CARDS AND ADVERTISEMENTS

Cement	PAGE
Alsen Portland Cement Works	xxxv
Atlas Portland Cement Co	xxxvii
Dexter Portland Cement (Samuel H. French & Co.)	xxxvi
Giant Portland Cement (American Cement Co.)	xxxviii
Lehigh Portland Cement Co	xxxvii
Peerless Portland Cement Co	xxxvi xxxvi
Penn-Allen Portland Cement Co	
Pennsylvania Cement Co	xl
Vulcanite Portland Cement Co	xxxvi
Varicanite Totalitat Contents	
Cement Machinery	
Automatic Weighing Machine Company	XXXIV
Lehigh Car, Wheel & Axle Works	xxxiii
Chimneys	
Alphons Custodis Chimney Construction Co	XXV
Concrete Mixing Machines	xxxii
Chicago Cube Mixer (Municipal Engineering & Contracting Co.)	XXXI*
Construction Companies	
	xxv
Alphons Custodis Chimney Construction Co	xxix
Eastern Expanded Metal Co	xxiv
Ferro Concrete Construction Co	xxiii
Gabriel Concrete Reinforcement Company	XXVII
General Fireproofing Co	xxv
Gilbreth, Frank B	XXV
Trussed Concrete Steel Co	xxvii
Trussed Conference Stool Control	
Conveying Machinery	
Link-Belt Company	xxxi
Link-Belt Company National Belting Company	XXXV
Engineers	
Andrews, D. M	XXII
Follett, W. W.	xxii
Fuller, George W	xxiii
Gowen C S	xxii
Hains, Peter C	xxii
viv	

CARDS AND ADVERTISEMENTS

Engineers—Continued	PAGE
Hering, Rudolph	xxii
Humphrey, Richard L	xxii
Kay, Edgar B	xxii
McKibben, Frank P	xxii
Russell, S. Bent.	XXII
Swain, George F	XXII
Thompson, Sanford E	xxi
Weston, Robert Spurr	xxii
Hydrated Lime	
Charles Warner Company	XXXV
deres and the sample of the sa	AAAIV
Pipe	
Lock Joint Pipe Co	XXX
Reinforcing Metal	
Corrugated Bar Co	xxix
Easte n Expanded Metal Co	xxxiv
Gabriel Concrete Reinforcement Co	xxvii
General Fireproofing Co	XXV
Trussed Concrete Steel Co	xxvii
Testing Apparatus	
Eastwood Co., Benjamin	xxxv
Emil Greiner Co	xxxiv
Tinius Olsen & Co	xxiv
Tile	
Concrete Stone & Sand Co	xxviii
Waterproofing	
Hydrated Lime (Rockland-Rockport Lime Co.)	xxxiv
Hydrex Felt & Engineering Co	XX1V XXXV
Medusa Waterproof Compound (Sandusky Portland Cement Co.)	xl
	980

SANFORD E. THOMPSON M. AM. SOC. C. E.

Consulting Engineer

NEWTON HIGHLANDS, MASS.

CONCRETE

Review of designs, Advice in Design and Construction, Examinations, Tests, Investigations, Reports

ESTIMATES

Detail costs of all classes of construction. Organization of construction work.

GEORGE F. SWAIN

M. Am. Soc. C. E.

Professor of Civil Engineering, Graduate School of Applied Science, Harvard University; Consulting Engineer, Mass. Railroad Commission.

CONSULTING ENGINEER
HARVARD UNIVERSITY, CAMBRIDGE

EDGAR B. KAY

Consulting Engineer
TUSCALOOSA, ALA.

In charge State Testing Laboratory Hydraulic and Concrete Constructions Railroads, Water Supply, Sewerage Physical Tests of all kinds

> C. S. GOWEN M. Am. Soc. C. E.

CIVIL AND HYDRAULIC ENGINEER

Water Works, Water Power and Sewerage OSSINING, N. Y.

ELLIS B. NOYES

M. Am. Soc. C. E.

CONSULTING ENGINEER

NORFOLK, VA.

Formerly of Corps of Engrs. U. S. Army PETER C. HAINS, M. Am. Soc. C. E.

Consulting Engineer

Concrete Work, Bridges, Harbor and River Works, Foundations, Docks, Wharves.

UNION TRUST BUILDING,

WASHINGTON, D. C.

ROBERT SPURR WESTON, Assoc. M. Am. Soc. C. E.

14 BEACON ST., BOSTON.

WATER PURIFICATION, SEWAGE DISPOSAL, ANALYSES OF ALL KINDS.

FRANK P. McKIBBEN

M. Am. Soc. C. E.

Professor of Civil Engineering

Lehigh University South Bethlehem, Pa.

New York City

170 Broadway

RUDOLPH HERING Hydraulic Engineers

Engineers and Sanitary

GEORGE W. FULLER, Sanitary Experts

Specialties: Water Supply, Water Purification, Sewerage and Sewage Disposal.

W. W. FOLLETT M. Am. Soc. C. E.

CONSULTING ENGINEER

TRUST BUILDING

IRRIGATION AND EL PASO, TEXAS WATER SUPPLY

S. BENT RUSSELL

M. Am. Soc. C. E.

CONSULTING CIVIL ENGINEER

417 PINE STREET, St. Louis

Estimates, Plans and Specifications and Superintendence of Engineering Construction

D. M. ANDREWS M. AM. Soc. C. E.

CONSULTING CIVIL ENGINEER

SPECIALTIES: Water Power Development in the South; Examinations, Surveys, Estimates; Reports for Investors or others; Power Plants designed and Construction Superintended.

MONTGOMERY, ALABAMA

RICHARD L. HUMPHREY, M. Am. Soc. C.E.

CONSULTING ENGINEER

HARRISON BUILDING, - - PHILADELPHIA. Specialist in the manufacture, use and tests of Cement and Concrete. Inspection and tests of other materials. Reports made on cement and cement-making materials. Estimates, plans and specifications prepared, and construction superintended.

WILLIAM B. FULLER

M. Am. Soc. C. E.

Consulting Civil Engineer

150 Nassau St., New York City

Concrete Expert. Calculations, Design, and Supervision of Construction of Structures of Concrete and Reinforced Concrete. Mechanical analyses of materials. Sieves rated. Economical Proportioning of Concrete. Design of Contractor's Plant for economical mixing and handling of concrete.

CONCRETE SKYSCRAPER, SIXTEEN STORY
INGALLS BUILDING, TALLEST STRUCTURE
ENTIRELY CONCRETE, EVER ERECTED

= DESIGNED AND ERECTED BY ====

The Ferro-Concrete Construction Company Cincinnati, : Ohio

WRITE FOR CIRCULARS, ESTIMATES OR BIDS ON ANY KIND OF CONSTRUCTION WORK

The Emil Greiner Co. HYDREX

NEW YORK CITY

Manufacturers of

SCIENTIFIC

APPARATUS

and Dealers in

LABORATORY

SUPPLIES

Specialties for

WATER, GAS,

CEMENT, MILK

AND SUGAR

TESTING



Apparatus according to Jackson for Specific Gravity of Cement.

THE WATERPROOFING FELT

Experience has shown that the prime factor in all waterproofing work is not "How cheap", but "How good" is the material and method.

"Hydrex" Waterproof Felt was selected and specified for waterproofing the 50-foot high concrete retaining walls enclosing the vast excavation for the PENNSYLVANIA R. R. TERMINAL, NEW York, and the tunnels in connection therewith, after excelling in official competitive tests every other waterproofing material on the market, in strength, elasticity and intrinsic quality. Is not this fact of record of value to you in selecting a waterproofing material?

HYDREX FELT & ENGINEERING CO.

CHEMISTS AND MANUFACTURERS OF WATERPROOFING MATERIALS 120 Liberty Street, New York CHICAGO WASHINGTON



TESTING MACHINES

Cement, Concrete, Stone, Road Materials, Brick, Macadam, Iron, Steel, etc.

Complete Laboratory Apparatus

TINIUS OLSEN & COMPANY

500 North 12th Street, Philadelphia, Pa.

EXPANDED METAL

An approved form of steel reinforcement for all kinds of concrete construction, such as sewers, culverts, bridges, dams, retaining walls, foundations, water tanks and reservoirs, penstocks, fireproof floors, walls, etc.

Manufactured and sold by the

EASTERN EXPANDED METAL CO.

Sixth Floor, Paddock Bldg., Boston, Mass.

Designs and information furnished upon request.

See Fig. 155, p. 505.

The Roebling System of Fireproof Construction The Roebling Standard Wire Lath The Roebling Expanded Metal Lath

Catalogues and Quotations furnished upon request

The Roebling Construction Company Fuller Building, New York

BRANCHES

Philadelphia,

Boston

Buffalo,

Chicago,

San Francisco

ALPHONS CUSTODIS CHIMNEY CONS. CO.

BENNETT BLD'G,

EXPERT BUILDERS AND DESIGNERS OF

Brick Lined Reinforced Tapered Concrete Chimneys

PATENTED METAL FORMS

Write for Book and Prices

Chicago—Marquette Bldg.
Phila.—Arcade Bldg.
Atlanta—Empire Bldg.
Cleveland—Citizens Bldg.

Boston—141 Milk St. Detroit—Moffat Bldg. Montreal—22 St. Johns St. Indianapolis—State Life Bldg.





SQUARE LUG BAR



COLD TWISTED LUG BAR

SYSTEM IN CONTRACTING

We offer to put our organization at the disposal of owners contemplating any building operations. The owner availing himself of our services becomes for the time possessed of a highly trained and systematized organization, a construction department just as compact and smooth running as is any other department of his business. The expense of this department is incurred only when its services are required. Under this plan the owner and contractor stand in the position of employer and trusted department head. Moreover, every detail of the work, its cost, its quality, the manner in which speed is being made, are constantly under the owner's supervision. He knows at all times how much of and for what his money has been spent. He knows how much remains to be spent. Every fortunate circumstance which may tend to reduce costs - and there are such chances on every job-benefits the owner and not the contractor. These are a few of the many benefits of the cost-plus-afixed-sum contract.

We accept contracts only on the basis of

COST-PLUS-A-FIXED-SUM,

because we believe it to be the only form of contract equitable and advantageous to both owner and contractor.

FRANK B. CILBRETH

M. AM. SOC. M. E.

General Contractor

BOSTON

NEW YORK



A record of successful use in over 2500 important structures

KAHN SYSTEM PRODUCTS

Kahn Trussed Bars

Cup Bars

Rib Metal

Hy-Rib Sheathing

Column Hooping

Rib Lath and Rib Studs

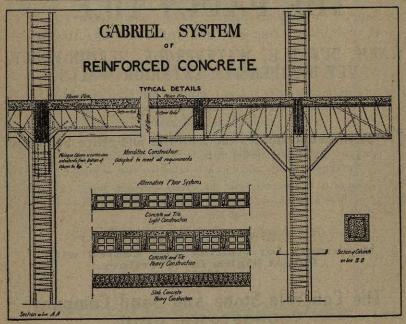
TRUS-CON Finishing and Waterproofing Products

Catalogue, estimates and suggestions sent on request

Trussed Concrete Steel Company

Offices in Principal Cities

DETROIT, MICH.



GABRIEL CONCRETE REINFORCEMENT CO., 1208 Penobscot Building, DETROIT, MICHIGAN.



THE PAULY TILE

It is hollow concrete, and for dwellings makes

WARM, DURABLE, WATERPROOF, VERMIN-PROOF YET INEXPENSIVE EXTERIOR WALLS

The tiles are made so true and even that they can be plastered both sides, and the method of making insures a surface to which plaster will adhere.

For partitions in houses and factories and office buildings the tiles are made 4 inches thick by 12 inches square, and the uniformity in size and thickness saves one coat of plaster.

The concrete is poured wet, and the excess moisture driven out by the heated molds, so that it is as dense and waterproof as monolithic concrete.

Tiles of standard shapes and sizes constantly in stock.

Machinery for Making Tile Leased with Patent Rights for Territory.

The Concrete Stone and Sand Company Youngstown, Ohio.

See page 629 of this book.





54 inch Intake Pipe for Public Service Corporation of New Jersey. Marion, N. J., Power Station

MERIWETHER SYSTEM Continuous Reinforced Concrete Pipe Sewers Culverts Conduits

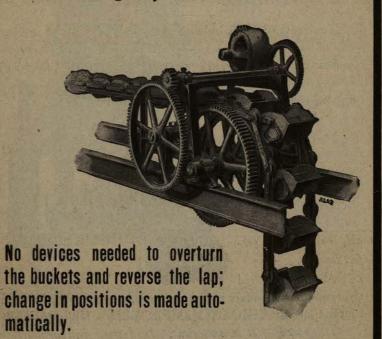


Making Pipe for Newark, N. J., Sewers

LOCK JOINT PIPE CO.

THE "PECK" CARRIER

The standard machine for conveying Cement, Coal, Sand, Broken Stone and other gritty material



Full particulars in book now in preparation—copies will be sent to those interested. To make sure, please send YOUR name.

LINK-BELT COMPANY

PHILADELPHIA

CHICAGO

INDIANAPOLIS

NEW YORK, 299 Broadway ST. LOUIS, Missouri Trust Building NEW ORLEANS, Wilmot Machinery Co. PITTSBURGH, 1501-2 Park Building SEATTLE, 439-440 New York Block DENVER Lindrooth Shubert & Co.