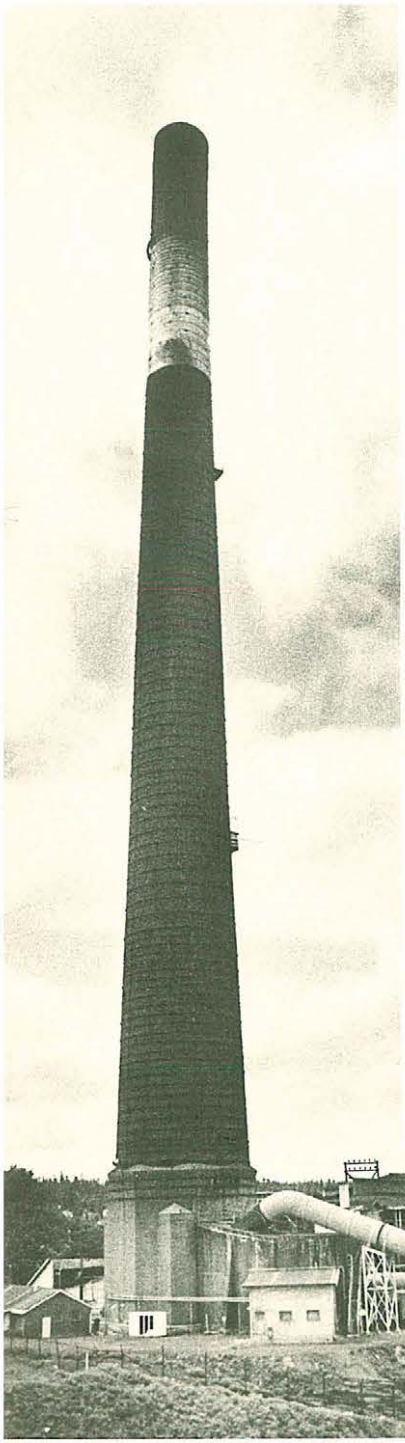
SOCIETY FOR INDUSTRIAL ARCHEOLOGY
NEWSLETTER

Volume 22 Spring 1993 Number 1

Asarco smelter's giant stack at Ruston, Wash., blasted

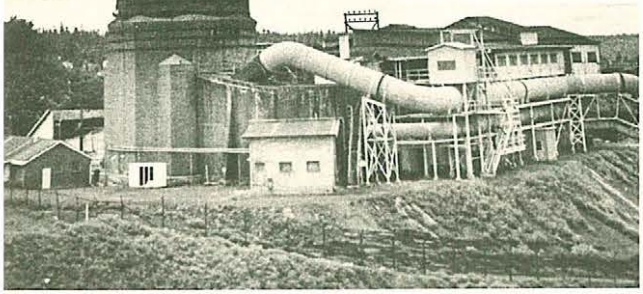


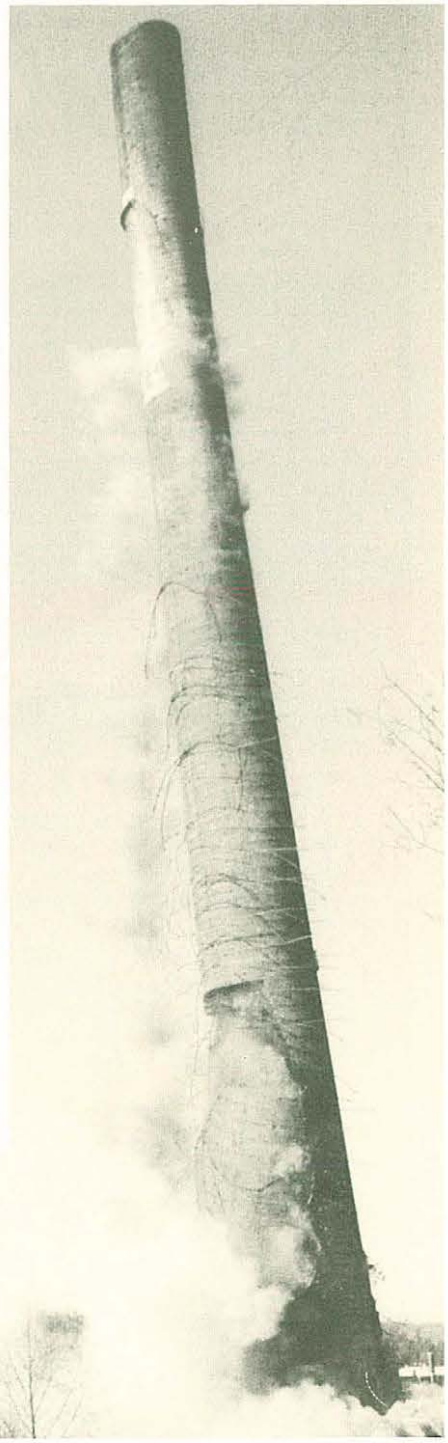
The great stack of the Asarco copper smelter in Ruston, Wash., was blasted into submission on Jan. 18. When completed in 1917, the 571-ft. brick stack was considered the tallest in the world, a foot higher than a concrete stack in Japan. The record was short-lived, however, because the next year, 1918, the incredible 585-ft. stack was erected at Anaconda, Mont. In 1937, after earthquake damage, nine feet were removed from the Ruston stack, reducing it to 562 ft. (The Anaconda stack was viewed during the 1989 SIA Fall Tour. It still stands, the world's tallest free-standing masonry structure, 30 ft. taller than the Washington Monument.)

Asarco dates from 1890, when the Tacoma Milling & Smelting Co. opened. The firm was bought in 1900 by the American Smelting & Refining Co. (Asarco). The stack was constructed during a 1917 plant rebuilding. An arsenic works at the site was opened in the 1930s. At its peak, the Asarco smelter produced more than 10,000 tons of copper a month and employed 1,700 workers. The copper smelter closed in 1985, in the wake of declining copper prices and escalating environmental costs. Two years later the arsenic plant was demolished. Now the great stack itself is gone, demolished at a cost of a half million dollars.

According to Tacoma *Morning News Tribune* writer Bart Ripp, the size of the stack was due in large part to brothers Daniel and Simon Guggenheim, whose father, Meyer, had won control of American Smelting & Refining Co. in 1901. The Guggenheims, says Ripp, were so hungry for publicity that they insisted that the stack be the world's tallest. It was supposed to stand 550 ft. But in Oct. 1917, days before the stack was to be topped off, the Guggenheims heard that a stack in Japan stood at 570 ft., so they spent an additional $5,000 to raise the Asarco stack to 571.

The radial-brick stack was built by the Alphons Custodis Co. in about six months at a cost of $245,291. The walls were 5 ft. 1 in. thick at the base, tapering to 13 1/2 ins. at the top (the Anaconda stack is 5 ft. 4 ins. thick at the base).





THE ASARCO STACK.

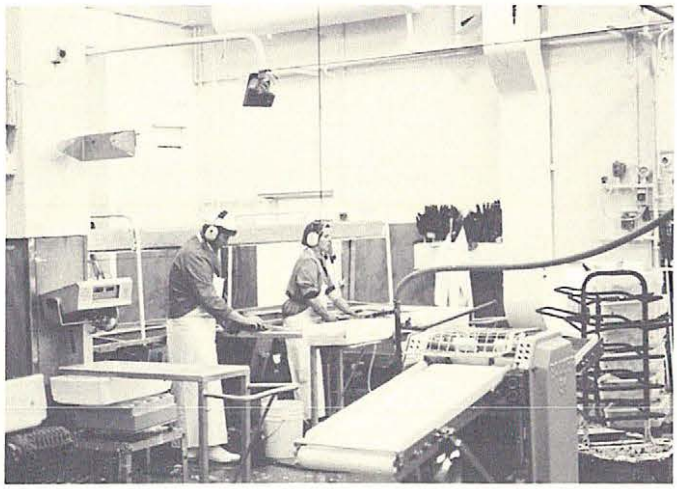
Left: The stack in 1983, two years before the copper smelter closed. *AP Laserphoto.*

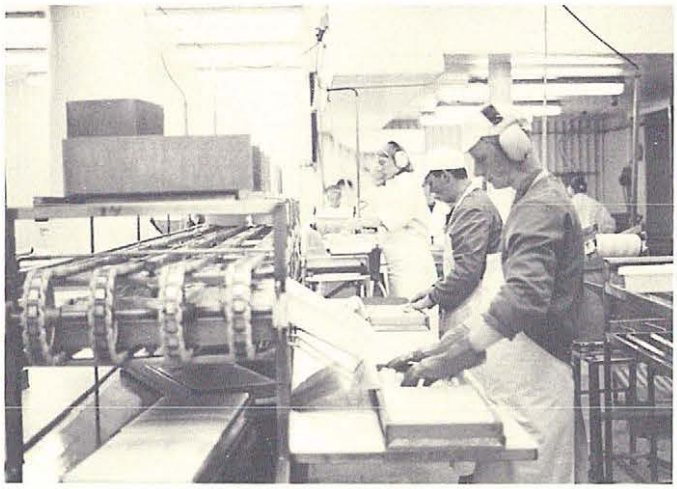
Right: The stack goes down on Jan. 18, 1993. *Bruce Kellman photo.*

Photos courtesy The Tacoma Morning News Tribune.

Published by the Society for Industrial Archeology Editor: Robert M. Frame III
Room 5014-MRC629 National Museum of American History Smithsonian Institution Washington, D.C. 20560

SIA tours Iceland, studies power and maritime industries





PROCESSING FISH IN ICELAND.

Above: The hand-cutting line, where the best fish are prepared.

Below: Cod are inspected by transmitted light in the Neskaupsstadar freezing plant. *N. Heite photos.*

Above: Fresh cod are packed in boxes to become "blocks" of frozen fish. *N. Heite photo.*

Below: Packaged fish on pallets after processing in the salting plant. *D. Babb photo.*

Power was the theme of the 1992 SIA Study Tour of Iceland. Geothermal and hydroelectric plants through the country were the main focus, flavored with various kinds of fish, both in factories and on the groaning board. Eight participants volunteered to brave the hazards of glaciers, volcanoes, and huge epicurean dinners.

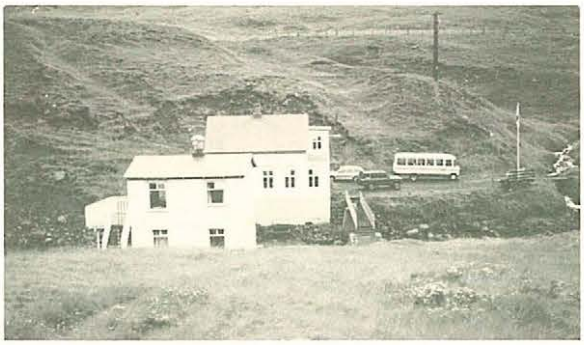
We arrived in chilly Keflavik early on Tues., Aug. 25. Our guide, Helgi Guomundsson, escorted us to the guesthouse Orkin, a brand-new facility operated primarily for Faeroese fishermen. Nearby was the harbormaster's exhibit of local marine life, along with one of Iceland's two railway locomotives, imported in 1913 to haul stone for building the harbor (the other was visited later that day at the city's open-air museum). Both were built in 1892 in Germany and ran on 90-cm-gauge track, with an empty weight of 13 tons.

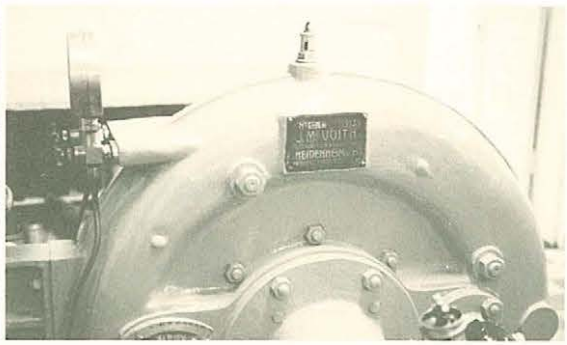
Following a stop at the fish auction, the group headed for the National Museum, a storehouse of treasures, from Viking caches to 19th-cen. costume, with a basement gallery devoted to industrial exhibits. Lunch was at the open-air museum, Arbaejarsafn. Industrial exhibits include a fire company collection, a print shop, and various 19th-cen. craftsmen's homes. A turf farmhouse and church complex includes a smithy. On the back lot were various unrestored pieces, including a large fishing boat.

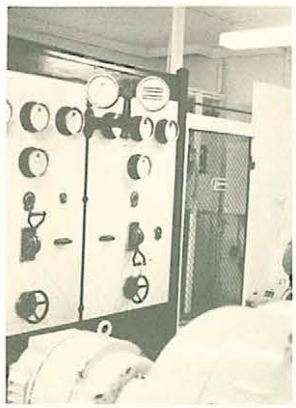
Next was the national maritime museum in the old Hanseatic port city of Hafnarfjordur, where the rotating exhibit area featured memorabilia from the recently defunct state shipping company. Outside was the boiler from the first Icelandic steam trawler, *Coot*. Inside was a comprehensive exhibit on the vessel.

On Wed. we flew to Heimaey in the Westmann Islands, although overcast skies prevented a view of the new volcanic island of Surtsey. The Heimaey bus tour included a stop at

SIA tourers straddle the mid-Atlantic ridge, the split between America and Europe, at the exposed vantage point at Thingvellir. *N. Heite photo.*







SEYDISFJORDUR HYDROELECTRIC PLANT. *Above left:* The 1913 plant is absolutely pristine. *Above right:* Inside is the 1913 J.M. Voith turbine. *Far right:* The plant's control panel. *N. Heite photos.*

the defunct geothermal plant on the 1973 crater of Eldfell volcano. Thurs. included another flight, this time east to Egilsstadir via Hofn, along the south shore. We visited the fish factories of Fiskvinnsla Neskaupsstadar, which included a modern freezing plant, a salting plant, and a meal factory where capelin are processed. On our return, we stopped at the maritime museum in Eskifjordur.

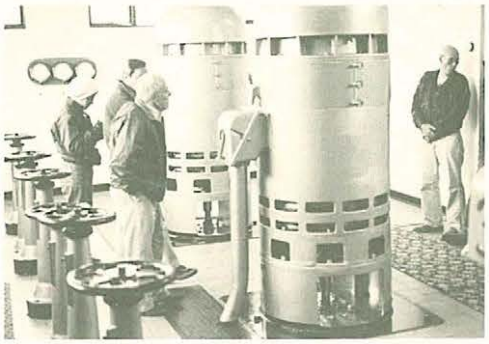
The next morning, Fri., local historian Petur Kristjansson led the party on a tour of a state-of-the-art capelin oil and meal plant, the 1907 machine shop, foundry, and wooden-boat shipyard. At the local net loft, workers were assembling a huge trawl gear that would cost a half-million U.S. dollars. We visited ATVR, the national alcohol and tobacco monoply store in Seydisfjordur, a gem of a 19th-cen. mercantile establishment with an interior original down to the smallest detail.

Finding our road blocked by landslides, we passed up a chance to visit by Zodiac rubber boat the ruins of a 19th-cen. Norwegian whaling station in the next fjord. It was perfectly safe despite a storm on the ocean, our driver assured us. Instead, we opted for a forest-products shop and indoor tree nursery, part of a reforestation program designed to recover Iceland's timber, now devastated by a millennium of fuel gathering and sheep grazing. On the way we stopped at the pristine 1913 hydroelectric plant with original equipment in working order.

On Sat. morning we returned to Reykjavik for a southern bus tour. First stop was the geothermal field at Mossfell, which has been pumping hot water into Reykjavik homes and businesses since 1943. The 1942 pumping equipment was mostly American, since the U.S. occupied Iceland at the time. The auxiliary generator is powered by a 1948 Cooper-Bessemer straight-eight diesel originally intended for a submarine. District heating provides 55 million cubic meters of hot water to 30,000 buildings in the metro area, serving over half the nation's population.

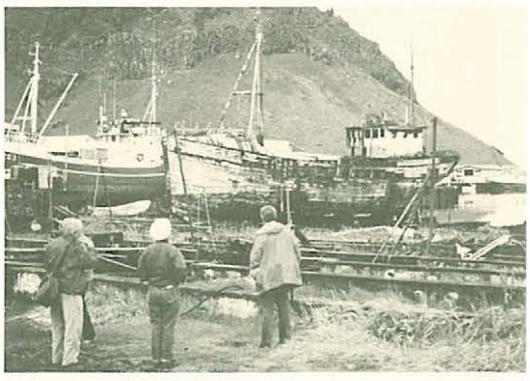
The next day we went to the excavated medieval house at Stong and the Burfell hydroelectric plant, where a reconstruction of the house is exhibited. Driving up the south coast, we stopped at Hveragerdi, a city under glass, where the greenhouse industry produces much of Iceland's fresh vegetables and even grows bananas.

On the last day, Aug. 31, we headed for the airport but along the way stopped at the 1927 Egils brewery and a huge aluminum smelter. Egils employs equipment that has not changed in decades. Power is delivered via a central line shaft in the attic to pumps and elevators throughout the building. After a visit to yet another geothermal heating plant, we had a final Icelandic meal in a local fishermen's restaurant and our guide took us to the airport by an unimproved route through the local lava fields. *N.H.*



MOSSFELLSBAE HOT-WATER PLANT.

Right & below: Inspecting the 1942 pumping equipment, still in daily use supplying hot water to Reykjavik. *N. Heite photos.*

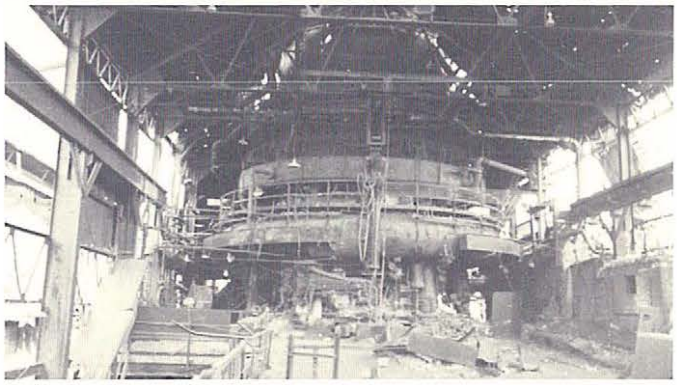


WESTMANN ISLANDS.

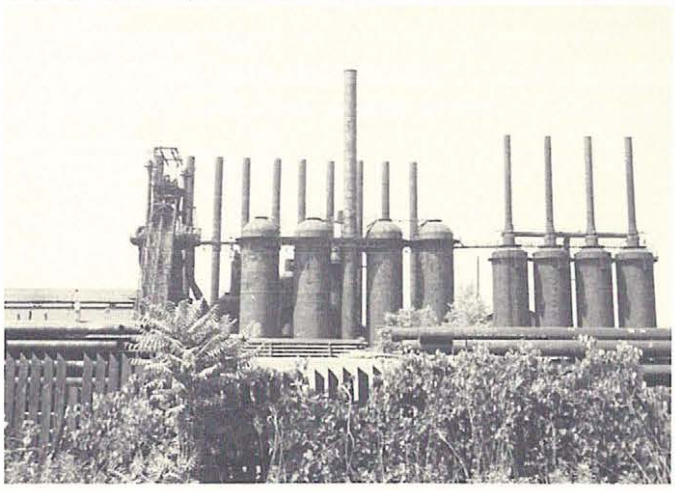
Right: Inspecting a derelict on the marine railway.

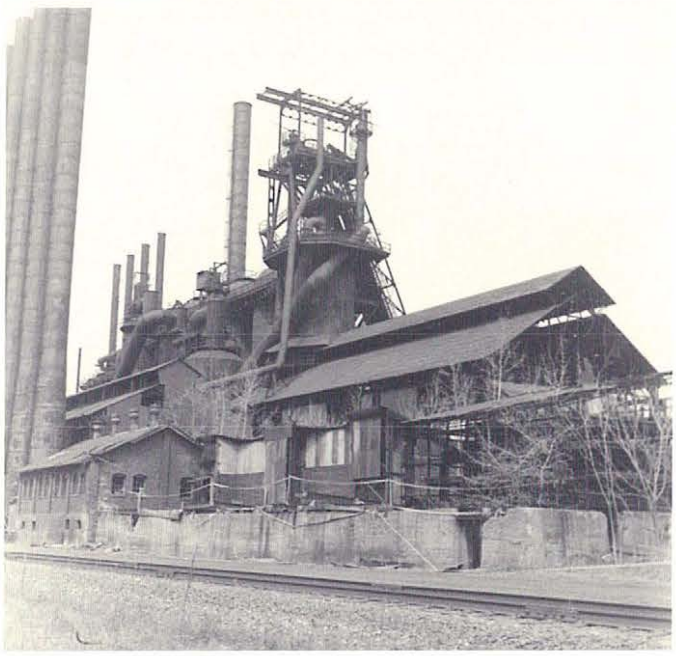
Below: Westmann Islands harbor, which was saved from closure when local fishermen used water hoses to cool and stop the encroaching lava flow (from which this photo was taken). *N. Heite photos.*

Youngstown group works to preserve 20th-cen. blast furnace



Views of the Brier Hill Works blast furnace site. *Photos courtesy Jeannette Blast Furnace Preservation Assn.*





The Jeannette Blast Furnace Preservation Assn., Inc., has undertaken a project to save the former Youngstown Sheet & Tube Co.'s Brier Hill Works blast-furnace plant in northwest Youngstown. The JBFPA was founded in Feb. 1992 as a result of increased historic-preservation sentiment and activities in the Mahoning Valley. The group's goal is to acquire the works from its current owner, North Star Steel Ohio, and seek funding to restore the 20-acre plant and establish a combined steel industry and railroad museum.

The site now includes the Jeannette furnace, built in 1917-18 by the Brier Hill Steel Co., and the stoves and cast house of the former Grace blast furnace, built in 1890 and dismantled in 1974. Jeannette operated until Sept. 1977 and all the major equipment, turbo blowers, boilers, and stoves remain in place and intact. The Jeannette furnace has a 20-ft., 2-in. hearth diam. and 1,000-tpd capacity. There are four Kennedy hot-blast stoves, 105 x 23-ft.; a boiler house with 10 Stirling water-tube boilers; blowing engine house with two Ingersoll Rand turbo blowers; and four McClure 3-pass hot-blast stoves, 95 x 22 ft (believed to be the only 3-pass stoves still standing in the U.S.).

The preservation plan for Jeannette involves the eventual restoration of the entire ironmaking facility, with the reactivation of a few pieces of machinery to provide live demonstrations supporting explanations of plant operation. JBFPA intends to create a museum as interactive as possible, with docents and tour guides providing interpretation. This, they hope, will provide visitors with a better technical understanding of the ironmaking process and an appreciation of the heroic efforts of the thousands who toiled in the mills.

Another idea is to create a large, operating RR museum within the furnace complex. JBFPA wants visitors to understand the uniqueness of steel-mill railroading with its locomotives, hot-metal cars, and other specialized equipment. The assn. has just received a Pollock hot metal car.

A second and related concept is a tourist railroad terminating at the site. Currently, a local non-profit organization is negotiating the purchase of the Youngstown & Southern and the Lake Erie & Eastern railroads, which run from Brier Hill to the Ohio River near the Ohio-Pa. state line. This operation would open new opportunities for the furnace museum by bringing in visitors via rail.

Another goal is the establishment of an industrial research library in Youngstown, an idea whose implementation has begun as the Brier Hill Iron & Steel Library, a new division of the JBFPA, and now collecting steel and related industry information and materials on steel industry history, labor history, and on the engineering and technology of iron and steel plants.

The Brier Hill site is blessed with the YS&T Brier Hill Works office building. This five-story, red-brick structure is now serving as a warehouse, but JBFPA hopes to acquire it and use it for the library, a visitors' center, and lease out areas for restaurants and shops, possibly providing income for the larger effort. A copy of the JBFPA preservation plan and a short history of the Brier Hill plant, along with membership info., are available from J. Richard Rowlands, JBFPA president, 1941 Wick Campbell Rd., Hubbard OH 44425-2869.

SOCIETY FOR INDUSTRIAL ARCHEOLOGY NEWSLETTER

PUBLICATIONS OF INTEREST

A SUPPLEMENT TO VOL. 22, NO. 1 Spring 1993

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TRANSPORTATION

G. Lovi, **"An Unusual Ceiling."** In *Sky and Telescope* 83, Jan. 1992, p57-58. Grand Central Terminal, NYC.

Robert J. MacDonald, **"El Paso: Railroading in the Sun City."** In *Pacific RailNews*, No. 347, Oct. 1992, p36-39.

T. C. McLuhan, **Dream Tracks: The Railroad and the American Indian, 1890-1930.** Abrams (NY), 1985. 208 pp., illus., bibliog., index. Some data on Santa Fe RR and its advertising art; but mostly consists of reproductions of the hand-colored lantern slides of S.W. Indian life and culture.

Peter Moshein & Robert R. Rothfus, **"Rogers Locomotives: a Brief History and Construction List."** In *RRH* 167, Autumn 1992, p12-147. The list [p28-147] is taken from Rogers' Co. documents and contains information from 1837 to 1905, when Rogers became part of Alco. It lists engines in order of construction, with construction number [or equivalent], date of construction, original purchaser, name (for named locomotives) and/or number given by purchasing railroad, wheel arrangment, cylinder dimensions, and driver size; notes.

John C. Paton, **Chesapeake & Ohio BL2 Diesels**. C&O Historical Soc. (POB 79, Clifton Forge VA 23322), 1991. 48p. $11 pap. Branch line diesels mostly used on Pere Marquette routes in Mich. Rev.: *RRH* 167, Autumn 1992, p170-171.

Lou Potter, et al, **Liberators: Fighting on Two Fronts in World War II.** Harcourt Brace Jovanovich (NY), 1992. 303p, illus., index. $30. All-black armed forces units, esp. the 761st Tank Battalion (whose emblem was a black panther); related to PBS documentary of the same title. Tuskegee airmen, dockworkers (incl. Port Chicago , Calif., explosion; workers in Mobile, Ala.), women welders, problems of bus transportation for black soldiers (incl. Jackie Robinson incident).

Railroad Model Craftsman 61, No. 6, Nov. 1992, and No. 7, Dec. 1992:

Nov. issue includes articles on Amtrak's Horizon fleet cars and on the RR and urban landscape; as well as modeling the CP Cascade Mountain operations, Pennsy Pa. line, N&S and Cotton Belt GP60 diesels, and older Reading boxcars.

Dec. issue includes specialized railroads such as the Manitou & Pikes Peak cog rwy. (Colo.), and Canadian National wood products boxcars; as well as modeling cement trains, stock pens, a yard office, and the CP Lake Louise station; Pinehurst Country Club G-Scale Holiday Express.

Ken Rattenne, **The Feather River Route, Part 2: A Geographical Tour, Keddie to Salt Lake City**. Trans-Anglo Bks. (distr. Pentrex, 2652 E. Walnut St., Pasadena CA 91109), 1991. 144p. $48. Western Pacific; incl. 1982 merger into UP; interviews with employees; 1982 roster. Rev.: *RRH* 167, Autumn 1992, p168-69.

John L. Relf, **The Man Whose Dream Came True. A Biography of A. B. Stickney**. Publ. by the author (13 Overbrook Rd., Dellwood MN 55110), 1991. 110p. $10 pap. Biog. of pres. of the Chicago Great Western Rwy.

Stuart M. Rich, **"Wisconsin's Railroads in the Postwar Era: Changes in Physical Plant and Industry Structure between 1946 and 1990."** In *Journal of the West* 31, Jan. 1992, p49-59.

Alfred Runte, **"Promoting Wonderland: Western Railroads and the Evolution of National Park Advertising."** In *Journal of the West* 31, Jan. 1992, p43-48.

Larry A. Sakar, **Speedrail: Milwaukee's Last Rapid Transit?** Interurban Pr. (distr. by Pentrex, 2652 E. Walnut St., Pasadena CA 91109), 1991. 64p. $20 pap. Milwaukee - Waukesha / Hales Corners, WI, 1949-1951. Rev.: *RRH* 167, Autumn 1992, p172-73.

John R. Signor, **Beaumont Hill; Southern Pacific's Southern California Gateway**. Golden West Bks. (POB 80250, San Marino CA 91118), 1990. 174p. $49. Rev.: *RRH* 167, Autumn 1992, p168.

Dick Stephenson, **"Metrolink: Commuter Trains Return to Southern California."** In *Pacific RailNews*, No. 347, Oct. 1992, p20-23. LA region; illus.; map; route guide.

Dick Stephenson, **"NHRS 1992: How Steam Found Its Way to San Jose."** National Railway Historical Society's 1992 annual conference; incl. steam locomotive excursions coming to, during, and returning.

John R. Stevens (ed.), **Pioneers of Electric Railroading: Their Story in Words and Pictures**. Electric Railroaders Assn., distr. by Pentrex, 2652 E. Walnut St., Pasadena CA 91109), 1991. xviii+222p. $45/35 pap. Rev.: *RRH* 167, Autumn 1992, p171-72.

Robert D. Tennant, Jr., **Canada Southern Country**. Boston Mills Pr. (132 Main St., Erin Ont. N0B 1T0), 1991. 208p. $35. Rwy. in Windsor, Ont. / Detroit, Mich. vic., 1870-present; NYC / Penn Central / CN-CPR interests.

Scott D. Trostel, **Building a Lima Locomotive: The Steam Locomotive Construction Process of Lima Locomotive Works during 1924**. Cam-Tech Publishing (POB 341, Fletcher OH 45326), 1990. Locomotive mfg. at the end of conventional (pre-super-power) designs. Rev.: *RRH* 167, Autumn 1992, p170.

David M. Vrooman, **Daniel Willard and Progressive Management on the Baltimore & Ohio Railroad**. Ohio State U. Pr. (Columbus OH), 1991. 218p. $40. Rev.: *RRH* 167, Autumn 1992, p162-63. Enlightened labor relations from president of B&O, 1910-1941.

Jim Walker, **Last of the Red Cars: The Long Beach Rail Line Then—And Now.** Interurban Pr. (distr. by Pentrex, 2652 E. Walnut St., Pasadena CA 91109), 1991. 48p. $16 pap. LA to Long Beach, CA, to 1961. Rev.: *RRH* 167, Autumn 1992, p174-75.

James A. Ward, "Promotional Wizardry: Rhetoric and Railroad Origins, 1820-1860." In *Journal of the Early Republic* 11, Spring 1991, p69-88.

Priscilla Wegars, **"Who's Been Workin' on the Railroad? An Examination of the Construction, Distribution and Ethnic Origins of Domed Rock Ovens on Railroad-Related Sites."** In *Historical Archeology* 25, No. 1, 1991, p37-65.

John H. White, **"Railway Replicas, Past and Future."** In *Locomotive & Railway Preservation*, Issue 37, Sept.-Oct. 1992, p44-59. Discussion; value of early and historic replicas, future of replicas; list of operating locomotive replicas; definition / terminology.

Frank N. Wilner, **The Railway Labor Act and the Dilemma of Labor Relations**. Simmons-Boardman (Omaha NE), 1991. vii+209pp. $35. Rev.: *RRH* 167, Autumn 1992, p161.

Peter Wilson, **"Train Station Revived as Museum Center."** In *Progressive Architecture* 72, Nov. 1991, p27-28. Cincinnati, Ohio.

WORKER SAFETY and HEALTH

A Sampler of Literature Old and New

Many of the following journal entries came from the MedLine electronic database (National Library of Medicine), and are mostly from 1992. There are many more, esp. Russian-language items and those related to the pharmaceutical industry. MedLine lists the addresses of the principal authors, and this is a good place to find names of associations or organizations specializing in related subjects [for example, the Chemical Industry Institute of Toxicology (Research Triangle Park, North Carolina 27709) and the Norwegian Herring Oil and Meal Industry Research Institute (Bergen, Norway)]. The book entries came from various sources, which explains why there are both old and new titles.

U. A. Ajani, **"Occupation and Risk of Uveal Melanoma. An Exploratory Study."** In *Cancer* 70, Dec. 15, 1992, p.2891-2900. A study of the most common primary intraocular malignant lesion in adults, including elevated odds ratios for machine operations, fabrication, assembling, equipment cleaning, and exposure to metal industries.

American Academy of Medicine, **Industrial Medicine, Being the Papers and Discussions on "The Practice of Medicine and the Industries" Presented at the XXXIXth Annual Meeting of the American Academy of Medicine, held at Atlantic City, June 20, 1914.** American Academy of Medicine Press, 1915. 185p. Subject headings include industrial accidents and factory inspections.

American Academy of Political and Social Science, **Industrial Safety.** Amer. Acad. of Political & Social Science, 1926. 239p., illus., bibliog. Incl. sections on specific industries; safety compensation and rehabilitation.

Associated General Contractors of America, **Manual of Accident Prevention in Construction.** 3d rev. ed., 1949 [for example]. 252p., illus.

Awareness and Preparedness for Emergencies at Local Level: A Process for Responding to Technological Accidents. Industry and Environment Office, United Nations Environmental Programme, 1988. 63p., bibliog. Incl. industrial accidents; hazardous wastes.

R. Baker, et al, **"Hardware to Hard Hats: Training Workers for Action (From Offices to Construction Sites)."** In *Amer. J. of Industrial Medicine* 22 (5), 1992, p.691-701. Incl. "tailgate" meetings for construction workers, promoting active worker participation in identifying potential hazards and developing solutions.

F. Barbone, et al, **"A Case-Control Study of Lung Cancer at a Dye and Resin Manufacturing Plant."** In *Amer. J. of Industrial Medicine* 22, 1992, p.835-49. Found an elevated OR [odds ratio] for lung cancer for workers in the anthraquinone dye and epichlorohydrin manufacturing area of the plant and for those exposed to chlorine.

U. Bolm-Audorff, et al, **"Prevalence of Respiratory Allergy in a Platinum Refinery."** In *Intl. Archives of Occupational & Environmental Health* 64, 1992, p.257-60.

L. Bretherick, **Handbook of Reactive Chemical Hazards.** 3rd ed. Butterworths, 1985. 1852p., illus., bibliog., index. Incl. industrial accidents; chemical Industry.

M. C. Carroll, et al, **"Microbiological Validation of a New Manufacturing Complex for an Injectable Biological Product."** In *J-Parenter-Sci-Technol.* 46, July-Aug. 1992, p.107-10. Discusses the design and construction of the Raritan Biological Production Facility (RBPF) at Ortho Pharmaceutical Corporation, Raritan, NJ, mfr. of the the the first injectable monoclonal antibody product to be licensed by the FDA.

Wendy Chavkin (ed.), **Double Exposure: Women's Health Hazards on the Job and at Home.** Monthly Review Pr., 1984. 276p., illus.

Lester V. Cralley, et al (eds.), **In-Plant Practices for Job Related Health Hazards Control.** Wiley, 1989. 2 vols., illus. Vol. 1, Production Processes; Vol. 2, Engineering aspects. Incl. industrial accidents.

E. A. Eisen, et al, **"Mortality Studies of Machining Fluid Exposure in the Automobile Industry I: A Standardized Mortality Ratio Analysis."** In *Amer. J. of Industrial Medicine* 22, 1992, p.809-24. A very large study finding an increased risk of cancer, leukemia, and asthma.

Ted S. Ferry, **Elements of Accident Investigation.** Thomas, 1978. 75p., bibliog., index.

K. Gardiner, et al, **"Occupational Exposure to Carbon Black in its Manufacture."** In *Annals of Occupational Hygiene* 36, Oct. 1992, p.477-96. Describes an epidemiological investigation of respirable and inhalable carbon black in 18 plants in seven European countries between mid-1987 and mid-1989. [Carbon black is manufactured by the vapour phase pyrolysis of heavy aromatic hydrocarbon feedstocks. It is used in the rubber industry, especially in tire manufacture.]

Carl Gersuny, **Work Hazards and Industrial Conflict.** Univ. Pr. of New England for the Univ. of Rhode Island, 1981. 162p., bibliog., index. Incl. industrial hygiene; safety; accidents; equipment safety.

Rosamond W. Goldberg, **Occupational Diseases in Relation to Compensation and Health Insurance.** Columbia Univ. Pr., 1931. 280p., bibliog. Incl. industrial accidents; workers' compensation; employers' liability.

Rosamond W. Goldberg, **Occupational Diseases in Relation to Compensation and Health Insurance.** Columbia Univ. Pr., 1931. 280p., bibliog. Incl. industrial accidents; workers' compensation; employers' liability.

S. Guendelman and M. J. Silberg, **"The Health Consequences of Maquiladora Work: Women on the U.S.-Mexican border."** In *Amer. J. of Public Health* 83, Jan. 1993, p.37-44. A study of female electronic and garment maquiladora (assembly plant) workers, finding that the previously reported adverse effects may have been exaggerated.

A Guide to the Safe Handling of Hazardous Materials Accidents. American Society for Testing Materials, 1983. 55p., illus. ASTM Special Technical Publication 825. Includes supplement, `Initial Emergency Assessment — Initial Response Action,' in pocket. Incl. industrial accidents.

J. S. Harington, **"Mesothelioma Among Workers in the Quebec Chrysotile Mining and Milling Industry [letter]."** In *Amer. J. of Industrial Medicine* 22, 1992, p.925-26. Asbestos workers.

Alastair Hay, **The Chemical Scythe: Lessons of 2, 4, 5-T, and Dioxin.** Plenum Press, c1982. xi, 264p., illus. (some color), bibliog., index. Industrial accidents; chemical industry.

"Health and Safety Implications of European Community 1992 (EC92)." In *Amer. Industrial Hygiene Assoc. J.* 53, Nov. 1992, p.736-41. Apparently a report of the Management Committee, American Industrial Hygiene Association. The EC observed 1992 as the "year of health and safety in the workforce."

A. G. Heppleston, **"Coal Workers' Pneumoconiosis: A Historical Perspective on its Pathogenesis."** In *Amer. J. of Industrial Medicine* 22, 1992, p.905-23. Comment in AJIM 22, 1992, p.791-92. Incl. Scotland from 1830s?; South Wales from the 1930s.

M. Hery, **"Exposure to Sulphuric Acid and Sulphur Dioxide in the Manufacturing of Titanium Dioxide."** In *Annals of Occupational Hygiene* 36, Dec. 1992, p.653-61. Studied exposure to sulphuric acid and sulphur dioxide in the French titanium dioxide manufacturing industry, in three plants using the sulphuric acid process.

G. S. Hewson & M. I. Ralph, **"Determination of Program Protection Factors for Half-Mask Respirators Used at a Mineral Sands Separation Plant."** In *Amer. Industrial Hygiene Assn. J.* 53, Nov. 1992, p.713-20. Australia.

Paul R. Ignatius, **The Film in Industrial Safety Training.** Division of Research, Graduate School of Business Administration, Harvard Univ., [1949]. 119p., bibliog.

Susan J. Isernhagen (ed.), **Work injury: Management and Prevention.** Aspen Publishers, 1988. 373p., illus., bibliog., index. Incl. industrial accidents; rehabilitation (physical therapy).

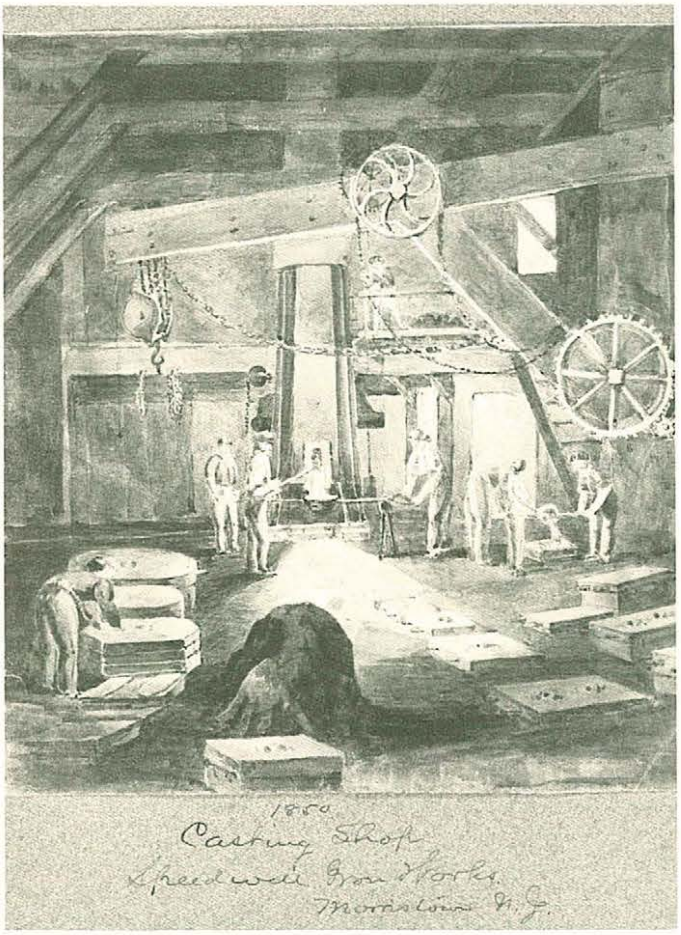
D. E. Lilienfeld, **"The Silence: The Asbestos Industry and Early Occupational Cancer Research — A Case Study."** In *Amer. J. of Public Health* 81, June 1991, p.791-800. History of an industry that, in concert with many of its insurers, systematically developed and then suppressed information on the carcinogenicity of asbestos. Incl. 143 references.

COMPILER'S NOTE: This is the final PofI for which I will be principal compiler. I will be continuing to provide entries for the new editor, especially in the areas of railroad and Northwest U.S. history, and with an increased emphasis on out-of-the-way sources and electronic media (simulations, "games," databases, computer programs, etc.). The items below on chaos and complexity and worker safety and health are but two examples. I will also be trying to catch up on citations not yet entered. For all who have sent items for PofI over the years, Many Thanks. *John M. Wickre*

EDITOR'S NOTE: After years of faithful service, John Wickre is retiring as Chief Compiler of the Publications of Interest Supplement to the *SIA Newsletter*. The SIA Board of Directors thanks John for his volunteer time, his marvelous creative energies, and his damned weird wit.

The SIA Publications Committee seeks equally energic new compilers to carry on this important bibliographical effort for our membership. If you can help in any way, please contact Fred Quivik, Chair, SIA Publications Committee, 7301 Germantown Ave., Philadelphia PA 19119 (215-242-3106).

NOTES & QUERIES



This rendering of the casting shop interior, Speedwell Iron Works, Morristown, N.J., is reproduced in full color on the Historic Speedwell notecards and poster. *Courtesy Historic Speedwell.*

SPEAKING OF SPEEDWELL. When last we left Historic Speedwell in Morristown, N.J. [*SIAN* Fall 92:12], we were celebrating, all too briefly, the opening of a new exhibit, "The Speedwell Ironworks: A History of Workers & Work." There is more to say. Officially dedicated as the John H. Culbertson Memorial Exhibition, it is a permanent installation in the main Carriage House that recently underwent extensive renovation. Encompassing 1,050 sq.ft., it focuses on the development, success, and decline of the Ironworks from 1820 to 1873. Curators and consultants on the exhibit include Ed Rutsch and Herb Githens [both SIA]. It incorporates specially designed 4 x 6-ft. panels of cold rolled steel, suspended from the Carriage House ceiling. The panels feature historic photographs of the Vail family and the Ironworks. Vail was the builder and proprietor of the Ironworks. The site includes his home and the restored Natl. Historic Landmark cotton factory where son Alfred worked with Samuel F.B. Morse to perfect the telegraph. In a second-floor room the two men held the first public demonstration of the electro-magnetic telegraph, on Jan. 11, 1838. The factory's looms are gone, but a saw and grist mill remain on the lower levels. Adjacent to the factory is the wheel house, with a 24-ft. overshot wheel that once powered the complex's mills along with a bone grinder to produce meal for fertilizer. The actual Ironworks moved to Brooklyn in 1873 and its Speedwell buildings burned in 1908. The non-profit Historic Speedwell was founded in 1966 to operate the Homestead Farm. Historic Speedwell's 1993 season opens the first weekend in May and will include several workshops and seminars geared to the history of the Ironworks and its significance in 19th-cen. industrial history. In conjunction with the exhibit, a watercolor rendering of the casting shop interior in 1850 is available in color on notecards ($1.50 ea.) and a 16 x 20-in. exhibit poster ($10 + post.). Contact Historic Speedwell, 333 Speedwell Ave., Morristown NJ 07960 (201-540-0211).

THE 1993 IRON MASTERS MEETING, cosponsored by the Pa. Hist. Commn. and the SIA, will be held in Scranton & Cornwall, Pa., Oct. 8-10. Events will include: an opportunity to observe an iron bloomery and participate in foundry experiments; visits to museums, mines, and local historic iron-making sites; a one-day session of reports on completed and ongoing research on historic iron sites; and a visit and curator's tour of the historic Cornwall ironworks. Info.: Ed Rutsch [SIA], R.D.3, Box 120, Newton NJ 07860 (201-383-6355, fax 383-9377).

HILL LIBRARY GRANTS. The James Jerome Hill Reference Library in St. Paul, Minn., is continuing its small-grants program for research in the James J. Hill and Louis W. Hill papers. The Library will award a number of grants of up to $2,000 to support work in the two collections. James J. Hill (1838-1916) was the founder of the Great Northern Railway. His son Louis (1872-1948) followed in his father's footsteps. Together, the two collections span over a century of railroad development in the Upper Midwest and the Pacific Northwest, in addition to including significant materials on a wide variety of non-RR, nationally significant topics. The deadline for applications is Nov. 1, 1993, and the awards will be announced in early 1994. Info.: W. Thomas White, Curator, Hill Papers, JJHRL, 80 West 4th St., St. Paul MN 55102 (612-227-9531).

OHIO PRESERVATION, bimonthly newsletter of the Ohio Hist. Pres. Office, is available free to anyone who requests it. It features news about preservation confs., workshops, grants, publications, new National Register properties, and an events calendar. To be added to the mailing list, contact *Ohio Preservation*, OHPO, Ohio Hist. Center, 1982 Velma Ave., Columbus OH 43211-2497 (614-297-2470).

CONTRIBUTORS TO THIS ISSUE

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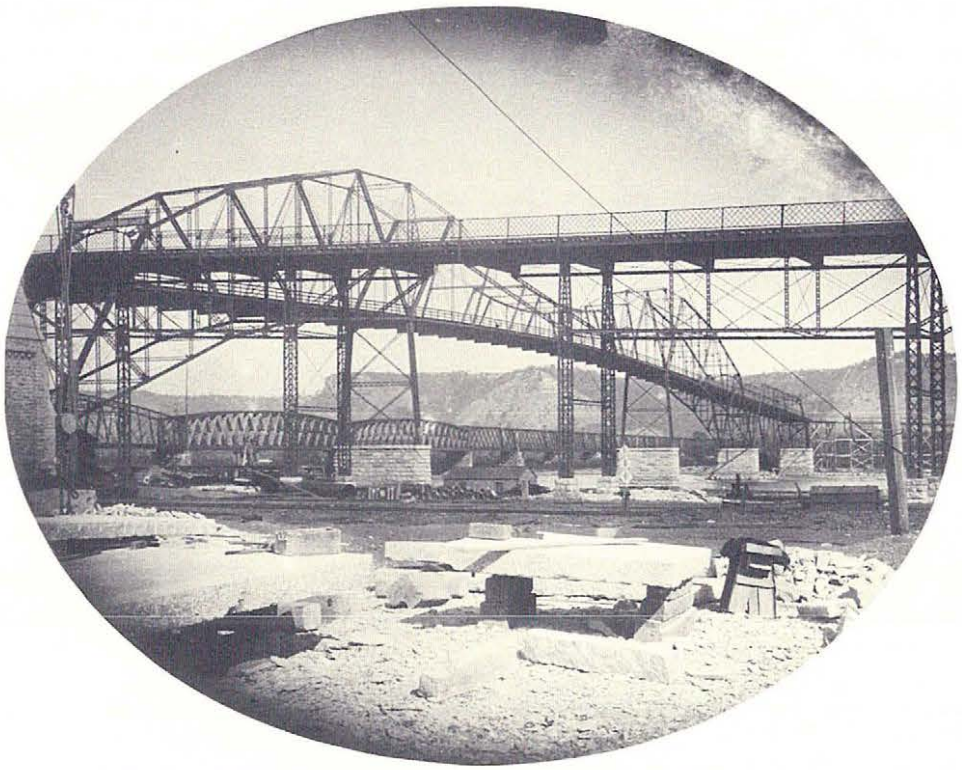
With thanks.



Henry Bosse, "Wagon Bridge at Winona, Minn. 1892."

All Bosse images courtesy St. Paul District, U.S. Army Corps of Engineers.

Rare 19th-cen. Bosse Corps of Engineers photographs discovered, exhibited

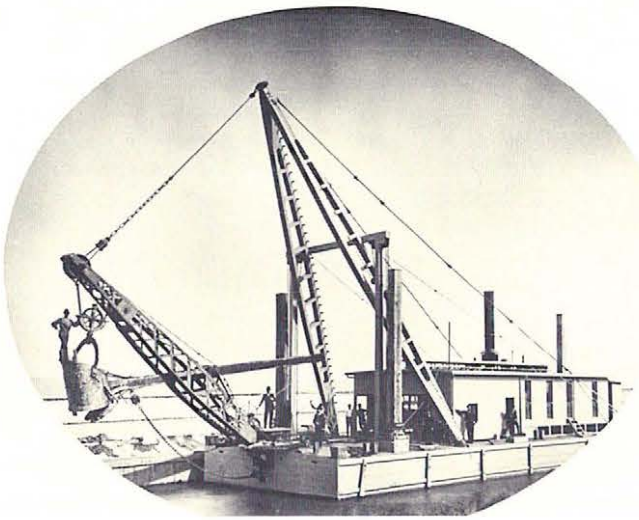
Henry Bosse, a German immigrant, worked for the Rock Island District, U.S. Army Corps of Engineers, in the late 19th cen. Beginning in 1874, he served as a draftsman and over the next 30 years "was closely associated with creating a permanent record of improvements to the upper Mississippi River valley," according to St. Paul District Historian John O. Anfinson. Anfinson is largely responsible for discovering and exhibiting a series of photographs made by Bosse during his tenure. Although his background is largely unknown, Bosse created photographs that go beyond their obvious documentary value to being considered today as a major contribution to the devlopment of the photographic art form.

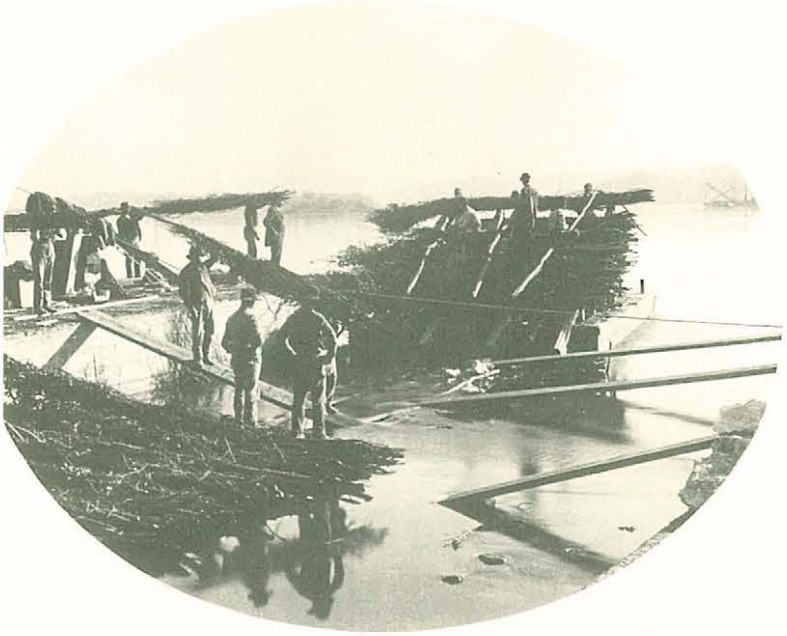
Two and a half years ago Anfinson was approached by an antiques dealer about an album of photographs—actually cyanotypes—that originally belonged to Major Alexander Mackenzie. The negatives were taken and printed by Henry Bosse between 1883 and 1891. They were bound in a personal presentation volume for Mackenzie, who later became Chief of Engineers. Anfinson recalled having seen black & white prints of similar photographs and, after tracing the source, located a second, almost identical, album that had been left with the *U.S. Dredge William A. Thompson*. The *Dredge Thompson*, christened in 1937, remains today the Corps' principal dredge for the upper Mississippi. The volume was aboard the *Thompson* because the widow of the honored William A. Thompson had donated it at the christening. Thompson had worked for the Corps on the upper Mississippi from 1878 to 1924 and apparently had received the photo album from Bosse. The prints had remained on the dredge in the captain's cabin ever since the christening. Anfinson retrieved the album, which contains 136 large, blue cyanotypes, presented in an oval format. They are contact prints made from 11 x 14-in. glass-plate negatives, and thus provide extraordinary detail. Several hundred Bosse prints are now known, but only a handful of his glass-plate negatives have survived.

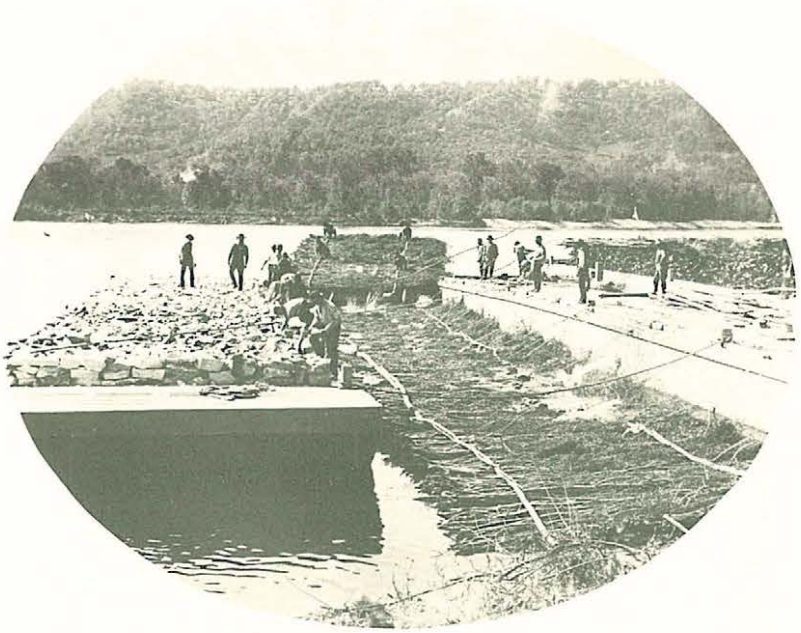
Bosse's images document the first systematic effort to transform the upper Mississippi from a natural channel into an engineered commercial navigation route. They present the river's working boats, log rafts, and milling centers. They show the railroad and wagon bridges crossing the river, as well as the cities and towns along its banks. Finally, they record significant early engineering efforts, such as the construction of wing dams, closing dams, and shore protection, all intended to create a functioning navigation channel.

Students of 19th-cen. photography, viewing these previously "lost" views for the first time, have been astonished at their aesthetic qualities. Merry Forresta, curator of photography at the National Museum of American Art, has described Bosse's work as "incredible," "fantastic," and "truly extraordinary." She feels the photographs reveal the shift in American photography from romantic to industrial and geometric subjects. The photos' monetary value has skyrocketed. The privately owned Mackenzie volume with its 169 cyanotypes, the first album discovered and the one in private hands, has grown in value from an initial estimate of some $20,000, through a 1990 sale at Sotheby's for $66,000, to recent assessments of $650,000 to $1,500,000. Individual photographs

"U.S. Dredge 'Phoenix.' 1885."







The construction of wing and closing dams to improve navigation with a 4 1/2-ft. channel was a major Corps project on the Mississippi. In 1891 Bosse recorded the process *(above, left & right)* of building dams using baled willow brush layered with rock. *Below left:* The finished closing dam, anchored with pilings, at Otter Chute in 1889. *Below right:* The scene of Pine Bend in 1891 shows a completed set of wing dams forcing the water into a narrower, faster, and deeper channel.

from the Mackenzie volume have sold recently for $10-15,000.

An exhibit of Bosse photographs (in reproduction) continues through July 1993 at the Ramsey County Historical Society's gallery in the Landmark Center, 75 W. 5th St., St. Paul MN 55102. The Winter 1992-93 issue of the Society's magazine, *Ramsey County History*, includes two substantial discussions of Bosse and his work: John O. Anfinson, "Henry Bosse's Priceless Photographs and the Mississippi's Passage into the Age of Industry," and William Roba, "Draughtsman, Photographer, Artist—Who Was the Mysterious Henry Bosse?" Copies are available from RCHS at the Landmark Center address. (The above discussion is adapted from these two articles.) Tentative plans call for the Bosse exhibit to travel in fall 1993 to the Corps of Engineers headquarters in the Pulaski Building, Washington., D.C. This will be the first time the images have been on public exhibition outside the Upper Midwest. The exhibit is available for other venues. For information on the exhibit or on the Bosse photos in general, contact John Anfinson, St. Paul District, U.S. Army Corps of Engineers, 1205 U.S. Post Office, St. Paul MN 55101 (612-220-0260).

NOTES

MORE ON TRANSPORTER BRIDGES. In response to requests for additional info. on transporter bridges (following a note in the fall 1992 *SIAN* about the reopening of the 1911 Teeside Transporter Bridge), Alan R. Clarke [SIA] submits the following sources:

—N.N. Forbes, *Transporter Bridges*, Light Rwy. Transport League (8 Pen-y-graig, Thiwbina, Cardiff CF4 6SU, Wales, U.K.; printed by W.J. Fowler & Son, Cricklewood, Ltd., Bletchley, Bucks, England). This undated 11 pp. pamphlet is reprinted from *Modern Tramway* (pub. by LRTL, address abv.).

—M. Stockwell, "The Transporter Bridge, Middlesbrough," in *The Cleveland Industrial Archaeologist*, No. 10, 1979 (Cleveland Industrial Archaeology Society, c/o P.T. Tuffs, 48 Mackie Drive, Guisborough, Cleveland TS14 6AA, England, or A.E. Shayler, 44 Zetland Rd., Redcar, Cleveland, TS10 3QD England).

QUERIES

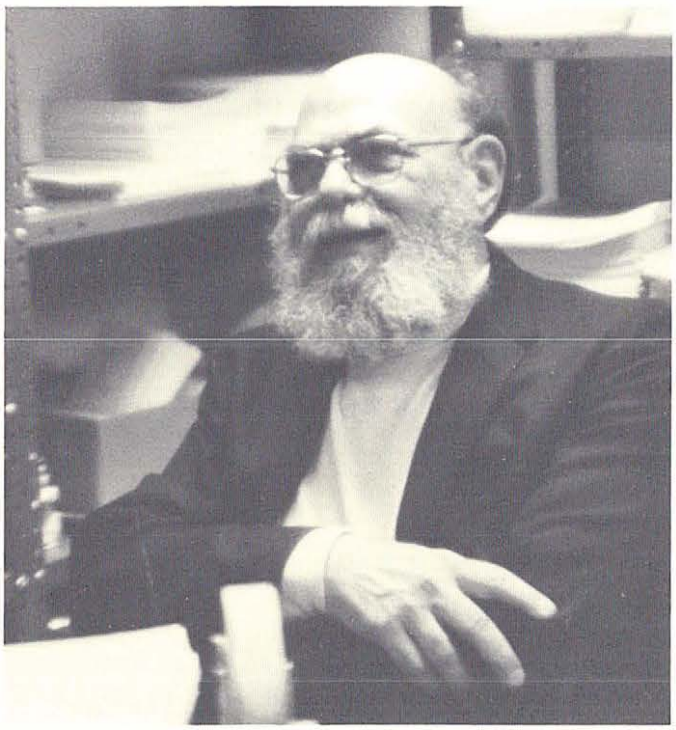
ANOTHER NEW ORLEANS CARBARN QUERY. Edwin D. Weber, Jr., whose recent preservation passion has been the 1861 Canal Street carbarn in New Orleans [*SIAN* Fall 91:1], seeks info. and insight on another carbarn, the "Arabella" (aka "Upper Magazine" or "Magazine station"), built for the New Orleans Traction Co. in 1893-94. The 1896 Sanborn insurance map indicates that it is an "iron building" owned by the Crescent City RR Co. (NOTC subsidiary), occupying the block bounded by Arabella, Magazine, Joseph, and Constance sts. A builder has not been identified, and Weber believes it was a bridge fabricator, since the Carrollton carbarn of the New Orleans & Carrollton RR was built by the Berlin [Conn.] Iron Bridge Co. Weber, who is pursuing a National Register nomination, can be contacted at 5026 Press Dr., New Orleans LA 70126.

SODA-WATER QUERY. Stephen J. Krispin is seeking information about pre-1915 soda-water equipment and technology, including such machines as labelers, bottlers, bottle washers, syruper-crowners, carbonators, and carbonation generators (vertical & horizontal). If you can help, contact him at 315 Colonial Dr., Paducah KY 42001 (502-554-9112).

CORPORATE HISTORY QUERY. The firm known today as **American Yard Products**, Orangeburg, S.C., is seeking any available information, including reminiscences and photos of founders and products, on itself and its long genealogy of predecessors. Most of its 19th-cen. history involves stove manufacture. In 1817 in Licking County, Ohio, David Moore founded a heating-stove company and named it the Mary Ann Furnace Co., after his wife. Destroyed in a fire, it was reborn as the Moser & Wehrle Co. in East Newark, Ohio, becoming the Wehrle Stove Co. in 1903 and, eventually, the world's largest stove foundry. In 1936 it was acquired by the Florence Stove Co., which was founded in 1874 in Florence, Mass., to build kerosene stoves and ranges. Wehrle thus became the Florence-Wehrle Stove Co. and, in 1939, the Newark Stove Co. During World War II, production was converted to defense contracts involving munitions and aircraft parts. At the end of the war, Newark Stove was bought by Sears, Roebuck, and only electric stoves were manufactured. The cast-iron works was closed in 1948. During the Korean War, production again turned to military components. To diversify, a line of rotary mowers was added in 1952 and mower production exceeded stoves by 1958. The firm then became the Newark Ohio Co., and was the world's largest rotary-mower manufacturer. In 1962 it was merged with the David Bradley Co. (also owned by Sears), which had begun in 1854 in Chicago as a plow and farm-implement manufacturer, moving to Bradley, Ill., in 1895. With its Bradley division, Newark Ohio was merged in 1964 with the Geo. D. Roper Corp., founded in 1885 as a gas-oven manufacturer. It then became the Newark Division of Roper, which eventually created a subdivision called Roper Lawn Products. In 1988 Roper was sold to General Electric, which sold the lawn and garden business (remember the mowers?) to Sweden's AB Electrolux. At that time (1989), it officially became today's American Yard Products, Inc. (Whew!) If you know anything about any of the foregoing, contact Sarah Fisher, American Yard Products, Inc., POB 1687, Orangeburg SC 29116 (803-536-3285; fax 534-7710).

SIA AFFAIRS

Howard Cayton



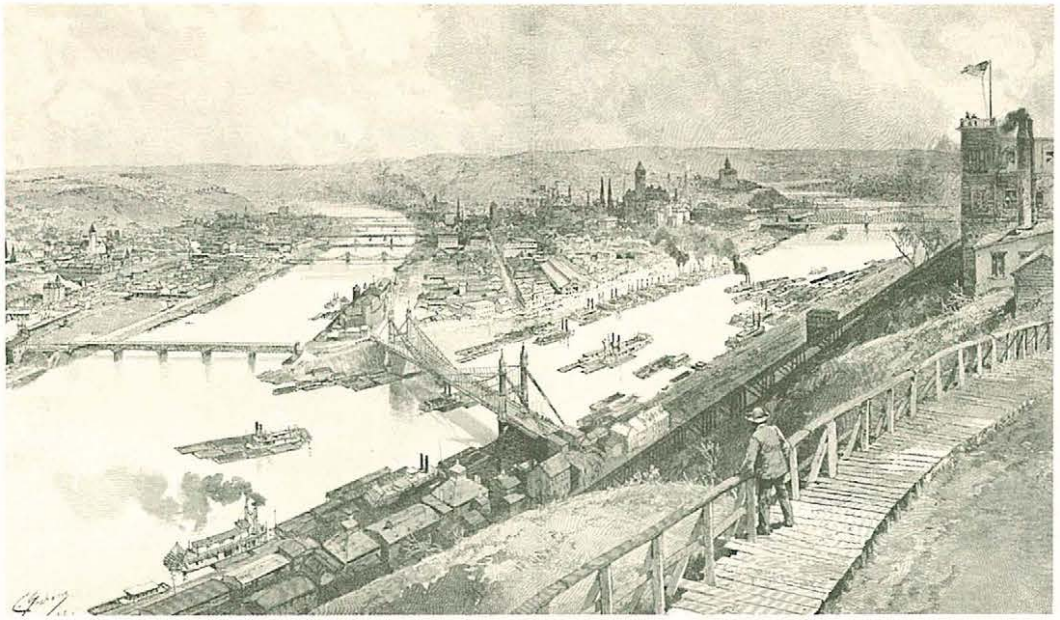
The Society lost one of its behind-the-scenes stalwarts on Jan. 7, 1993, with the passing of Howard Cayton, 81, after a brief illness. Through most of the 1980s, Howard served as the volunteer membership coordinator at the SIA HQ in Washington, capping a long career with the federal government and a lifelong interest in the built environment. Howard and his wife, Hannah, were regulars at SIA conferences and tours.

The breadth of Howard's professional life extended from his service as fingerprint analyst for J. Edgar Hoover's FBI in the 1930s, to chief of the Housing Demonstration Branch of President Lyndon Johnson's aggressive Dept. of Housing & Urban Development, where Howard pioneered federal support for the conversion of industrial structures into residential housing. Waterfront housing in former warehouses in New Bedford, Mass., was among the first of Howard's successes in this critical area of IA concern. Only later did Howard learn that there was an entire national organization—ours—devoted to such projects.

Howard's own house was on his beloved C&O Canal, an 1850s working-class row house in Georgetown, in which he and Hannah had lived since 1954. Their doorway was just a few paces from Lock No. 4, one of the few operable locks left along the only section of the 1828 canal that remains fully watered.

In addition to Hannah, Howard leaves a gang of SIA friends and colleagues throughout the D.C. area, all of whom shall always remember his dry humor, Talmudic wisdom, and cool head in meeting the needs of our membership. For all of these and for your many other gifts, Howard, we salute you.

David H. Shayt



Right: Pittsburgh from Grandview Ave. Drawn by Charles Graham. 1892. Wood engraving.

Right below: Janine Stern, "The Unenchanted Forest." 1992. Pencil on paper, 40 x 51 ins.

Images courtesy B. Fahlman.

IA IN (Pittsburgh) ART

"The Artist Looks at Industrial Pittsburgh, 1838-1993"

An exhibition at the University Art Gallery, Frick Fine Arts Building, University of Pittsburgh, June 3-30, 1993

The SIA faithful attending the 1993 Annual Conf. in Pittsburgh will have an unusual opportunity to view "IA in Art" firsthand. Co-sponsored by the Three Rivers Chap., SIA, this exhibition explores for the first time Pittsburgh's industries as artistic subjects and the way artists interpreted these industries to the public. Both the philosophy of the artists and the social perspective of their patrons determined the way industry was perceived.

For much of the 19th cen., humanist traditions guided local artists, who produced landscapes such as those popularized by the Hudson River School painters, all but neglecting the new category of industrial life in favor of western Pennsylvania's lush forests and picturesque river valleys. When they did present a factory or an industrial site, it was in a pastoral setting, depicted as a natural part of the rural landscape.

The first sustained artistic attention to the region's industries came during the 1870s and '80s, from graphic artists and illustrators sent by the national newspapers and magazines to document, as examples of mankind's progress, the hulking, fire-breathing, smoke-belching factories of the industrial revolution. Captivated by the nation's industrial progress, they came to Pittsburgh because no other city had so totally given itself over to heavy industry.

The emergence of Realist and Modernist styles in the late 19th cen. and early 20th ended the painter's long abstention from industrial representation. Unlike the illustrators of the 1870s and '80s, who captured the industry's mass, smoke, and power, these artists now painted workers close-up, rendering in detail their ethnicity, the difficult nature of their work, their fatigue, and the human cost of industrial power. Today, in the post-industrial era, artistic representation of Pittsburgh's industrial past is both critical and nostalgic, remembering and evaluating the region's manufacturing history.

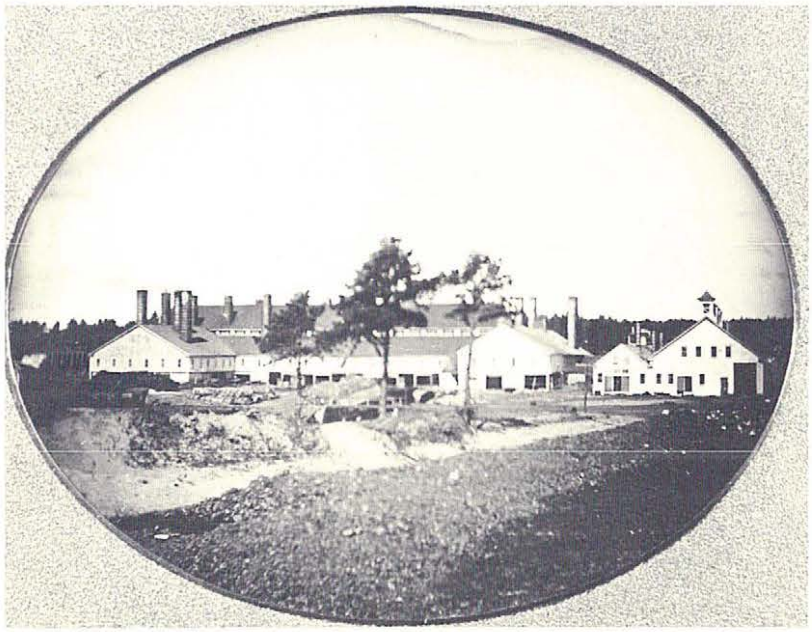
Here are assembled works that illustrate crucial transformations not only in American industry, but in the way that industry has been understood and portrayed. Because it traces the growth and demise of heavy industry in an area dedicated to steel through the work of artists, the result is not an illustrated history of industry in Pittsburgh, but a demonstration of the cultural reaction to industry.

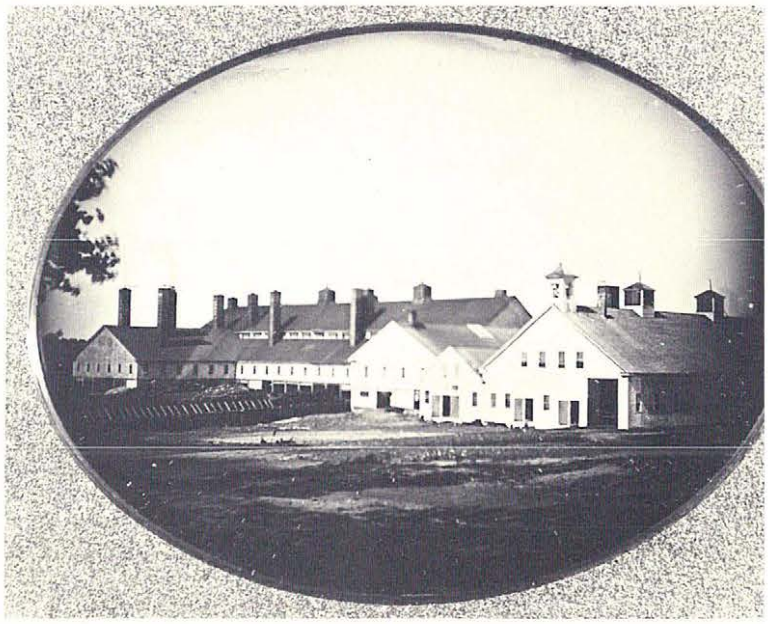
The exhibition, curated by art historian Rina Youngner, is sponsored by the Three Rivers Chapter SIA, the Fine Arts Dept. of the Univ. of Pittsburgh, and the Pa. Humanities Council. Featuring popular and fine art in graphics, paintings, and photographs, the show will draw extensively on public and private collections in the Pittsburgh region. A catalogue will be available.

B.F., R.T.O., & R.Y.

FALL TOUR 1993 IN NEW HAMPSHIRE. Plans are being finalized for the 1993 Fall Tour, Oct. 1-3. Process tours tentatively include: GTE, automotive lamps mfr.; Monadanock Papers Mills; D.D. Bean Co., paper book-match mfr.; N.H. Ball Bearings, Inc.; Page Belting Co., power transmission belting mfr.; and Dorr Mills, woolen cloth mfr. Other sites include the Museum of N.H. History, Concord Gas Holder, Historic Harrisville, Newport RR structures, American Precision Museum, Cornish-Windsor Bridge, and Canterbury Shaker Village. For info., contact Dennis E. Howe, Chair, 22 Union St., Concord NH (W 603-225-6649; H 603-224-7563; fax 226-2548).

A Daguerreotypical Mystery





Daguerreotype images of outdoor scenes, including factories, are extremely rare. This pair of daguerreotypes was acquired recently by David G. Greening [SIA] with the note that they represented the Boston & Sandwich Glass Co. Subsequent research by Helena Wright [SIA], curator of graphic arts at the Natl. Museum of American History, has eliminated not only Sandwich but also Cambridge Glass Co., since the prominent bottle kilns of those works do not appear in the images. The daguerreotype process suggests an 1850s date and the clean building and site appearance indicate a newly constructed factory, perhaps in New England. If you can solve the mystery, please contact Greening at 2200 First Natl. Bank Building, St. Paul, MN 55101 (612-223-6636, fax 223-6450).

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; corporate, $250; student, $20. Send check payable to SIA to Treasurer, Room 5014-MRC629, National Museum of American History, Smithsonian Institution, Washington, D.C. 20560; all business correspondence should be sent to that office.

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.

Mailing dates for Vol. 22 (1993): No. 1, Apr. If you have not received an issue, apply to SIA-HQ, Rm. 5014-MRC629 NMAH, Wash. D.C. 20560 for replacement copy.

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USE FAX! Transmit to Bob Frame at TeleFax phone 612-222-4139.

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SOCIETY FOR INDUSTRIAL ARCHEOLOGY