SOCIETY Occasional No.4 Publication
Washington, D.C. * 1984

P.K. Anderson Jr. - Del

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Arlington, Va

THE SOCIETY FOR INDUSTRIAL ARCHEOLOGY promotes the study of the physical survivals of our industrial heritage. It encourages and sponsors field investigations, research, recording, and the dissemination and exchange of information on all aspects of industrial archeology through publications, meetings, field trips, and other appropriate means. The SIA also seeks to educate the public, public agencies, and owners of sites on the advantages of preserving, through continued or adaptive use, structures and equipment of significance in the history of technology, engineering, and industry. A membership information brochure and a sample copy of the Society's newsletter are available on request.

Society for Industrial Archeology Room 5020 National Museum of American History Smithsonian Institution Washington, DC 20560

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Library of Congress Catalogue Card Number: 84-51536

Cover illustration: 'The above illustration is taken direct from a photograph and shows a square end view of a Parabolic Truss Bridge designed and built by us at Williamsport, Pa. The bridge is built across the Susquehanna River and consists of five spans of 200 ft. each with a roadway 18 ft. wide in the clear. Since the bridge was built a walk has been added on the north side. This is one of the longest iron high way bridges in the State of Pennsylvania and is built after our Patent Parabolic Form.' The bridge was built in 1885 and had a short life, being destroyed by flood in the 1890s. Cut and quote from an advertisement in Electrical World, October 8, 1892. For a detailed history of the Berlin Iron Bridge Company and its products, see 'Lenticular Bridges from East Berlin, Connecticut' by Victor C. Darnell in IA, the journal of the Society for Industrial Archeology, Vol. 5, 1979 and Vol. 7, 1981 (p. 73).

<u>Back cover illustration</u>: the heroic name plaque of Australia's Hawksbury River Bridge (1886-1946), its only surviving fabric. Photograph by D. Fraser, New South Wales.

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FOREWORD

The Society for Industrial Archeology is pleased to publish this valuable guide prepared by one of its members, Victor C. Darnell. Industrial Archeology is the study of the surviving structures and artifacts of the industrial past. Bridges are among the most significant examples of industrial design, yet there has been little previous research on the American bridge builder of the nineteenth century. With the exception of great builders such as the Roeblings, the men who erected the bridges that linked American communities and regions have remained largely unknown. Mr. Darnell's work goes far to remedy the unfortunate neglect of this important part of American social, business, and technological history.

As industrial archeologists, the members of the Society are concerned with the preservation of the physical record of American industrial development, a record which includes the products of our nation's bridge builders. Mr. Darnell's meticulous documentation will provide essential information for surveys of bridges and for historical investigations of particular structures. Knowledge is a powerful weapon in the continuous fight to save threatened but still functional bridges.

The dissemination of scholarship through publication is one of the services provided by the Society for Industrial Archeology. The Society publishes an annual journal, <u>IA</u>, a quarterly <u>Newsletter</u>, and occasional special publications. Local chapters of this international organization also produce publications of their own. For information about the Society, its activities, and publications please write to SIA, Room 5020, National Museum of American History, Washington, D.C. 20560.

Patrick M. Malone Past President, SIA

THE AUTHOR

Victor Darnell received a Bachelor's degree in Civil Engineering from the Massachusetts Institute of Technology in 1943 and then spent three years in the U.S. Navy assigned to construction and repair of naval vessels. He then joined the Berlin Construction Company, Berlin, Connecticut, retiring in 1977. For much of that period he was Chief Engineer, responsible for most of the major design projects, and had the opportunity to inspect bridges and work with the erection department.

While active in business he also took part in civic organizations and still is a Trustee of the New Britain Museum of American Art where he had been Chairman for nine years. Since retiring, Darnell has intensified his study of the development of bridges in which he combines an interest in history with the training and experience of a professional engineer and steel fabricator. His article Lenticular Bridges from East Berlin, Connnecticut appeared in IA, the journal of the SIA, and he contributed to Connecticut—An Inventory of Historic Engineering and Industrial Sites.

A

Abbott, Job See Wrought Iron Bridge Company Abbott-Gamble Contracting Company Adams, (J.D.) and Company Agawam Foundry Alabama Bridge and Boiler Company Alabama Bridge Company Alabama Bridge and Iron Company Albany Bridge and Iron Works Albany Iron and Machine Works Albany Iron Works Albree, Chester B. Albuquerque Bridge Company Alden, John See Alden and Lassig Bridge Works and Lassig and Alden Bridge and Iron Works Alden and Lassig Bridge Works Alexander Iron Works Allen and Nelson Mill Company Allentown Rolling Mill Company American Bridge Company (1870) Also see Appendix B American Bridge Company (1900) Also see Appendix C American Bridge and Contract Company American Bridge and Iron Company American Bridge Works Anderson Bridge Company Andrews, D.H. Andrews Bridge Company Architectural Iron Works Armstrong and Printzenhoff Ashbury, (E.P.) and Son Atkinson Brothers and Company Atlanta Bridge and Axle Company Altanta Bridge Works Atlantic Bridge Works Atlas Iron Construction Company Attica Bridge Company Austin, (George L.) and Brother Austin Bridge Company

Canton, Ohio
St. Louis, Missouri
Indianapolis, Indiana
Springfield, Massachusetts
Birmingham, Alabama
Jasper, Alabama
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Albany, New York
Albany, New York
Allegheny, Pennsylvania
Albuquerque, New Mexico

Rochester, New York Chicago, Illinois Rochester, New York Syracuse, New York Seattle, Washington Allentown, Pennsylvania Chicago, Illinois

New York, New York

Portland, Oregon Roanoke, Virginia Chicago, Illinois Salt Lake City, Utah Boston, Massachusetts Omaha, Neb, and Ogden, Utah New York, New York Philadelphia, Pennsylvania Houston, Texas Colorado Springs, Colorado Atlanta, Georgia Atlanta, Georgia New York, New York New York, New York Attica, Indiana Dallas, Texas Chicago, Illinois

 \mathbf{B}

Badger, Daniel
See Architectural Iron Works
Bagley, C.H.
Baird, (C.R.) and Company
See Philadelphia Bridge Works
Baker Iron Works

New York, New York Rutland, Vermont

Philadelphia, Pennsylvania Los Angeles, California

Ball, Charles H. Baltimore Bridge Company Barnes Culvert Bridge Company Barrett Bridge Company Bartlett, Hayward and Company Bay City Iron works Beardsley, Miles B. Bellefontaine Bridge and Iron Company Bemis and Krum Benner and Opdyke Bennett, (W.F.) and Company Bentley Construction Company Berlin Construction Company Berlin Iron Bridge Company Birmingham Bridge and Bolt Works Birmingham Bridge Company Black, F.C. Black, William A. See Urbana Bridge Company Blagen, N.J. Blair, (B.L.) and Company Blaise, E. Blake and Duffy Blodgett and Curry See National Bridge and Iron Works Bogert and Carlough Company Boller, Alfred P. Bollman, Wendel See Patapsco Bridge and Iron Works Bollman, (W.) and Company Boody, Azariah See chronological list of companies Boody, Stone and Company Boody, Stone and Harris Boomer, L.B. (and Company) Boomer, Boyington and Company See Boomer, L.B. Boomer Bridge Works See Boomer, L.B. Bornemann, (August) and Sons Boston Bridge Works Boston Steel and Iron Company Boyington and Rust Brackett Bridge Company Bradbury and Spencer Braun, Joseph Brenneman, J.E. Briggs, Albert D. See Harris, Briggs, and Company Briggs, (A.D.) and Company

Brown, E.G.

Brown and Lucius

Buchan, George R.

Buchanan Bridge Company

East Windsor, Massachusetts Baltimore, Maryland Philadelphia, Pennsylvania Port Jervis, New York Baltimore, Maryland San Francisco, California Bridgeport, Connecticut Bellefontaine, Ohio Sidney, Ohio Philadelphia, Pennsylvania Portland, Maine Portland, Oregon Berlin, Connecticut Berlin, Connecticut Birmingham, Alabama Birmingham, Alabama Spartansburg, Pennsylvania

Urbana, Ohio Portland, Oregon Indianapolis, Indiana Sigourney, Iowa New York, New York

Boston, Massachusetts Paterson, New Jersey New York, New York

Baltimore, Maryland Baltimore, Maryland

Springfield, Massachusetts Springfield, Massachusetts Springfield, Massachusetts Chicago, Illinois

Chicago, Illinois

Chicago, Illinois
Lancaster, Ohio
Boston, Massachusetts
Boston, Massachusetts
Chicago, Illinois
Cincinnati, Ohio
Oregonia, Ohio
Columbus, Ohio
Philadelphia, Pennsylvania

Springfield, Massachusetts Springfield, Massachusetts Elizabeth, New Jersey New York, New York Pittsburgh, Pennsylvania Bellefontaine, Ohio

Buckeye Bridge and Boiler Works
Buckeye Bridge Company
Buddington, J.B.
Buffalo Bridge and Iron Works
Buffalo Engineering Company
Buffalo Structural Steel Works
Bullen, C.A.
Bullen Bridge Company
Burchinal and Hurtzog
Burrall, W.H.

See Hawkins, Herthal and Burrall Burrows, O.R. Burton and MacDonald

Butler, John Butler, Ryan Company Cleveland, Ohio
Cleveland, Ohio
New Haven, Connecticut
Buffalo, New York
Buffalo, New York
Buffalo, New York
Portland, Oregon
Portland, Oregon
Monroe, Iowa

Springfield, Massachusetts Minneapolis, Minnesota New York, New York and Philadelphia, Pennsylvania Somerville, Massachusetts St. Paul, Minnesota

C

California Bridge Company California Bridge and Construction Company Camden Iron Works Campbell, C.E.H. Campbell and Zell Company Canda, F.E. Canton Bridge Company Carnegie Steel Company Carrere and Haas Carroll, (D.W.C.) and Company Carroll Porter Boiler and Tank Company Cartter, (M.S.) and Company Cavanagh, G.H. Central Bridge Company Central Bridge Company Champion Bridge Company Champion Iron Bridge Company

Champion Iron Bridge and Manufacturing Company Champion Iron Company Chapin, (N.) and Company Chapin and Wells Charlestown Bridge Company Chicago Bridge and Iron Company Chicago Forge and Bolt Company Chicago Timber and Bridge Company Cincinnati Architectural Iron Works Cincinnati Bridge Company (1873) Cincinnati Bridge Company (1896) Clark, Henry Clark, John See Bollman, (W.) and Company Clarke, (J.G.) and Company Clarke, Thomas C.

Clarke Bridge Company

San Francisco, California San Francisco, California Salem, Virginia Council Bluffs, Iowa Baltimore, Maryland Chicago, Illinois Canton, Ohio Pittsburgh, Pennsylvania New York, New York Pittsburgh, Pennsylvania Pittsburgh, Pennsylvania St. Louis, Missouri Boston, Massachusetts Buffalo, New York St. Louis, Missouri Wilmington, Ohio Hamilton, Ohio and Wilmington, Ohio Wilmington, Ohio Kenton, Ohio Chicago, Illinois Chicago, Illinois Charlestown, West Virginia Chicago, Illinois Chicago, Illinois Chicago, Illinois Cincinnati, Ohio Cincinnati, Ohio Cincinnati, Ohio Buffalo, New York

Baltimore, Maryland Baltimore, Maryland Appendix D Baltimore, Maryland

Clarke, Reeves and Company Clayton, Jno. V. Cleveland Bridge and Car Works Cleveland Bridge Company Cleveland Bridge and Iron Company Cleveland Erecting Company Clinton Bridge Company Clinton Bridge and Iron Works Clinton Smith Bridge Company Cody, (Joseph) and Son Cofrode, (J.H.) and Company Cofrode and Evans Cofrode and Saylor Colburn, (A.W.) and Company Collins, (H.E.) and Company Columbia Bridge Company Columbia Bridge Company Columbus Bridge Company Comins, Reuben Conley, William B.

See Riter and Conley
Consolidated Steel Corporation
Consolidated Western Steel Corporation
Continental Bridge Company
Converse Bridge Company
Coolidge, (W.G.) and Company
Cooper, Hewitt and Company
Cooper and Nash
Cooper and Wigand
Cornell, J.B. and J.M.
Corning, (Edward) and Company
Coronado Foundry and Machine Company
Corrugated Metal Company

See Berlin Iron Bridge Company
Coshocton Iron Works
Cotton Brothers and Company
Cowan Bridge Company
Cowin, William
Crept, George E.
Crisle and Conkey
Crouch, (H.W.) and Brothers
Cunningham and Keepers
See Milwankee Bridge and Iron Works

See Milwaukee Bridge and Iron Works Curran and Hussey Cushman Iron Company

Philadelphia, Pennsylvania Springfield, Ohio Cleveland, Ohio Cleveland, Ohio Cleveland, Ohio Cleveland, Ohio Clinton, Iowa Clinton, Iowa Cleveland, Ohio Peoria, Illinois Philadelphia, Pennsylvania Philadelphia, Pennsylvania Philadelphia, Pennsylvania Northborough, Massachusetts Pittsburgh, Pennsylvania Dayton, Ohio Portland, Oregon Columbus, Ohio Troy, New York

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Appendix C
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Fort Edward, New York
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Coronado, California

Berlin, Connecticut
Coshocton, Ohio
Oakland, California
Chattanooga, Tennessee
Lambertville, New Jersey
Chattanooga, Tennessee
Evansville, Indiana
Charleston, South Carolina

Milwaukee, Wisconsin Pittsburgh, Pennsylvania Roanoke, Virginia

D

Dailey, John A.
Daniels, Joseph
Daniels, Stephen
Danielson, G.
Dauphin Bridge and Construction Company
Dayton Architectural Iron Works
Dayton Bridge Company
Dean and Westbrook

Providence, Rhode Island Rockville, Indiana Marietta, Ohio Neenah, Wisconsin Dauphin, Pennsylvania Dayton, Ohio Dayton, Ohio New York, New York

Decatur Bridge and Construction Company
DeGraff, Simon
Delaplaine and West
Delaware Bridge Company
Delaware Construction Company
Denithorne, (John) Son and Company
See Schuylkill Bridge Company

See Schuylkill Bridge Company
Denmead, (A. and W.) and Sons
Denton, Gilbert H.
Des Moines Bridge and Iron Works
Des Moines Manufacturing and Supply Company
Detroit Bridge and Iron Works
Dibley and Robinson
Dildine Bridge and Construction Company
Diver, (J.B.) and Company
Dobbins, Richard
Dominion Bridge Company

See Wrought Iron Bridge Company Dover Boiler Works Duerr, (H.O.) and Company Dum, Benjamin

See Hocking Valley Bridge Company
Duncan, T.J.
Dundon Bridge and Construction Company
Dunleith and Dubuque Bridge Company
Dunn and Goar
Dupuis, Augustus J.
Durkee, E.E.
Dwight and Hoyt

E

Eastern Bridge and Structural Company
Edge Moor Iron Company
Eli Bridge Company
Elmira Bridge Company, Limited
Empire Bridge Company
Empire Construction Company
Enterprise Iron Works
Etna Construction Company
Eureka Bridge and Iron Company
Evans, Louis P.
Eyre, (John P.) and Company

F

Fair-Williams Bridge and Manufacturing Co.
Farnsworth and Blodgett
Ferris, Kaufman and Company
Finley, David
Flynt Building and Construction Company
Fort Pitt Bridge Company
Frakman Brothers
Franklin Brothers
Frasier, William J.
Frees, Peter See King, Zenas

Decatur, Alabama
Syracuse, New York
Philadelphia, Pennsylvania
Trenton, New Jersey
Wilmington, Delaware

Phoenixville, Pennsylvania
Baltimore, Maryland
Denver, Colorado
Des Moines, Iowa
Des Moines, Iowa
Detroit, Michigan
Minneapolis, Minnesota
Cameron, Missouri
Keokuk, Iowa
Lowell, Massachusetts

Canton, Ohio Dover, New Jersey Philadelphia, Pennsylvania

Lancaster, Ohio
Cedar Rapids, Iowa
San Francisco, California
Dubuque, Iowa
Frankfort, Indiana
Detroit, Michigan
Ashland, Wisconsin
Springfield, Massachusetts

Worcester, Massachusetts
Wilmington, Delaware
Jacksonville, Illinois
Elmira, New York
New York, New York
New York, New York
Baltimore, Maryland
Columbus, Ohio
Chicago, Illinois
Philadelphia, Pennsylvania
Philadelphia, Pennsylvania

Ottumwa, Iowa
Kansas City, Missouri
Pittsburgh, Pennsylvania
San Francisco, California
Palmer, Massachusetts
Pittsburgh, Pennsylvania
Minneapolis, Minnesota
Minneapolis, Minnesota
Detroit, Michigan
Cleveland, Ohio

G

Gagnier-Griffin Suspended Railway Company Gallagher, D.F. Garrett, Jno. T. Garrett-Ford Company Gates, James Geisel Construction Company Gibson, R.W. Gilbert and Smith Gillette-Herzog Manufacturing Company Gilmon, George H. Goodrich and Robson Gottlieb, (A.) and Company Graham, Charles Grand Rapids Bridge Company Grandville, John Grant, M.B. Gray, Willard A. Gregory, Bandon and Robinson Griffin, M.J. Groton (Iron) Bridge Company See Groton Bridge and Manufacturing Co. Groton Bridge and Manufacturing Company Grout, C.W. Gude and Walker

Chicago, Illinois Boston, Massachusetts St. Louis, Missouri Boston, Massachusetts St. Louis, Missouri St. Louis, Missouri Philadelphia, Pennsylvania Gettysburg, Pennsylvania Minneapolis, Minnesota Buffalo. New York Sioux City, Iowa Chicago, Illinois Cincinnati, Ohio Grand Rapids, Michigan De Pere, Wisconsin Enterprise, Mississippi Bloomington, Illinois Cincinnati, Ohio Detroit, Michigan

Groton, New York Groton, New York Kane, Pennsylvania Atlanta, Georgia New Iberia, Louisiana

Sioux City, Iowa Toledo, Ohio Hamilton, Ohio Hamilton, Ohio

Canton, Ohio Chicago, Illinois Boston, Massachusetts

Springfield, Massachusetts Boston, Massachusetts Springfield, Massachusetts

Springfield, Massachusetts Springfield, Massachusetts Springfield, Massachusetts Dallas, Texas Springfield, Massachusetts Fort Worth, Texas

Albany, New York

Albany, New York
Fargo, North Dakota
Philadelphia, Pennsylvania

H

Haley Foundry and Machine Works Hamilton, T.H. Hamilton Bridge Company Hamilton Tool and Construction Company Hammond, David

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Harris, (D.L.) and Company

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Guilfoux and Blanc

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Harris and Hawkins Harris and Leversedge Harris and Wright

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See Albany Iron and Machine Works Haskins, W.J.
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Hawkins, Herthal and Burrall
Hay Foundry and Iron Works
Healy, Tibbitts and Company
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Hilton Bridge Construction Company
H.M.R. Construction Company

Hocking Valley Bridge Company Hodges, H.C.

Hoffman and Bates

Hoffman Engineering and Contracting Company

Holmes, (J.H.) and Company

Hood, R.H. Hoover, J.W.

Hopkins, (H.S.) and Company

Hopkins Bridge Construction Company

Hopkins Construction Company

Hopper, Isaac A.

Horseheads Bridge Company

Horton, C.

Horton, (C.M.) and Company

Horton, Horace E.

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The state of the s

Illinois Bridge Company
Illinois Bridge and Iron Company
Indiana Bridge Company
Indianapolis Bridge Company
Indianapolis Bridge and Iron Works
Indianapolis Switch and Frog Company
Insley, Shire and Tullock

See Missouri Valley Bridge and Iron Works

Montour Falls, New York

St. Albans, Vermont
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Springfield, Massachusetts
Springfield, Massachusetts
Springfield, Massachusetts
Springfield, Massachusetts
Newark, New Jersey
San Francisco, California
St. Louis, Missouri

Springfield, Massachusetts

Minneapolis, Minnesota Minneapolis, Minnesota Minneapolis, Minnesota Pittsburgh, Pennsylvania St. Joseph, Missouri

Albany, New York Albany, New York Chicago, Illinois Lancaster, Ohio St. Joseph, Missouri Portland, Oregon Philadelphia, Pennsylvania Rutland, Vermont New York, New York Kansas City, Missouri St. Louis, Missouri St. Louis, Missouri St. Louis, Missouri New York, New York Horseheads, New York Austin, Texas Duluth, Minnesota

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Rochester, Minnesota
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Hudson, New York
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Humboldt, Kansas
Indianapolis, Indiana
Troy, New York

Chicago, Illinois Sullivan, Illinois Muncie, Indiana Indianapolis, Indiana Indianapolis, Indiana Indianapolis, Indiana

Leavenworth, Kansas

I

Iron City Bridge Company Iron Substructure Company Pittsburgh, Pennsylvania Columbus, Ohi

J

Jackson Architectural Iron Works
Jackson Bridge and Iron Company
Jardine, Jno.
Johnson, L.H.
Johnson and Peterson
Joliet Bridge and Iron Company
Jones, C.P.
Jones and Benner
Jones, Haskell and Company
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Jones and Hewett
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Junkins (John H.) and Son

New York, New York
Jackson, Michigan
Fargo, North Dakota
Minneapolis, Minnesota
Oakland, California
Joliet, Illinois
Minneapolis, Minnesota
Philadelphia, Pennsylvania

Albany, New York

Minneapolis, Minnesota San Francisco, California Upper Sandusky, Ohio

K

Kansas City Bridge and Iron Company Kaufman, Gustave Kearns, (T.A.) Company Keepers and Riddell See Milwaukee Bridge and Iron Works Kellogg, Charles

Also see

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Kellogg, (Charles) and Company

Kellogg Bridge Company

Kellogg, Clarke and Company

Kellogg Iron Bridge Works

Kellogg Iron Works

Kellogg and Maurice

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Kelly and Atkinson

Kennedy, Archibald McM.

Kennedy, (A.M.) and Sons

Kennedy, Emmett

Kennedy, Jas.

Kennedy Brothers

Kenwood Bridge Company

Keystone Bridge Company

Keystone Bridge Works

See Keystone Bridge Company

Keystone Structural Company

King, George

See King Wrought Iron Bridge Manufactory

and Iron Works

King, (George E.) Bridge Company

King, Zenas

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Rushville, Indiana
Rushville, Indiana
Fargo, North Dakota
Rushville, Indiana
Chicago, Illinois
Pittsburgh, Pennsylvania

Pittsburgh, Pennsylvania Philadelphia, Pennsylvania

Iola, Kansas Des Moines, Iowa Cleveland, Ohio

King Bridge Company

See King Iron Bridge and Manufacturing Co. King Iron Bridge and Manufacturing Company King Wrought Iron Bridge Manufactory and

Iron Works Kirk, W.T.

Knopf, George W.

Koken, Graydon and Company

See Koken Iron Works Koken Iron Works

Kramer, B.F.

Kunnert, (E.) Manufacturing Company

Kuntz, C.N.

L

La Chicotte, Henry A.

Lafayette Bridge Company

Laird, (John) and Company Lamar Iron Works

Lamon, William E.

Lane, D.F.

See Lane Bridge Works

Lane, P.E.

See Lane Bridge and Iron Works

Lane Bridge Works

Lane Bridge and Iron Works

Lane Bridge and Iron Works

Lane Brothers Bridge and Construction Company

Lanfersieck and Grothaus Company

Lappan, (James) and Company

Lassig, Moritz

Also see Alden and Lassig Bridge Works Lassig and Alden Bridge and Iron Works

Lassig Bridge and Iron Works

Latrobe, Charles H.

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and Smith, Latrobe and Company

Laydon, Darby and Company

Legget and Berry

Lehmer, J.R.

Leighton, Thomas

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Leighton Bridge and Iron Works

Leighton and Fowler

Leonard, (S.S.) Company

Leonard, Foley and Company

Levering and Garrigues

Lewinson and Just

Licking Iron Works

Lima Bridge Company

Lincoln, M.W.

Little, D.P.N.

Livengood, W.C.

Llwellyn Iron Works

Lomas Forge and Bridge Works

Cleveland, Ohio Cleveland, Ohio

Iola and Topeka, Kansas Plainfield, New Jersey Pittsburgh, Pennsylvania

St. Louis, Missouri St. Louis, Missouri Charleston, South Carolina Watertown, Wisconsin Pittsburgh, Pennsylvania

New York, New York Lafayette, Indiana Canton, Ohio Lamar, Missouri Chicago, Illinois

Painted Post, New York

Chicago, Illinois
Painted Post, New York
Chicago, Illinois
Denver, Colorado
Newark, Ohio
New Bremen, Ohio
Pittsburgh, Pennsylvania
Chicago, Illinois
Rochester, New York
Chicago, Illinois
Chicago, Illinois

Baltimore, Maryland Baltimore, Maryland San Francisco, California Toledo, Ohio Omaha, Nebraska

Rochester, New York
Rochester, New York
Rochester, New York
Jacksonville, Florida
Philadelphia, Pennsylvania
Philadelphia, Pennsylvania
New York, New York
Covington, Kentucky
Lima, Ohio
La Junta, Colorado
Los Angeles, California
Philadelphia, Pennsylvania
Los Angeles, California
Cincinnati, Ohio

Long, Frank R.
Long, Col. Stephen
See New York Iron Bridge Company
Louisville Bridge and Iron Company
Love, E. and E.
Lowthorp, F.C.
Lowthorp and Henderson
See Lowthorp, F.C.
Lucas, (A.) and Sons

New York, New York

New York, New York Louisville, Kentucky Corry, Pennsylvania Trenton, New Jersey

Trenton, New Jersey Peoria, Illinois

M

MacDonald, Charles
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MacDonald and Onderdonk
Magden, S.G.
Manhattan Bridge Building Company
Mankato Manufacturing Company
Marietta Bridge Company
Marsh, J.B.
Marshalltown Bridge and Iron Works
Maryland Steel Company
Mason, Gooch and Hoge Company
Massillon (Iron) Bridge Company
Maurice, Charles

See Kellogg and Maurice
Mayer, H.J.
Mayo, W.G.
McCain, (F.J.) Company
McCann and Sons
McClay, (J) and Son
McClintic-Marshall Construction Company
McClure, James
McCormick, J.
McCurdy and McDurmut
McDonald, C.J.

McGee, Kohlmann and Company

McHose and Lyon

See Dayton Architectural Iron Works McLaughlin and McKenna

McMahon, (B.C.) and Company

McMahon, Jas. A. McManis and Son McMullen and Morris

McNairy and Claflen Manufacturing Company

See Cleveland Bridge and Car Works

Melber, Fred K.

Michigan Bridge Company

Michigan Bridge and Construction Company

Mickle, B.

Miller, A.C.

Miller, R.L.

Miller, Jamieson and Company

See Buckeye Bridge Company

Milliken Brothers

Milwaukee Bridge and Iron Works

New York, New York

Chicago, Illinois
Des Moines, Iowa
New York, New York
Mankato, Minnesota
Marietta, Ohio
Des Moines, Iowa
Marshalltown, Iowa
Sparrows Point, Maryland
Frankfort, Kentucky
Massillon, Ohio

Athens, Pennsylvania
St. Joseph, Missouri
Medford, Massachusetts
Chicago, Illinois
San Francisco, California
Hartford, Connecticut
Pittsburgh, Pennsylvania
St. Paul, Minnesota
Albany, New York
Lima, Ohio
Pittsburgh, Ohio
Kansas City, Missouri

Dayton, Ohio Cleveland, Ohio San Francisco, California San Francisco, California Princeton, Illinois St. Paul, Minnesota

Cleveland, Ohio
Pittsburgh, Pennsylvania
Portland, Michigan
Detroit, Michigan
Marion, Alabama
Genoa, Minnesota
St. Louis, Missouri

Cleveland, Ohio New York, New York Milwaukee, Wisconsin

Milwaukee Bridge and Steam Forging Company
Milwaukee Variety Iron Works
Minneapolis Bridge Company
Minnesota Stone Company
Missouri Valley Bridge and Iron Works
Monks, John
Montgomery and Howard
Monumental Foundry
See Denmead, (A. and W.) and Sons
Morava, W.
Morris, R.L.

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Morris Construction Company
Morrison, C.C.

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See Columbia Bridge Company Morse Bridge Company Moseley, Thomas W.H.

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Moseley and Company
Moseley Iron Bridge and Roof Company
Moseley Iron Building Works
Motherell Iron and Steel Company
Mount Vernon Bridge Company
Muler, Charles F.
Murray, Dougal and Company
Murray and Hazelhurst

Milwaukee, Wisconsin Minneapolis, Minnesota Minneapolis, Minnesota Leavenworth, Kansas New York, New York Chelsea, Massachusetts

Milwaukee, Wisconsin

Baltimore, Maryland Chicago, Illinois Woodburn, Oregon Chicago, Illinois

Dayton, Ohio

Dayton, Ohio Youngstown, Ohio Philadelphia, Pennsylvania

Cincinnati, Ohio
New York, New York
Boston, Massachusetts
Logan, Ohio
Mount Vernon, Ohio
St. Louis, Missouri
Milton, Pennsylvania
Baltimore, Maryland

N

National Bridge and Iron Works Nelson and Buchanan New Castle Bridge Company New Columbus Bridge Company New England Engineering Company New England Engineering Company New England Iron Company New England Structural Company New Jersey Dock and Bridge Building Company New Jersey Steel and Iron Company New York Bridge Company New York Iron Bridge Company Niagara Bridge Works North Western Construction Company Northwestern Iron Works Norton Iron Company Novelty Iron Works Novelty Iron Works See also Clinton Bridge Company Novelty Iron Works Nunning and Lubbering

N.W. Bridge Company

Boston, Massachusetts Chambersburg, Pennsylvania New Castle, Indiana Columbus, Ohio Springfield, Massachusetts Fall River, Massachusetts Boston, Massachusetts East Everett, Massachusetts Elizabeth, New Jersey Trenton, New Jersey New York, New York New York, New York Buffalo, New York Wahpeton, North Dakota St. Louis, Missouri East Everett, Massachusetts Dubuque, Iowa Cleveland, Ohio Clinton, Iowa Philadelphia, Pennsylvania Cincinnati, Ohio Tacoma, Washington

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O'Brien, Sheehan and McBean
Ohio Bridge Company
Ohio Bridge Company
Ohio Falls Iron Works
Ohio Machine Company
Ontario Iron Bridge Company
Oregonia Bridge Company
Osman, (A.G.) and Company
Oswego Bridge Company
Overhoff, Frederick
Owego Bridge Company

Pacific Bridge Company

New York, New York
Cleveland, Ohio
Toledo, Ohio
New Albany, Illinois
Middleport, Ohio
Ontario, Wisconsin
Oregonia, Ohio
Duluth, Minnesota
Oswego, New York
Buffalo, New York
Owego, New York

P

Pacific Construction Company Pacific Rolling Mill Company Palmer, (S.B.) and Company Parker, Charles See National Bridge and Iron Works Parker, M.S. Parker, Thatcher A. Parkhurst Brothers and Company Parks, B.F. Partridge, Reuben L. Passaic Rolling Mill Company Patapsco Bridge and Iron Works Patterson, M.J. Pencoyd Iron Works Penn Bridge Company Penn Bridge and Machine Works Pennsylvania Construction Company Pennsylvania Erecting Company Pennsylvania Steel Company Penobscot River Steam Boiler Works Peppard, O.E. Perham Brothers Perkins, (J.P.) and Son Perry, M.M. Phelps Manufacturing Company Philadelphia Bridge Works Phillips, R.H. Phillipsburg Manufacturing Company Phoenix Bridge Company Phoenix Iron Company Phoenixville Bridge Works Piper and Shiffler Pittsburgh Architectural Iron Works Pittsburgh Bridge Company Pittsburgh Construction Company Pittsburgh Iron and Steel Engineering Company

Pittsburgh Locomotive and Car Works

Plattsville Bridge Company

San Francisco, California San Francisco, California San Francisco, California Stroudsburg, Pennsylvania

Boston, Massachusetts Great Falls, Montana Terre Haute, Indiana Indianapolis, Indiana Cedar Rapids, Iowa Marysville, Ohio Paterson, New Jersey Baltimore, Maryland Denver, Colorado Philadelphia, Pennsylvania Beaver Falls, Pennsylvania New Brighton, Pennsylvania Pittsburgh, Pennsylvania Philadelphia, Pennsylvania Steelton, Pennsylvania Bangor, Maine Missoula, Montana Butte, Montana Boston, Massachusetts Williamsport, Pennsylvania San Francisco, California Philadelphia, Pennsylvania St. Louis, Missouri Phillipsburg, New Jersey Philadelphia, Pennsylvania Phoenixville, Pennsylvania Philadelphia, Pennsylvania Pittsburgh, Pennsylvania Pittsburgh, Pennsylvania Pittsburgh, Pennsylvania Chicago, Illinois Pittsburgh, Pennsylvania Pittsburgh, Pennsylvania Plattsville, Pennsylvania

Portland Bridge and Building Company Portsmouth Structural Steel and Iron Company Post, Andrew

See Atlanta Bridge Works Post, McCallum and Company See Atlantic Bridge Works Post and McCord

Potomac Bridge Works Pottstown Bridge Company Pottsville Bridge Works

Pottsville Iron and Steel Company See Pottsville Bridge Works

Powers, Nicholas M.

Providence Architectural Iron and Metal Works Providence Pile Driving and Bridge Building Co.

Pruyn and Lansing Pueblo Bridge Company

Puget Sound Dredging Company

Q

Quackenbush, John Queen City Bridge and Steam Forging Company Webster City, Iowa

Radcliffe, J.G. Rapid Transit and Bridge Construction Company Raymond, A.A.

Raymond and Campbell

Reading Rolling Mill Company

Redfield, (R.) and Sons

Rezner, Stone and Company See Ohio Bridge Company

Richards, (C.O.) and Company

Richardson, W.R. Riddell and Morris

See Milwaukee Variety Iron Works

Rider, G.F.

See Rider Iron Bridge Company

Rider, Nathaniel

See Rider Iron Bridge Company

Rider, (W.) and Brothers

See Rider Iron Bridge Company

Rider Iron Bridge Company

Riesner, B.A.

Rinkler and Hoff

Riter, James

Riter, Thomas

See Riter and Conley

Riter and Conley

Riter-Conley Manufacturing Company

Riverside Bridge and Iron Works

Roach, John

Roberts, (A. and P.) Company

Roberts, (Warren) Company

Atlanta, Georgia

Portland, Oregon

Portsmouth, Ohio

New York, New York New York, New York Frederick, Maryland Pottstown, Pennsylvania Pottsville, Pennsylvania

Pottsville, Pennsylvania Clarendon, Vermont Providence, Rhode Island Providence, Rhode Island Albany, New York Pueblo, Colorado Seattle, Washington

Cincinnati, Ohio

Waukon, Iowa Chicago, Illinois Omaha, Nebraska Council Bluffs, Iowa Reading, Pennsylvania New Haven, Connecticut

Cleveland, Ohio New York, New York San Francisco, California

Milwaukee, Wisconsin

New York, New York

New York, New York

New York, New York New York, New York Houston, Texas Minneapolis, Minnesota Pittsburgh, Pennsylvania

Pittsburgh, Pennsylvania Pittsburgh, Pennsylvania Pittsburgh, Pennsylvania Paterson, New Jersey New York, New York Philadelphia, Pennsylvania Chicago, Illinois

Robson, J.A.

Rochester Bridge Company
Rochester Bridge and Construction Company
See Havana Bridge Works
Rochester Bridge and Iron Works
Roebling's, (John A.) Sons Company
Rogers Iron Company
Roller, (W.H.) and Company
Ross, Jno.
Ross, P.S.
Rothwell's Reliance Steel and Iron Works
Russell, H.S.
Russell Bridge Company
Rust and Alden
Rust and Coolidge

Sioux City, Iowa Rochester, Indiana

Montour Falls, New York
Rochester, New York
Trenton, New Jersey
Springfield, Ohio
North English, Iowa
Frankfort, Indiana
Jersey City, New Jersey
St. Paul, Minnesota
Pittsfield, Massachusetts
Massillon, Ohio
Chicago, Illinois
Chicago, Illinois

S

St. Joseph Bridge and Boiler Works St. Joseph Bridge and Iron Company St. Louis Bridge Company St. Louis Bridge and Iron Company St. Paul Foundry Sanderson and Maney San Francisco Bridge Company San Francisco Timber Preserving Company Sante Fe Bridge Company Sawyer and Arthur Sawyier, Reuben A. See also Columbus Bridge Company Scaife, (W.B.) and Sons Scheope-Koken Architectural Iron Company See Koken Iron Works Scherzer Rolling Lift Bridge Company Schreiber, (L.) and Sons Company Schultz, C.J.

See Schultz Bridge Iron Company Schultz Bridge Iron Company Schuylkill Bridge Works

Shipman, James W.

Shipman, (J.) and Company

Shoemaker, (Lewis F.) and Company

Also see Shoemaker, (Lewis F.) and Company
Seattle Bridge Company
Sebastian, (H.W.) and Company
Seesero Manufacturing Company
Seevers Manufacturing Company
Shailer and Schniglau
Shanahan and Company
Shanley, B.M. and J.F.
Sheely, (J.R.) and Company
Shepard's, (W.H.) Sons Bridge Company
Sherwood, George W.
Sherwood, Sutherland and Company
Shiffler Bridge Company

St. Joseph, Missouri
St. Joseph, Missouri
St. Louis, Missouri
St. Louis, Missouri
St. Paul, Minnesota
Portland, Oregon
San Francisco, California
San Francisco, California
Fort Madison, Iowa
Los Angeles, California
Columbus, Ohio
Columbus, Ohio
Pittsburgh, Pennsylvania

St. Louis, Missouri Chicago, Illinois Cincinnati, Ohio

McKees Rocks, Pennsylvania McKees Rocks, Pennsylvania Phoenixville, Pennsylvania Pottstown, Pennsylvania Seattle, Washington St. Louis, Missouri Oskaloosa, Iowa Oskaloosa, Iowa Chicago, Illinois Richmond, Kentucky Jersey City, New Jersey Des Moines, Iowa Havana, New York St. Paul, Minnesota St. Paul, Minnesota Pittsburgh, Pennsylvania Appendix D Van Hornesville, New York Pottstown, Pennsylvania

Shorthill, A.E.

See Marshalltown Bridge and Iron Works

Skelsey, Edward

Smith, B.P.

Smith, C. Shaler

Also see Smith, Latrobe and Company, and

Baltimore Bridge Company, both of

Smith, (C.W.and F.) Iron Company

Smith, John R.

Smith, (R.L.) Machine Works

Smith, Robert

Also located at

Smith Bridge Company

Smith Construction Company

Smith, Latrobe and Company

South Park Bolt and Bridge Works

Southern Bridge Company

Southern Bridge and Construction Company

Southern Iron and Steel Works

Southwestern Bridge and Iron Company

Springfield Bridge and Iron Company

Springfield Construction Company

Springfield Iron Works

Staats, R.P. and J.H.

Stacey Manufacturing Company

Stacy, Opdyke and Company

Stalk, (N.M.) and Company

Standard Boiler and Bridge Company

Standard Contracting Company

Standard Roof and Bridge Company

Star Iron Works

Steele and Wike

Stein, L. Vanden

Stephens and O'Rourke

Stevens, (W.A.) and Company

Stone, Amasa Jr.

See chronological list of companies

and Appendix B

Stone, Andros B.

Stone, Chas.

Stone and Boomer

Stone and Harris

Storm and Parker

Stouffer. S.

Stratton, (E.L.) and Company

Stratton, Lewis

Strobel, C.L.

Structural Iron Company

Stupp Brothers Bridge and Iron Company

Sykes, (L.) and Son

T

Tacoma Bridge and Construction Company Tapp, H.W.

Marshalltown, Iowa Chicago, Illinois Rochester, New York St. Louis, Missouri

Baltimore, Maryland Cambridge, Massachusetts Springfield, Massachusetts Lincoln, Nebraska Tippicanoe City, Ohio Toledo, Ohio Toledo, Ohio San Francisco, California Baltimore, Maryland St. Paul, Minnesota Birmingham, Alabama Houston, Texas Birmingham, Alabama Fort Worth, Texas Springfield, Illinois Springfield, Massachusetts Springfield, Massachusetts New York, New York Cincinnati, Ohio Philadelphia, Pennsylvania Des Moines, Iowa Bellaire, Ohio Cleveland, Ohio Philadelphia, Pennsylvania Minneapolis, Minnesota Philadelphia, Pennsylvania Tacoma, Washington New York, New York Cleveland, Ohio

Springfield, Massachusetts

Appendix B
St. Paul, Minnesota
Chicago, Illinois
Springfield, Massachusetts
Sigourney, Iowa
York, Pennsylvania
Pittsburgh, Pennsylvania
Pittsburgh, Pennsylvania
Chicago, Illinois
Baltimore, Maryland
St. Louis, Missouri
Philadelphia, Pennsylvania

Tacoma, Washington Fort Wayne, Indiana

Tegmeyer, John H. Templeton, Jno. A. Terre Haute Bridge Company Terry, Joseph C. Thatcher, Burt and Company Thomas Bridge Company Thompson and Bailey Thompson and Company Thompson, (Edgar) Foundry Company Thorp and Bond Tippett and Wood Toledo Bridge Company Toronto Bridge Company See Wrought Iron Bridge Company Tower, James H. Townsend, (F.) and Company See Albany Iron Works Traver, William E. Tredegar Iron Works Trenton Iron Works Trenton Locomotive and Machine Mfg. Company Tullock, A.J. Turner, A.F. Tweeddale, William

U

Union Bridge Company
Union Building and Construction Company
Union Iron and Steel Works
Union Iron Works
Union Iron Works
See Clinton Bridge Company
Universal Construction Company
Urbana Bridge Company

V

Van Dorn Iron Works Company
Van Norman, Whiting D.
Van Norman Bridge Company
Van Norman Bridge Company
Variety Iron Works
Vermont Construction Company
Virginia Bridge and Iron Company
Vreeland, F.W.
Vulcan Iron Works
Vulcan Iron Works
Vulcan Road Machine Company
Vulcan Works
See Murray and Hazelhurst

W

Wabash Bridge and Iron Company
Waco Bridge Company
Wagner, (J.G.) Company
See Milwaukee Bridge and Iron Works

Baltimore, Maryland
Omaha, Nebraska
Terre Haute, Indiana
Fall River, Massachusetts
Cleveland, Ohio
San Francisco, California
Mobile, Alabama
Butte, Montana
Mobile, Alabama
New York, New York
Phillipsburg, New Jersey
Toledo, Ohio

Canton, Ohio Providence, Rhode Island

Albany, New York
Chicago, Illinois
Richmond, Virginia
Trenton, New Jersey
Trenton, New Jersey
Leavenworth, Kansas
Grand Forks, North Dakota
Chicago, Illinois

New York, New York
Passaic, New Jersey
St. Paul, Minnesota
Los Angeles, California

Clinton, Iowa Chicago, Illinois Urbana, Ohio

Cleveland, Ohio
Minneapolis, Minnesota
Minneapolis, Minnesota
Seattle, Washington
Cleveland, Ohio
St. Albans, Vermont
Roanoke, Virginia
Bozeman, Montana
Chicago, Illinois
Denver, Colorado
Charlestown, West Virginia

Baltimore, Maryland

Wabash, Indiana Waco, Texas

Milwaukee, Wisconsin

Wakefield, Robert
Wakefield and Jackson
Walker, F.R.
Walker, J.W.
Walker, Thomas
Walker Brothers
Wall, (Zimri) and Company
Wall, (Z. and J.) and Company
Wallis Iron Works
Ward, John
Warden, Hy.
Wardie and Yeager
Washington Iron Bridge Company
See Rider Iron Bridge Company
Waterhouse, (C.R.) and Son

Waterhouse, (C.R.) and Son
Watkins and Hardaway
Watson Manufacturing Company
Weinhagen F.
Wells, French and Company
Werntz, O.W.

West Virginia Bridge and Construction Company West Virginia Bridge Works Western Bridge Company Western Bridge Company

Western Bridge Works
Western Pennsylvania Bridge Works

Weston Engine Company Wheaton, (R.D.) Bridge Company

Whipple, Squire Whipple, S. and J.M. Whitbeck and Power

See Hudson River Bridge Works

White, I.E. White, Moores M. Wilkins, Grant

Also see Atlanta Bridge Works and Altanta Bridge and Axle Company, both of Wilkins, Post and Company

See Atlanta Bridge Works
Willamet Iron Works
Wisconsin Bridge and Iron Company
Wisconsin Bridge Company
Wise, (George C.) and Company
Wolf, Albert H.
Wolff and Zwicker Iron Works
Wood and Bancroft
Works and Briggs
Wrought Iron Bridge Company

Y Z

Yale Manufacturing Company
Yale Safe and Iron Company
Young, D.H.
Youngstown Bridge Company
Zwilling Brothers and Company
See Novelty Iron Works

Portland, Oregon
Portland, Oregon
Kane, Pennsylvania
Pittsburgh, Pennsylvania
Chicago, Illinois
Charlestown, West Virginia
Hamilton, Ohio
Hamilton, Ohio
Jersey City, New Jersey
Audubon, Iowa
Germantown, Pennsylvania
Cedar Rapids, Iowa

New York, New York New Haven. Connecticut Birmingham, Alabama Paterson, New Jersey Milwaukee, Wisconsin Chicago, Illinois Warsaw, Indiana Wheeling, West Virginia Charlestown, West Virginia San Francisco, California Chicago, Illinois Fort Wayne, Indiana Pittsburgh, Pennsylvania Painted Post, New York Chicago, Illinois Albany, New York Albany, New York

Hudson, New York New York, New York New York, New York Atlanta, Georgia

Atlanta, Georgia

Atlanta, Georgia
Portland, Oregon
Milwaukee, Wisconsin
Prairie du Sac, Wisconsin
Council Bluffs, Iowa
Chicago, Illinois
Portland, Oregon
Omaha, Nebraska
Fitchburg, Massachusetts
Canton, Ohio

New Haven, Connecticut New Haven, Connecticut Manchester, Iowa Youngstown, Ohio

Cleveland, Ohio