACM) for its smelters and steam hoists in Butte. Red Lodge mines closed in the '20s & '30s.

The chapter met in Sept. with the Mont. state history conf., with tours of the Bonner Plywood Mill and the Milltown Dam & Powerhouse. M.T.F. & D.L.M.

ROEBLING (Greater N.Y. Area): The Staten Island ramble on May 4 included a thorough look at the abandoned U.S. Gypsum plant on the Kill van Kull, once one of the largest American plaster mills, and the SI Rapid Transit's original (1860s) shop building, still in use. On May 6 members toured Procter & Gamble's Port Ivory plant (famous, of course, for Ivory Soap) on SI, one of the last large mfg. plants (135 acres, 900 employees) within N.Y.C. limits. Many of the processes viewed are in the original 1906-07 buildings. One of the most fascinating aspects of Port Ivory (and unfortunately off limits) is the power plant which steam-generates its own electricity by burning scrap wood, sometimes even charging dumpers to take the wood off their hands.

Sept. 13 was the Annual Corn Roast (with less corn than usual) at the Emmerich farm, followed by a tour of the Mt. Hope Mineral Mine site, active supplying iron ore from pre-Revolutionary days to 1978.

OLIVER EVANS (Phila. Area). Chapter members in March met at the Atwater Kent Museum for an orientation to the Market Frankford "El." Then it was off for a ride on the system, begun in 1916 and completed in 1922. The sequence of, first double-column, then single-column, construction was carefully inspected.

In April OE members were treated to a very special walk around the Frankford Arsenal's formidable collection of significant military industrial architecture. The only truly sad note about the tour was the general absence of machinery and artifacts within the magnificent structures. The day's highlight was the so-called "Rolling Mill," completed in 1865. Its interior was fabricated by the Phoenix Iron Works, Phoenixville, Pa., employing the built-up, iron Phoenix column. Proposed development will preserve much of the Arsenal's priceless architecture.

Sept. took members to Northern Liberties, the part of Phila. just north of center city and near the Delaware River. Coming on Jan. 23 will be the OE Annual Dinner, probably at the Atwater Kent Museum, with Charles Peterson as main speaker.

SIA Newsletter, Vol. 15, No. 3, Fall 1986

SIA LOCAL CHAPTER NEWS

KLEPETKO (Montana). Members held their spring tour in the greater Billings area May 24-25. At a breakfast meeting on the 24th, Fred Quivik reported on his visit with Mrs. Ernest Klepetko, daughter-in-law of chapter namesake Frank Klepetko. Mrs. Klepetko, a Kalispell resident, added biographical info. to Quivik's growing file on the noted metallurgist. She also donated to the chapter a woodcut of St. Florian, patron saint of metallurgists. Frank Klepetko Jr., metallurgist for Anaconda like his father, acquired the artifact while working in Poland.

May 24th activities included visits to several sites related to the extraction and processing of coal and oil. At Laurel, just west of Billings, Harold Ude led members through the Cenex refinery. Built

ASBESTOS ISSUE CLOUDS J-M PLANT CLOSING



A c1950 view of the Johns-Manville complex. White asbestos is piled on the ground at the top left, and its white dust blankets the roofs of several buildings at top right. The plant was served by three rail lines: Lehigh Valley RR, Central RR of N.J., and Bound Brook RR. *Courier-News photograph.*

The Manville Corp. (formerly Johns-Manville) plant in Manville, N.J.—the town that J-M built—closed in August, the victim of outdated facilities and, particularly, asbestos-related environmental and economic difficulties. The 400-acre Manville facility was the company's first plant and once was the largest U.S. producer of asbestos insulation. For some time, workers have been shifted from N.J. to newer sites that often were located closer to the firm's big customers in the Midwest. At the same time, J-M has been battling thousands of lawsuits seeking compensation for diseases stemming from asbestos exposure. In Aug. 1982, J-M sought protection under the bankruptcy laws.

Construction began on the Manville site in 1912, following a search for a location within 50 miles of New York with sufficient water and at least two railroads. It turned out better, having three railroads, the Raritan River, and was only 32 miles distant. The original plant included several buildings for the production of asbestos textiles, packings, low pressure insulation and cements, paper, magnesia, asphalt roofing, and asphalt paints and putties. Pennsylvania miners were recruited to work there and, for them, it was vastly safer and cleaner work than in the deep seams of the Lehigh coal fields.

In 1917 came the first addition to the facility. Christened with a name that rings ironic in the 1980s, the structure was built as the Asbestos Hotel. It was a hotel until 1929, when it was converted to office space, and has survived as the current administration building.

Once there was a Main Street banner to welcome visitors to Asbestos City, and the local football team used to play an annual Asbestos Bowl. The dust was everywhere and one older worker recently recalled that when he was a child in the 1930s, "We saw these flakes like snow coming down—remember, it was summertime—and we were trying to catch the flakes in our mouth. It was asbestos. We didn't know what it was."

Years later, observes Paul Overberg [SIA] of the Bridgewater, N.J. *Courier-News*, the plant would endure a particularly bittersweet connection with the town that took its name. While it created and nurtured the town, it also poisoned thousands of workers, spouses, and children with asbestosis and mesothelioma, a rare lung cancer. The saga is part of the national asbestos tragedy, but here in highly

concentrated form.

Expansion and construction continued through the 1920s. The product line in 1929 included textiles, brake linings, packings, fire felts, pipe coverings, cements, paper, magnesia products, roofings, coatings, and rock wool. Peak employment of 5,000 was reached during World War II, and a separate powerhouse was in operation. In the 1970s, the facility steadily declined as product lines were dropped, the corporate headquarters was moved to Colorado, and employees were laid off.

According to Overberg, the company's plans for the complex are uncertain. It is huge and ancient, but its future use is complicated by a strict N.J. law that requires state environmental inspection before sale of any commercial property. Cleanup or posting of a bond to cover cleanup work also must be completed before a sale can be approved. After nearly 75 years, the site is an environmental nightmare—asbestos, PCBs, fuel oil, and coal and its byproducts are present. The community, which has almost no other industry or tax ratables, is pushing for new ownership but hasn't found any takers. One plus for possible reuse is the crying shortage of industrial and warehouse space in northern N.J., and the site's location on two rail lines is a developer's dream.

P.O.



CONTRIBUTORS TO THIS ISSUE

Christopher A. Andreae, Historica Research Ltd., London, Ontario; Russell Dougherty, Indianapolis; Mark T. Fiege, Butte, Mont.; Clayton B. Fraser, Fraserdesign, Loveland, Colo.; Ralph Greenhill, Don Mills, Ontario; Terry Karschner, Office of N.J. Heritage, Trenton; Gersil N. Kay, Preservation Techniques, Phila.; Dale L. Martin, Butte, Mont.; Paul Overberg, *Courier-News*, Bridgewater, N.J.; Robert M. Vogel, NMAH, Smithsonian, Wash. D.C.; Clifford W. Zink, Trenton Roebling Community Development Corp., Trenton, N.J. With thanks.

NOTES

JUSTICE FOR EDISON ARTIFACT THIEF. Breathes there a creature lower than a university professor who would steal priceless artifacts from the Edison National Historic Site in East Orange (visited during the 1985 SIA annual conf. in Newark), under the guise of doing research on the history of the phonograph? Or a more arrogant thief than this one, who insisted that he took the stuff because he could better care for it than the museum?

Phillip Burns Peterson, former Stanford Univ. professor and an expert on the phonograph, began augmenting his extensive, personal Edison collection about a decade ago, and walked off with priceless letters, documents, photographs, and artifacts, including an electric pen. In 1976, a curator discovered that some 5,000 items were gone.

In 1985, Peterson tried to sell some of his ill-gotten booty, and a prospective buyer tipped off the FBI, who caught him with the material in his Redwood City, Calif., home. While charged with criminal possession of stolen materials, he was not charged with the actual theft because the five-year statute of limitations had run out.

This spring, a Newark judge offered Peterson a specially tailored choice: either pay \$22,000 in cash to the Edison Historic Site, or comply with three additional terms: donate his personal collection of Edison phonographs, donate all the Edison-related papers seized in a 1985 FBI search of his home, and agree to drop all claims of ownership of any documents seized by the government. As of June, Peterson had not yet made his choice. He also was sentenced to serve 60 days in jail and pay a \$2,500 fine. He has been barred from any historical museum in the U.S. [curators take note], and will be on probation for five years.

T.K. & The Trenton Times

FOREIGN IA CONFERENCES. Portugal is hosting its first national conference on the industrial heritage. Two preliminary sessions in Coimbra and Guimaraes will precede the national plenary session in Lisbon, Nov. 21-23. Tours of industrial sites in the Lisbon area, plus four working sessions, comprise the program. The themes to be discussed are "Perspectives on the Industrial Heritage," "Forms & Methods," "Preservation & Adaptive Use," and "IA & Industrialization." The Portuguese, after all, coined the phrase "industrial archeology," first using it in a publication in 1896.

The Sixth Int'l Conference of The Committee for the Conservation of the Industrial Heritage (TICCIH) will be in Austria, Sept. 6-12, 1987. Beginning in Vienna, and following the tradition of previous TICCIH meetings, the conference will move the next day to Vordernberg on the Styrian Iron Trail. Three different routes will be offered as one-day excursions along the way. The next three days will be taken up with working sessions and short excursions. On the last day the delegates will visit the town of Steyr and return to Vienna in the evening.

The Styrian Iron Trail includes a number of iron-mining and -making sites and is the first Austrian attempt to coordinate historic industrial plants with tourism. The working-session topics are "Industrial Monuments & Tourism: A New Synthesis," "Adaptive Re-use of Industrial Monuments: Methods in Discussion," and "Industrial Heritage: What Policies?" Those wishing to present a paper are invited to send their manuscripts (in English) before Mar. 31 to The Secretariat, Industrial Heritage—Austria 1987, Inst. Nr. 271, Technische Universität Wien, Karlsplatz 13, A-1040 Vienna, Austria.

Conference fees are estimated at 5,000 Austrian schillings (U.S. \$350), and include meals, lodging, and transportation on tours. Hotel accommodations in Vienna are *not* included. Preliminary registration should be made ASAP to the Secretariat at the address above. Applications will be confirmed by return mail with an invoice for pre-registration fees of 1,000 Aus. sch. (\$70), due by Jan. 31. For more details contact Helena Wright [SIA], Rm. 5703 NMAH, Smithsonian Inst., Wash. DC 20560 (202-357-2877).

H.E.W.

LETTERS

What's Rope & What's Not

Editor:

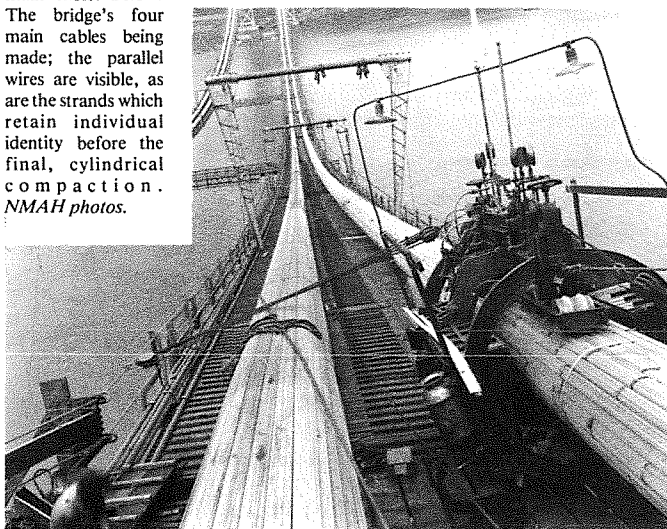
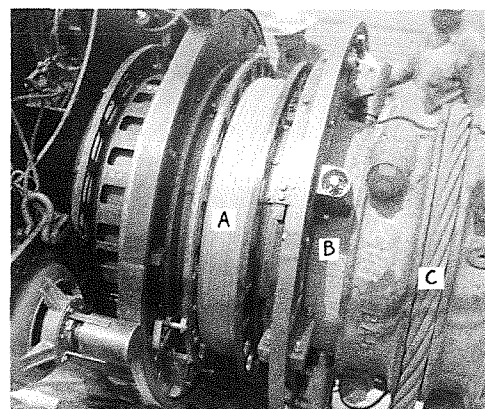
A common but ghastly error crept into the report on "New Wire Rope for the Brooklyn Bridge" [SIAN 15:2]. One of the most difficult and perpetual tasks of the civil-engineering historian has been to make clear to the rest of the world that the main suspension cables of almost every *large* suspension bridge built between about 1850 and nearly the present are not like wire rope; they are formed not of smaller strands and wires twisted in the fashion of rope, but of *parallel* wires, laid up in place individually, then compressed into cylindrical form, and finally wrapped with a single circumferential layer of wire that maintains the tightly bound, cylindrical cross section of the cable and also acts as weather sheathing. There is no twist of any kind and there would be no way to replace these cables short of totally dismantling the bridge. It was this system that was developed by John Roebling c1846, and that was used on the Brooklyn Bridge.

What are being replaced there are the *suspenders*—the vertical cables by which the load of the deck is carried up to the main cables, and the *diagonal stays*—those cables that radiate from the tower tops down to points along the suspended structure to carry additional deck load, and which give to the bridge's suspension

Cable-wrapping machine on Geo. Washington Bridge (N.Y.C., 1931).

Right: A. Reel of wrapping wire applying the tight layer of wrapping. B. Short section of main cable, not yet wrapped, showing parallel wires compacted into cylindrical cross-section. C. One of the wire-rope deck suspenders, passing over its saddle clamped around the main cable. Below: The bridge's four main cables being made; the parallel wires are visible, as are the strands which retain individual identity before the final, cylindrical compaction.

NMAH photos.



system its characteristic "spider web" appearance. Both these sets of cables are indeed of *wire rope* which, unlike the *wire* that forms the main cables, originally was furnished by the Roebling works in Trenton.

Robert M. Vogel
Curator, Division of Engineering & Industry
National Museum of American History
SIA Newsletter, Vol. 15, No. 3, Fall 1986

SIA AFFAIRS

15th ANNUAL BUSINESS MEETING

June 14, 1986
Cleveland, Ohio

The meeting was called to order at 12:45 p.m. by President Helena Wright in the Stouffer Inn on the Square.

TREASURER'S REPORT. In the absence of Treasurer Marlene Nicholson, President Wright presented a brief oral report on the sound financial status of the Society, which completed 1985 with a surplus. Journal expenses, she warned, exceeded budget. With the SIA committed to expanding the journal to two issues per year, the Board will need to be prudent about authorizing expenditures and securing revenue.

Wright announced Nicholson's resignation effective Dec. 31, completing almost a decade of service. By acclamation, the membership applauded her dedication.

CURRICULUM PROJECT. Project director Nicholas Westbrook reported the completion of the SIA Curriculum Project in Fall 1985. It was supported by a major grant in 1982 from the Nat'l Endowment for the Humanities. He outlined the project's objectives, development strategy, and presented copies of the completed Student Workbook and Teacher's Guide. He reviewed the contributions of Michael Brewster Folsom and David Weitzman in launching the project and directing two summers of teacher training workshops at the Charles River Museum of Industry. He reported that the printed materials themselves had been completed thanks largely to the hard work of Curriculum Planner Pamela Beall, with much guidance from Helena Wright. He acknowledged Marlene Nicholson's help in managing the grant's complex finances. He reported on the process of piloting the material, now under way in schools in Mass. and Minn., and announced that Jane Mork Gibson was assuming responsibility as Chair of the Curriculum Committee.

HAER COOPERATIVE PROJECTS. Director David Salay reported briefly on cooperative projects with the Historic American Engineering Record to produce and market color-slide sets, beginning with Jet Lowe's acclaimed photographs of the Statue of Liberty, and to launch a nationwide inventory of historic iron and steel sites.

IA JOURNAL. Editor David Starbuck reported on the status of the 1986 issue and the intention to produce a second issue this year dealing with IA and art. Starbuck announced the winners of the 1986 Norton Prize, awarded to the author(s) of the best article appearing in *IA* during the previous three years: Robert B. Gordon and Michael S. Raber, authors of "An Early American Integrated Steelworks [Mine Hill, Roxbury, Conn.]," in vol. 10, 1984.

LOCAL CHAPTERS. Director Sandra Norman reported on the status of local chapters. Several have had very brief lives and are presumed deceased (Chicago and Great Lakes). Montana recently formed the Frank Klepetko Chapter, which promises to be lively indeed. Certain chapters, remaining nameless, were reminded that their continued existence as formally affiliated chapters requires the submission of annual reports to the Local Chapters Coordinator.

1987 ANNUAL CONFERENCE. Director Duncan Hay reported that the 16th Annual Conf. will return to the site of the 2nd Annual Conf. in Albany and Troy, N.Y. (AKA the Hudson-Mohawk Industrial Gateway). Conf. co-chairs Hay and David Starbuck stated that the N.Y. State Museum and Rensselaer Polytechnic Inst. are conf. co-sponsors.

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1986 FALL TOUR. Norman also reported on the success of the Southern New England Chapter in planning the Fall Tour, Oct. 2-5, based in Mystic, Conn.

ELECTION RESULTS. Nominations Committee Chair Merrill Ann Wilson announced the election results:

President: **Thorwald Torgersen**
Vice President: **Emory L. Kemp**
Secretary: **Nicholas Westbrook**
Treasurer: **Nanci K. Batchelor**
Directors: **Robert Casey, Carolyn Cooper, Amy Schlager**
Nominations Committee: **Charles Hyde**

1986 ANNUAL CONFERENCE. Wright expressed the thanks of the membership to the organizers and sponsors of the 1986 conf. Accepting the SIA's gratitude was Conference Chair Theodore Sande, director of the Western Reserve Historical Society.

NEW BUSINESS. President Torgersen spoke briefly about his aspirations for the SIA during the years ahead. He urged members to express their views to the Board and to participate in SIA activities. He, in turn, promised to do his best to engage the membership in the on-going work of the Society.

The meeting was adjourned at 1:50 p.m. by President Torgersen.

Nicholas Westbrook, Secretary

NEWS OF MEMBERS

At the Kansas City conference of the National Trust for Historic Preservation in Oct., a panel session on "Mills, Mines & Money" was led by **Fred Quivik** and **Randall G. Lawrence**, who discussed IA preservation efforts in their respective bailiwicks: Butte, Mont., and Sloss Furnaces in Birmingham, Ala.

Jane Gibson and **Gersil Kay** developed a special IA tour for the 20th anniv. nat'l conf. of the Victorian Society in America. Titled "Where the Victorians Made Their Money," it reviewed factories, their owners' mansions, workers' housing, machinery, and products. The tour will be the basis of the Phila. Council, AFL-CIO's project "Philadelphians at Work" for the 200th anniv. of the Constitution next year.

David A. Simmons has been appointed Associate Editor of *Timeline*, a handsome, glossy, bi-monthly published by the Ohio Historical Society that covers history, prehistory, and natural sciences and is aimed at readers in the Midwest.

SIA CONSULTANTS' DIRECTORY. The last edition of this important listing appeared some five years ago. In the belief that it serves as a useful source of information to those proposing to undertake various IA-related projects, we now plan an updated edition. If you or your firm can be construed as being in any sort of consulting business with a reasonable close relationship to industrial archeology (millwrighting, photography, historic preservation, civil engineering, structural rehabilitation, mechanical or structural restoration, exhibits and models, shipwrighting, dirt archeology, and others, please submit the following information: name of firm, name of principal(s), address, phone, brief description of professional service and specialties, to: Prof. C.T.G. Looney, SIA, Rm. 5020 N.M.A.H., Smithsonian Inst., Wash. DC 20560. Deadline is Nov. 17.

COMPRESSOR SHAVING MUG

This amazingly accurate view of a turn-of-the-century refrigeration compressor graces a type of porcelain shaving cup known as an "occupational mug."

Personalized shaving mugs were not unusual in America when it was common practice to be shaved daily at the barber's. The mug, of course, held the customer's individual brush and soap. Custom-decorated mugs were popular as gifts. The mug generally was imported from Europe—in this case probably Germany or Austria—and the



gilding, customer's name (here "R. Malcomson"), and the hand-painted decoration applied at barbers' supply companies in the U.S. The mug was acquired in Port Hope, Ontario, from the Malcomson family.

This is an unusually fine example, and its representation of a steam-driven refrigeration compressor is almost certainly unique among hundreds of "occupational" designs that are popular with mug collectors. Because of its accuracy, the painting must have been copied from a photograph or engraving, with the over-scaled figure added.

The illustrated compressor is a type very common c1880-1920 with horizontal steam cylinders (one or two depending on capacity) and a pair of vertical ammonia cylinders, all as shown. They were used in breweries, or course, but as well in any industrial situation requiring refrigeration—meat packing, ice making, cold storage, and candy making, for example. Probably more tons of refrigeration were devoted to ice making than brewing, but it must have been a close contest. It is difficult to judge the size of this unit, given the inaccurate scale, but similar compressors reached 500 tons of capacity.

R.G. & R.M.V.

CALENDAR

Have a meeting, conference, or event of interest to SIA members? Submit announcements to the Editor, SIAN.

Oct. 30-Nov. 1: Lowell Conf. on Industrial History, Lowell, Mass. "Politics & Industrialization." Info.: Robert Weible, Lowell Nat'l Historical Park, 169 Merrimack St., Lowell MA 01852 (617-459-1027).

Nov. 5-8: Special conf., "Built Form & Culture Research: Purposes in Understanding Socio-cultural Aspects of Built Environments," Univ. of Kansas. Info.: David G. Saile, School of Architecture & Urban Design, U. of K., Lawrence KS 66045 (913-864-5127).

Nov. 21-23: First national conference on the industrial heritage of Portugal, Lisbon.*

Dec. 27-30: Annual Meeting, Am. Historical Assn., Chicago. Info.: 202-544-2422.

1987

May 6-9: Annual Meeting, Vernacular Architecture Forum, Salt Lake City. Emphasis on western U.S. building and on communitarian settlements. Paper proposals due Jan. 1 to Richard Longstreth, Am. St./P 103, George Washington Univ., Wash. DC

20052. Meeting info.: Thomas Carter, Utah Div. of State History, 300 Rio Grande, Salt Lake City UT 84101.

May 28-31: SIA 16th ANNUAL CONFERENCE, TROY-ALBANY AREA. Info.: Duncan Hay, 222 Elm St., Albany NY 12202 (518-473-1746).

Sept. 6-12: Sixth Int'l Conf. of The Committee for the Conservation of the Industrial Heritage (TICCIH), Austria.*

**Find details on this event elsewhere in this issue.*

The *SIA Newsletter* is published quarterly by the Society for Industrial Archeology. It is sent to SIA members, who also receive the Society's journal, *IA*, published annually. SIA promotes the identification, interpretation, preservation, and re-use of historic industrial and engineering sites, structures, and equipment. Annual membership: individual \$25; couple, \$30; institutions \$30; contributing, \$50; sustaining, \$100; student, \$20. Send check payable to SIA to Treasurer, Room 5020, National Museum of American History, Smithsonian Institution, Washington, D.C. 20560; all business correspondence should be sent to that office. Editorial correspondence should be sent to ROBERT M. FRAME III, Editor *SIA Newsletter*, P.O. Box 65158, St. Paul, Minn. 55165-0158. ISSN 0160-1067

Submission deadlines: Feb. 1 (Spring), May 1 (Summer), Aug. 1 (Fall), and Nov. 1 (Winter).

The *SIA Newsletter* is included in the *Avery Index to Architectural Periodicals*, Avery Architectural & Fine Arts Library, Columbia University.

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