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THE SUCCESSFUL AMERICAN.

(ILLUSTRATED.)

A MAGAZINE

DEVOTED TO THE ACHIEVEMENTS OF, AND CONTAINING BIOGRAPHICAL AND
CHARACTER SKETCHES, TOGETHER WITH PORTRAITS
OF REPRESENTATIVE

“SUCCESSFUL AMERICANS.”

ALSO DESCRIPTIVE ILLUSTRATED ARTICLES OF THE SUCCESSFUL MANUFACTURING
INDUSTRIES OF THE UNITED STATES.



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DEVELOPMENT OF BRIDGE-BUILDING.

NO science has made a more marvelous advance in the closing years of the nineteenth century than bridge-building. It is at once the pioneer and the pillar of civilization, opening the path of progress, and making possible the creation and existence of the mighty centers of human activity and energy, which cause the wonders of past ages to seem small and commonplace. It is difficult to imagine that the art of bridge-building, which has witnessed such wonderful triumphs in recent years, remained in almost a primitive condition from the beginning of the historic period until recently.

Convenience must have led men in a very rude state of society to form bridges, in order to the easier communicate between districts separated by rivers. On most streams there occur fords, but often these are not to be found where they would be most desirable. The rudimentary form of a bridge may be assumed to be a series of stepping-stones, such as are yet almost everywhere to be found on river-courses at some point. Large stones deposited in the streams at the shallows or fords, would first give a chance to a passenger of getting across dry shod. By and by, where one or two stones were wanting to complete the steps in the passage, they would be supplied. Next, it would naturally occur to give greater security to the passage by laying planks or trees across the stepping-stones, so as to avoid the risks attending the stepping or leaping from the one to the other.

In the arrangement of planks resting thus on stones, we have the first advance in the art of bridgebuilding, the suggestion at once both of piers and roadways; and beyond this stage the art would appear not to have advanced for a very long period. All early bridges, even among the most civilized of ancient nations, seem to have been rudimentary in form, and to have consisted simply of piers, with the intervals between them spanned by beams of timber or large flat stones. The principle of the arch was long known before it was applied to the art of bridge-building. That application we owe to the Romans. When the Roman empire extended its bounds the necessity of ready communication between its provinces led to the erection of numerous splendid bridges.

It is impossible here to trace in detail the progress of the art. For a long time after the

decay of the Roman empire it made no progress. It revived in the eleventh century, but again languished until the beginning of the eighteenth, when the formation of the Corps of Ponts et Chaussées in France favored its further growth. About the beginning of the American Revolution, cast-iron was introduced in the erection of bridges. In the nineteenth century the use of steam, the development of the canal system, and the necessity especially for railway bridges, with the immense amount of capital at the disposal of engineers for bridge-building, caused a rapid evolution of all the principles and possible modes of the art.

Among the new forms called forth by the increasing demand for facilities of communication were the suspension bridge, the wrought-iron girder and tubular bridges, and the lattice-bridges. The Menai and Britannia bridges in Great Britain were regarded, when erected, as perfect marvels of the art, and yet they have since been far surpassed, both in America and Europe.

The principle of bridge-building is no longer confined to the spanning of streams and hollows. It has become a synonym for architecture. Steel pillars and girders bear railways over populous streets, and carry great office structures hundreds of feet into the air. Masonry has become an outward garment only for the vast structures which tower above our city thoroughfares, and which enable the accommodations for professional and business men to keep pace with the growth of business interests and the demand for professional services. The great buildings of today are, as a rule, composed of bridges, one imposed on the other, to heights which architectural genius has brought easily within the limits of safety.

There is no more signal evidence of what the twentieth century means for humanity than the development of bridge-building. It is the art of arts, binding together the forces which make for human happiness and perfection, facilitating intercourse between the various parts of the American continent, and—which is equally important—enabling the communities where commerce has its terminal and intermediary depots, to accommodate and deal with the business which falls to their share. The modern city is in a large degree a modern bridge.

HENRY MANN.

THE AMERICAN BRIDGE COMPANY.

THE LARGEST MANUFACTURERS OF BRIDGES IN THE WORLD.—RECENTLY MERGED INTO THE BILLION-DOLLAR STEEL CORPORATION.

THE commercial eye of the world has again been focused upon America with renewed interest because of the fame that has spread broadcast during the past few weeks by the accomplishment of one of the greatest financial feats in the history of commerce. Wherever iron and steel are used, extraordinary interest is felt in what is commonly referred to as the "Billion-Dollar Steel Corporation." Speculation has been rife in the minds of the public, as to the meaning of the gigantic corporation that

percentages. In some instances they have already increased.

"The Billion-Dollar Steel Corporation" makes no hypocritical pretenses at being a philanthropic institution—its members do their acts of charity after business hours—it is merely what it claims to be, the most modern, up-to-date business enterprise of the new century. Its purpose is to supply the steel trade of the entire world with better, cheaper, and more durable material than has heretofore been used. It goes without



BRIDGE OVER THE NIAGARA RIVER. BUILT BY THE PENCOYD IRON WORKS, A BRANCH OF THE AMERICAN BRIDGE COMPANY.

at its inception seemed almost impossible to bring about. It was only after the most careful, conservative and conscientious thought that this enormous combination was achieved. The principal obstacle in the road of bringing about the combination was the opposition that exists against the combining of capital. Many persons who have not given the subject—the combining of capital for the public weal—careful consideration or anything more than superficial thought, rushed into print and declared that the so-called "Billion-Dollar Steel Company" meant starvation wages and the crushing of the employee and the small trader. The facts thus far gleaned prove directly the opposite. The big steel combination has not reduced wages; it has caused no artisan to lose his place and has not reduced the dividend of any small stockholder. On the contrary, wages have increased, employment has increased, and dividends are on the road to higher

saying that thus far this enterprise has kept its word. America is the natural place for the foundation of such a vast enterprise as the new concern. The raw material of the industry is found here in larger and more accessible quantities than in any other country. The men trained to bring the iron from the earth and refine it are more capable, skilled and industrious than the same class of men in other countries. They appreciate their own value and demand and receive the highest wages and emoluments. The result is that these men are as up-to-the-times in their branches as the projectors of the "Billion-Dollar Combine." The huge Trust could not have become a fact without the superior intelligence of the American artisan and engineer. This class is really the cause of the formation of the Company. Their hands and brains comingle with the financial heads of the Company. The result is that refined steel will be supplied to the entire

world cheaper than it has been in the past. The demand for American steel is greater to-day than it was a month ago. There is every reason to believe that a month hence the demand will have increased at a proportionate ratio.

There is but one outcome to this increased volume of business—higher wages, more work and larger dividends.

THE SUCCESSFUL AMERICAN proposes to deal with some of the important branches of the steel industry in this issue. From month to month, the different industries in the combination will be described. The following is a description of the American Bridge Company:

The American Bridge Company's offices are located in the American Surety Building, 100

If the American Bridge Company is ten times larger, with ten times the capacity of all the other bridge companies in this country combined, is it not reasonable to suppose that the public can be better served by this Company than by any other?

The twenty-four old-established bridge corporations making up the American Bridge Company are as follows:

American Bridge Works, Chicago, Ill.

Berlin Iron Bridge Company, East Berlin, Conn.

Buffalo Bridge & Iron Works, Buffalo, N. Y.

Keystone Bridge Works, Pittsburgh, Pa.

Edge Moor Bridge Works, Wilmington, Del.

Elmira Bridge Company, Elmira, N. Y.



SOUTH TWENTY-SECOND STREET BRIDGE, PITTSBURGH, PA. BUILT BY THE SCHULTZ BRIDGE AND IRON CO., A BRANCH OF THE AMERICAN BRIDGE COMPANY.

Broadway. The corporation was organized under the laws of the State of New Jersey, on the 12th of May, 1900, and has branch offices located in all the principal cities of the United States and Europe.

The retiring President is Percival Roberts, Jr., best known for his successful operation of the Pencoyd Iron Works, at Pencoyd, Pa. It was under Mr. Roberts' leadership that this plant enjoyed its world-wide fame, one of its principal achievements being the completion of the famous Atbara Bridge, furnishing the same on shorter time, and at lower price, by several months, than any foreign company would even promise to do.

The American Bridge Company is a consolidation of twenty-four old-established bridge-building plants, comprising ninety per cent. of the manufacturing capacity in railroad and highway bridges and structural work of the United States.

Gillette - Herzog Manufacturing Company, Minneapolis, Minn.

Groton Bridge & Manufacturing Company, Groton, N. Y.

Hilton Bridge & Construction Company, Albany, N. Y.

Horseheads Bridge Company, Horseheads, N. Y.

Lafayette Bridge Company, Lafayette, Ind.

Lassig Bridge & Iron Works, Chicago, Ill.

New Jersey Steel & Iron Company, Trenton, N. J.

New Columbus Bridge Company, Columbus, Ohio.

Pittsburgh Bridge Company, Pittsburgh, Pa.

Post-McCord, Brooklyn, N. Y.

Rochester Bridge & Iron Works, Rochester, N. Y.

Schultz Bridge & Iron Company, Pittsburgh, Pa.

Shiffler Bridge Company, Pittsburgh, Pa.

Union Bridge Company, Athens, Pa.

J. G. Wagner Company, Milwaukee, Wis.

Wrought Iron Bridge Company, Canton, O.

Youngstown Bridge Company, Youngstown, Ohio.

The combined tonnage of these plants is 50,000 tons per month, or at the rate of 600,000 tons per annum, by far the largest production of railway and highway bridges and steel structures of any company on the face of the earth.

The officers of the American Bridge Company are as follows:

President—Alfred J. Major.

Vice-President (Finance)—Wm. H. McCord.

Vice-President (Contracting)—Joshua A. Hatfield.

Vice-President (Engineering) — Charles C. Schneider.

Chief Engineer—Paul L. Wolfel.

Mechanical Engineer—James Christie.

Auditor—C. C. Price.

Treasurer—Wm. H. Connell.

Secretary—H. Schoonmaker.

Directors—Alfred J. Major, Pencoyd, Pa.; August Ziesing, Monadnock Block, Chicago, Ill.; James Christie, Pencoyd, Pa.; Paul L. Wolfel, Pencoyd, Pa.; Robert J. Davis, Pencoyd, Pa.; A. L. Schultz, Empire Building, Pittsburgh, Pa.; E. A. Muench, 261 South Fourth Street, Philadelphia, Pa.; Abram S. Hewitt, No. 17 Burling Slip, New York City; Charles M. Schwab, No. 71 Broadway, New York City; Elbert H. Gary, No. 71 Broadway, New York City; Percival Roberts, Jr., No. 100 Broadway, New York City.

When the American Bridge Company was first organized, a great cry went up about the huge Bridge Trust which was formed for the purpose of raising the price of bridge and structural work. The old threadbare story that the growth of public improvements would be retarded was also sprung, but has shown the existence of the reverse conditions.

Immediately after the organization of the American Bridge Company, the Executive Committee took up the question of dealing with the workingmen, and ordered all the plants of the Company, on January 1, to be put on a schedule of nine hours a day, with the same pay as had formerly been allowed for ten hours, thus making what was practically an increase of ten per cent. in the wages of all their employees.

It is a fact well known to everybody that steel bridges and steel buildings are cheaper in Amer-

ica to-day than they are in any place on the face of the earth, and that the American Bridge Company is able to supply all classes of steel railroad and highway bridges and steel buildings at a less price than they were ever before offered.

The American Bridge Company has at its disposal, at Pencoyd, Pa., one of the most improved rolling mills in the world, which is run exclusively to supply raw material for the various plants of the Company. At nearly all of the plants large stocks of raw material are also carried, its aggregate amounting to hundreds of thousands of tons, so that the Company is able to furnish on very short time any ordinary bridge or building.

Time is the essence of everything, and when a corporation can furnish a steel structure in the shortest possible time at the very minimum of cost, that is the ideal condition, and is what the American Bridge Company can do.

The American Bridge Company, recently merged into the great "Billion-Dollar Steel Corporation," was, before the consolidation, the greatest bridge-building concern in the world, and now, with their greater facilities for supplies, structural iron, steel girders, the foremost mechanical and consulting engineers in the profession, and the guidance and advice of the master minds of finance and commerce, such as an affiliation with the "Big Steel Corporation" assures them, they are still greater than before, and if such a thing is possible, will even surpass the marvelous success already attained.

Alfred J. Major, whose executive ability and superior knowledge of bridge-building in general has eminently fitted him for such an important office, has been selected for President. No better selection could have been made than that of Mr. Major. Although the concern is composed of the foremost engineers and masters of the art of modern bridge-building, any one of whom would fill the position with credit and ability, still the selection of Mr. Major was unanimously agreed upon.

The American Bridge Company enters the great corporation in a flourishing and healthy condition of finances and facilities to do business, and the Company is certainly a wonderfully strong pillar of the corporation.

All of the plants of the American Bridge Company are in full operation, many of them working night and day to fulfill the millions of dollars' worth of contracts for bridge-building and other

forms of structural iron work now in hand. The most modern of mechanical inventions and appliances are used, and everything possible for human hands to accomplish or master-minds to invent or devise are eagerly brought into use in this progressive concern in an effort to reduce the cost of their product and benefit the world in general thereby.

As we have advanced along lines of peculiar national progressiveness which bear the stamp of a restless energetic people bound to excel in anything undertaken, it is not strange that in the development of a new world our greatest strides should be in the field of engineering. We have interlaced a continent with myriads of steel rails in the development of the greatest system of railroads in the world; and in the furtherance of this development, with some of the greatest rivers in the world to cross, the art of bridge-building has received especial cultivation at our hands. There is hardly a river in all this land that is not spanned by a bridge which is the handiwork of one of the companies which are now merged into the great corporation, and we may look forward to, and do predict, the greatest era of bridge construction the world has ever known.

The American Bridge Company, with general offices in The American Surety Building, 100 Broadway, New York, was organized under the laws of the State of New Jersey, on the 12th of May, 1900. The Company have branch offices in Boston, Philadelphia, Pittsburgh, Chicago, Cleveland, Baltimore, Minneapolis and New Orleans.

Structural iron work is now supplied so quickly and cheaply that the more progressive contractors, architects and builders are advocating it strongly to their clients. The work done by the several large companies in that line of industry has increased one hundred fold during the past five years. In this issue we present a descriptive article of the American Bridge Company, one of the largest producers of structural iron work in the world. This progressive concern has been supplying millions of dollars' worth of iron work for bridges, office buildings and modern structures for this country, and, in fact, for the entire world. Some of the constructing work done by The American Bridge Company follows: East River Bridge, New York; Atbara Bridge, Australia; the Niagara Falls Suspension Bridge; the Shelton Bridge, Connecticut; Twenty-second Street Bridge, Pittsburgh; the Grand Central Station, New York; the Gillinder Building, New

York; the new Pennsylvania Railroad Station, Pittsburgh; the Land Title Building and the United Gas Improvement Building, Philadelphia; interior of Cramp's Shipbuilding Company, Philadelphia; the Columbia University, New York; Mutual Savings Bank, San Francisco; Third Avenue Railroad Power House; several bridges across the Allegheny River, many of them now in course of construction; Hawkesbury River Bridge, Australia; Poughkeepsie Bridge; the Chicago & Alton Railroad; the Pennsylvania Railroad; viaduct on Riverside Drive, New York; bridge over Schuylkill River at Philadelphia; Girard Avenue Bridge, Philadelphia; Park Bridge, at Youngstown, Ohio; new Astor Building and new Custom House, New York City; Risdon Iron Works, new plant, San Francisco; twenty bridges for the Erie Railroad now constructing; six arsenal buildings in Japan; East Channel Bridge, Quebec, 27 viaducts to be erected on the lines of the Uganda Railway in Africa, which will require 7,000 tons of steel work; two draw-bridges for New York Central & Hudson River Railroad, one at New Hamburg, and the other at Little Ferry; also several Government orders from London, Australia, Japan, Mexico, Costa Rica, Cuba, Italy and Canada, for bridges and other forms of structural iron work; Manati River Bridge, Porto Rico; pier and warehouse at Progreso Yucatan, Mexico; seven buildings for Sterling White Lead Company, New Kensington, Pa.; foundry and machine shop at Bremen, Germany, for North German Lloyd Steamship Company; Swing Bridge at Napa, Cal.; Arch Bridge at Watertown, N. Y.; High Truss Bridge at Norwich, New York; thirteen bridges for the New York, New Haven & Hartford Railway. The above list is but a small portion of the work accomplished or contracted for by The American Bridge Company, but will serve to give an idea of the magnitude and territory covered by them.

The American Bridge Company is making extensive improvements at all of its various plants located in different sections of the United States. These improvements consist in the enlarging of the plants, increasing their capacity and labor roll and installing the most improved machinery for the manufacture of bridge and structural material. These facts, taken in consideration with the fact that it is assembling at its various plants a huge stock of raw material, will permit it to execute contracts in the shortest possible space of time.

ALFRED J. MAJOR.

NEW PRESIDENT OF THE AMERICAN BRIDGE CO.—FROM CLERK IN THE PENCYD IRON WORKS HE HAS RISEN TO HIS PRESENT POSITION.

THE management of the various plants of The American Bridge Company is placed in the hands of experienced men who are selected by the corporation on account of the particular ability displayed in their various departments. There are twelve districts covering different sections of the United States, each district having a Superintendent who reports to the head office at 100 Broadway.

Alfred J. Major, the newly elected President of the Company, is the subject of this sketch.

Alfred J. Major was born in Norristown, Pa., April 10, 1861, the son of John and Margaret E. (Cox) Major. His father was engaged in the grocery trade in Yorkshire, England. His mother is an American, whose ancestors came from Wales, Holland and England.

Mr. Major was educated in the public schools of Montgomery County, Pa., and later took a thorough business course in the Bryant & Stratton's Business College of Philadelphia, from which place he graduated.

His first occupation was at the age of 16, when he learned the trade of harness-maker, later working on a farm and from there entering the business college as stated above.

After leaving the college, Mr. Major worked in a job printing office, but this work not proving to his liking, he went South and entered the employ of the United States Government in the U. S. Land Office in Florida, also in the Directory Corps in Florida and the Northern States. He afterward entered the Pencoyd Iron Works as a general Clerk and was soon promoted to Shipping Clerk, and later was made Assistant Manager of the Bridge and Construction Department of that Company. Recognizing his ability, he was made General Manager of the Bridge and Construction Department of the Pencoyd Works, and upon the formation of The American Bridge Company in May, 1900, he was selected for the important position of General Manager of the Eastern District of that Company, a position he has filled with equal credit to the Company and himself.

Alfred J. Major, before being elected to the high office of President of The American Bridge Company, was the manager of the Operating De-

partment in the Eastern District, and the ability he showed in that capacity had much to do with his elevation to his present position. For many years he has been at Pencoyd in various capacities; and, as this is one of the most important works in the large combine, he had plenty of work to perform. Immediately upon taking office, Mr. Major called a meeting of his associates, and a trip of inspection was planned for the purpose of looking over the various plants.

Mr. Major is a Director of the A. & P. Roberts Company, The Pencoyd and Philadelphia Railroad Company and the Wissahickon Bridge Company, and is Treasurer of The Pencoyd Club, of Philadelphia. He was married February 1, 1887, to Lizzie J. Kirk, of that place, and they have one child, Charles Wells Major.

With his increased responsibilities since the merging of The American Bridge Company and the great Steel Combination, it is unnecessary to state that Mr. Major will give a good account of himself as head of that company.

THE Niagara Suspension Bridge, of 810-foot span, built by Roebling in 1852, and the Brooklyn Bridge, of 1600 feet, built by Roebling and his son 20 years after, marked a wonderful advance in bridge design.

Thirty years later, when a new bridge of 1600 feet was wanted to cross another part of the East River at New York the same lines of construction were followed, and they will be followed in the 2700-foot span, designed to cross the North River, some time in the Twentieth Century. The only radical advance is the use of a better steel than could be had in earlier days.

Steel-arched bridges are now scientifically designed. Such are the new Niagara Bridge, of 840-foot span, and the Alexander II. Bridge at Paris.

It is curious to see how little is said about these beautiful bridges, which the public takes as a matter of course. If they had been built 50 years ago their engineers would have received the same praise as Robert Stephenson and Roebling, and justly so, as they would have been men of exceptional genius.



ALFRED J. MAJOR,
President of The American Bridge Company, New York.

Photo. by Gilbert, Philadelphia.

PERCIVAL ROBERTS, JR.

DIRECTOR AND MEMBER OF THE EXECUTIVE COMMITTEE OF THE UNITED STATES STEEL CORPORATION.—RETIRED PRESIDENT OF AMERICAN BRIDGE COMPANY.

SINCE the formation of The United States Steel Corporation, all sorts of rumors have been spread broadcast as to the feasibility of the ultimate outcome of such a great undertaking, involving as it does the individuality of capital, brains and labor that it has taken a century to evolve; and is it at all remarkable that many people who have been directly connected with several of the minor companies should have these misgivings, considering the fact that they have been brought up in small communities, and only accustomed to small doings? However, they may set their minds at rest, for the present combination is one of real brains and ability, and the Executive Committee of the United States Steel Corporation is formed of the class of men that have never known defeat and never would allow themselves to fail. The executive member of this great corporation furnished by The American Bridge Company is Percival Roberts, Jr., the subject of this sketch. His great success in the administration of the affairs of the A. & P. Roberts Company, of Pencoyd, Pa., and subsequently as President of The American Bridge Company, has peculiarly fitted him for his present high and important office, and his calm diplomacy and superior judgment will be of the greatest value to his associates in the executive management of the great Steel Combine. His superior knowledge of the bridge-building and structural iron portion of the combine will be of great service to him and his fellow-members of the Executive Committee, which consists of such masters of their respective departments as Charles M. Schwab, E. H. Gary, Daniel G. Reid, E. C. Converse, Arthur F. Luke, William Edenborn, and Charles Steele.

The selection of Mr. Roberts as a member of the Executive Committee was a judicious one.

We have interlaced a continent with myriads of steel rails in the development of the greatest system of railways in the world, and in the furtherance of this development, with some of the greatest rivers in the world to cross, the art of bridge-building has received especial cultivation at our hands.

There is hardly a river in all this land that is

not spanned by a bridge which is the handiwork of one of the companies which are now merged in the great concern about which this article is written, and under the new arrangement we may look forward to such an era of bridge construction as the world has never heretofore known.

At the head of the concern until the United States Steel Company was formed was Percival Roberts, Jr., who had been elected to the office of President, and who is best known by his successful operations as a member of the A. & P. Roberts Company, proprietors of the Pencoyd Iron Works, Pencoyd, Pa., which famous works enjoy a national reputation and which have been taken into The American Bridge Company along with many other prominent concerns.

The Company which, with its present equipment of plants, is the most complete concern of its kind in the world, is organized with a view of developing in the highest degree one of the greatest of our American industries. Its departments have all been organized with this prime object and each one of them is under the supervision of the highest quality of brains and skill obtainable in this or any other country.

Percival Roberts, Jr., was born in July, 1857, in Philadelphia. He graduated as A.B. from Haverford College, 1876, and served on the Geological Survey of Pennsylvania during the summer of 1876. He entered the Pencoyd Iron Works as Clerk, November, 1876, and while acting in this capacity took the post-graduate course in metallurgy and chemistry at the University of Pennsylvania, in 1877. He acted as Manager for A. & P. Roberts & Co., and upon formation of the A. & P. Roberts Company became Vice-President, and later President, of that company. When The American Bridge Company was formed last year, he was elected President. He is President of the A. & P. Roberts Company; President of the Pencoyd & Philadelphia Railroad Company; President of the Continuous Metal Refining Company; a Director of the Philadelphia National Bank; a member of the American Society of Civil Engineers; of the American Institute of Mining Engineers and of the American Society of Mechanical Engineers.

CHARLES MACDONALD.

RETIRING VICE-PRESIDENT OF AMERICAN BRIDGE COMPANY.

ENGINEERING skill of the present day has approached such a high standard of excellence that there is no longer room for those not possessing unusual ability and inventive genius. Especially is this apparent in the art of bridge building and the construction of the mod-

Charles Macdonald, retiring Vice-President of The American Bridge Company, was born in Gananoque, Canada, of good old Scotch ancestry, on the 26th day of January, 1873.

His father was a prominent merchant and of the famous family of Macdonalds of Attiel,



CHARLES MACDONALD,
Retiring Vice-President of American Bridge Company, New York.

Photo. by Sarony, New York.

ern "skyscraper" and manufacturing plants requiring the use of iron and steel in large quantities.

Among the many first-class engineers none are of more prominence than the subject of this sketch, in the bridge-building industry.

Perthshire, Scotland. On the maternal side Mr. Macdonald's ancestry dates back to 1639, when William Stone emigrated from England and located in the old town of Guilford, Connecticut. Joel Stone, son of William, was prominent in the Revolutionary War, and barely

escaped hanging as a Tory, he making his escape by a daring and judicious flank movement on Long Island, where the British troops were then stationed. Joel Stone was a great-grandfather of the subject of this sketch.

Charles Macdonald received his academic education at the Queen's University, Kingston, Ontario, Canada, subsequently attending and graduating from the Rensselaer Polytechnic Institute, of Troy, New York. After finishing his course of studies at the latter place of learning as a civil engineer, he became an assistant on construction of The Grand Trunk Railway in Michigan, thence on the Philadelphia & Reading Railroad, in charge of surveys and construction, until the year 1868, when he came to New York and engaged in the business of bridge construction, making it a specialty. How he has succeeded in his profession the whole world knows.

He has never held political office of any kind, neither has he any desire to.

In 1884, Mr. Macdonald associated himself with the Union Bridge Company as a member of that concern, and was senior member upon its absorption by The American Bridge Company in May, 1900.

He is a member of The American Society of Civil Engineers, American Institute of Mining Engineers, Canada, Society of Civil Engineers and of the Century, Union, University and Engineers' Clubs, of New York.

Mr. Macdonald was married to Sarah L. Willard, a daughter of the late Col. Wm. Willard, in Troy, New York, August 5, 1861, and five children have blessed their union, two of whom have passed away. Those living are William Stone, Mary Louisa, and Lillie Paine Macdonald.

Shortly after his marriage the war broke out, and Mr. Macdonald was one of the early volunteers, and fought in the battle of Gettysburg. He has been directly connected with bridge building since 1868, with headquarters at New York, and has assisted in the construction of The Hawksburg Bridge, Australia, The Leavenworth Bridge, The Poughkeepsie Bridge, and Merchants' Bridge, at St. Louis. He is an ex-trustee of The East River Bridge, and a Trustee of The Rensselaer Polytechnic Institute, Troy, New York, and the Stevens Institute, at Hoboken, N. J. His degree of C. E. was conferred by the former institute, and the degree of LL.D. by the Queen's University, of Kingston, Ontario.

WILLIAM H. MCCORD.

VICE-PRESIDENT OF AMERICAN BRIDGE CO.—IN CHARGE OF FINANCE DEPARTMENT.

THE financial end of any great corporation is a department that requires a man skilled in the handling of great monetary affairs, and when that person has the additional qualification of a practical knowledge of every detail of the concern he is connected with, he is of a greater value still.

William H. McCord, Vice-President of The American Bridge Company in charge of its finances, was born in 1846, in Newburgh, Orange County, New York, and is therefore a born and bred New Yorker. He is the son of Robert D. and Sarah Hewlett McCord. His paternal ancestry is Scotch and his mother was a French Huguenot. His early education was received in what was known as The Free Academy, and in the College of the City of New York. After leaving school, he engaged as a Clerk in the boot and shoe firm of Porter, Higbee & Co., and later on entered the iron firm of J. B. & J. M.

Cornell, where he served his apprenticeship in the iron trade, remaining there for six years. Then, accepting a place with the Architectural Iron Works, of New York, he remained with that company for three years as foreman of the architectural branch and finishing shop. From there he went with the Watson Manufacturing Company, of Paterson, N. J., and was employed there until 1876, in which year he formed a partnership with Mr. Post, who was Chief Engineer of the Watson Manufacturing Company. The partnership then formed under the name of Post & McCord was continued up to the time of the formation of the American Bridge Company, when the concern was merged into the combine. After the death of Mr. Post in 1896, Mr. McCord continued to conduct the business and looked after his deceased partner's interest.

Mr. McCord is Vice-President of The American Bridge Company, a Director of The Metro-

politan Realty Company, The Chelsea Apartment House Company, and William Beal Land & Improvement Company. He is an enthusiastic yachtsman, and takes keen pleasure in spending his leisure time in that healthful pastime. He is a member of The New York Yacht Club, The American Yacht Club, The Indian Harbor Yacht

Game Club, of Ontario, Canada, and the Chelsea Plantation Club, of South Carolina.

Mr. McCord was married December 26, 1870, and has an interesting family of eight, equally divided in sex. His oldest son is R. A. McCord, in charge of the Estimating Department of The Hecla Iron Works, of New York. Another son,



WILLIAM H. McCORD,
Vice-President of American Bridge Company, New York. In
Charge of Finance Department.

Photo. by Pach Bros., New York.

Club, The Colonial Club, The Building Trades Club, The Engineers' Club, The National Iron League, and Iron League, of New York; The Blooming Grove Park Association, of Pike County, Pa., The Laurientian Club, of Canada; The Miramichi River Salmon Club, of New Brunswick, N. S.; The St. Maurice Fish and

Frank B. McCord, is Assistant Superintendent with The Post-McCord Company, Brooklyn; and a younger one, Herbert, is now at Princeton University and well known as a football enthusiast. William McCord is with The American Bridge Company, as Assistant to the Manager of the Erecting Department.

CHARLES M. JARVIS.

RETIRING VICE-PRESIDENT OF AMERICAN BRIDGE COMPANY.—TO HIS ABILITY AND GENIUS IS LARGELY DUE THE SUCCESS OF THAT CORPORATION.

SINCE the organization of the big steel corporation so many sudden changes have occurred that it is a hard matter to keep track of those who have even been most instrumental in the formation of the combination itself. In the affairs of the great American Bridge Company none have had more to do with nor have contributed more to the success of that company by his advice, ability and genius for organization than the subject of this sketch, Charles M. Jarvis. Upon the formation of the American Bridge Company in May, 1900, Mr. Jarvis was one of the foremost advocates of such a procedure, and his judgment has since been relied upon on numerous occasions in matters of the greatest importance to this big concern. Now that it is merged into the big "Billion Dollar Company" his labors will be less, but what he has done has borne fruit, so that whoever may succeed him will find an easy pathway ahead. Charles Maples Jarvis was born April 16, 1856, in Deposit, Delaware County, New York; the son of Henry Sanford and Rachel Peter Jarvis. The elder Jarvis was engaged in a general banking and real estate business, and was respected in his community for his varied knowledge of all classes of business matters.

Charles M. Jarvis is a descendant in the seventh generation of William Jarvis, one of the original settlers of Huntington, Long Island. A son of William Jarvis, named Captain Samuel Jarvis, married Naomi Brush, and by her had two sons, Bishop Abraham Jarvis and Stephen Starr Jarvis; the latter married Rachel Starr, and their son Samuel, who married Abigail Sanford, was the grandfather of the subject of this sketch.

Mr. Jarvis was educated in the public schools of Binghamton, New York, and later entered Sheffield Scientific School of Yale University, from where he graduated with the class of 1877, having taken the course in civil engineering. After leaving college his first occupation was as an engineer with the Berlin Iron Bridge Company, of East Berlin, Conn., at that time known as the Corrugated Metal Company. He remained with this company in various positions—first as engineer, later as manager and chief en-

gineer, and finally as president, until the company was absorbed by the American Bridge Company, when he became a vice-president of the concern.

Mr. Jarvis is a director in the Berlin Wheel Company, of Berlin, Conn.; the Co-operative Savings Bank, of Hartford, Conn.; the Middletown and Portland Bridge Company, of Middletown, Conn., and the East Berlin Building Company, of East Berlin, Conn.; also a director in the New Britain Hospital and a trustee of the Hartford Theological Seminary. He is a member of the Hartford Club, Country Club of Farmington, Conn., the Lawyers' Club of New York, Engineers' Club of New York, and Graduates' Club of New Haven. He was married May 27, 1880, to Mary Morgan-Bean, a direct descendant of Miles Morgan, of Massachusetts. They have one daughter, Grace Morgan Jarvis.

SIGNAL proof of the growing market for American steel is supplied by the Berlin (Conn.) Iron Works, a branch of the American Bridge Company, from which a large and complete foundry has been shipped to the German city of the same name. The Germans are expert and economical makers of steel, and, in view of this fact, the layman is pretty sure to ask how Americans could manufacture such a heavy thing as an iron foundry, pay railway freight on it from the middle of Connecticut to a seaport, pay freight across the Atlantic, and then further freight from Hamburg to Berlin, and yet compete successfully with German makers. This question is answered by the manager of the Berlin works, who attributes their success to close and systematic study of the needs of the customers. One particular department of the Connecticut plant is under the control of an expert foundryman, who is engaged solely in designing iron foundry buildings, the result being that if the company is told how many castings of a given type are to be produced, it will supply a foundry especially laid out for the purpose.

The Berlin works are not alone in the sagacious and trade-compelling policy of employing experts to design special plants, special factories and special tools. It has been adopted in recent years by a majority of American steel makers.



CHARLES M. JARVIS,
Retiring Vice-President of American Bridge Company, New York.
Photo. by Johnstone, Hartford.

FRANK CONGER.

RETIRING VICE-PRESIDENT OF THE AMERICAN BRIDGE COMPANY.—FOR MANY YEARS PROMINENTLY IDENTIFIED WITH BRIDGE BUILDING.

FRANK CONGER, who has been well and favorably known in the bridge building industry for several years, was born in a log cabin in the quaint old town of Groton, N. Y., May 21, 1849, the son of Coryden W. and Mary J. Brown Conger. He received his early education in his native town, and after leaving school his first occupation was as a driver of a wagon for his father, who had met with unfortunate reverses in business, owing to errors of a partner, and young Frank assisted his father greatly to recoup his fortune and to pay off indebtedness incurred by him while a member of the produce commission firm of Conger & Eldridge, which was done in the course of a few years, and to-day Coryden W. Conger is respected as a prominent and progressive citizen of Groton.

It was ever Frank's ambition while young to become one of Groton's foremost citizens and manufacturers, and he repeatedly predicted that such would come to pass, and it did. In 1868 Frank's father secured the contract for grading the Southern Central Railway through Groton, but as young Conger evinced a desire for a more active life, he accepted a position as Clerk in the drygoods store of Reynolds & Clark, and started to learn the mercantile business. While with this concern his love of outdoor sports asserted itself and he organized the champion baseball team of three surrounding counties. As teamster, drygoods clerk, and baseball player he was a success; so in 1870, at the age of twenty, he embarked in business on his own account, having bought the drygoods store of L. Thomas & Co. and going into debt for \$6,000. His total cash capital was \$450, \$390 of which was at once paid out for advertising, with the result that his business increased to such an extent that he was soon clear of debt. A few years later he founded the C. W. Conger & Co. mercantile company of Groton, which is to-day one of the largest mercantile houses in Central New York.

In 1885 he organized the Groton Bridge & Manufacturing Company, of Groton, and conceived the idea of building nothing but high-grade highway bridges, and with this object in view built a large plant especially fitted for that work; and the bridges built by the Groton Com-

pany are acknowledged to be of a superior construction.

Mr. Conger made it a practice, upon going into the bridge-building business, to engage the best engineers and assistants to be procured, the result being successful work and plenty of contracts, and a fame for substantial structures. In 1885, when the firm was organized under his management, the Company turned out \$75,000 worth of work a year. In 1900, when the Company was absorbed by The American Bridge Company, they were turning out \$2,000,000 worth of work annually, truly a remarkable increase of business in so short a time.

At a meeting of the first Board of Directors, at which time Percival Roberts, Jr., was elected President, Mr. Conger, in a very brief but appropriate speech, predicted that in less than one year all the principal iron and steel industries in the United States would be controlled by one corporation. It is not quite a year since he spoke, but his predictions have been realized, and to-day the Company, of which he may be said to be the father, is one of the many large corporations which compose the organization known as the United States Steel Corporation.

In addition to Mr. Conger's many important connections in various business enterprises, he holds the office of President of the First National Bank of Groton; President of the Universal Safety-tread Company of New Jersey; President of the American Visible Typewriter Company, of Delaware; Vice-President Groton Carriage Works, Groton; Director Conger Manufacturing Company, of Groton, and a partner in the C. W. Conger Company, and the Conger Produce Company, all of Groton, N. Y. He is also a prominent and active member of the Engineers' and Lawyers' Club, of New York City, and the Duquesne Club, of Pittsburgh, Pa. He is a high degree Mason and Odd Fellow.

In 1870 he married Miss Jennie E. Conant, the charming and accomplished daughter of Daniel Conant, of Groton. He claims Groton as his residence, yet most of his time is spent in this city. He has recently purchased a handsome residence in Brooklyn, and will undoubtedly divide his time between his old home in Groton and his new home in the East.



FRANK M. CONGER,
Retiring Vice-President of American Bridge Company, New York.
Photo. by McFarlin, Elmira.

JAMES CHRISTIE.

MECHANICAL ENGINEER OF AMERICAN BRIDGE COMPANY.

TO be Mechanical Engineer of a concern of the magnitude of the American Bridge Company is a flattering testimonial of a man's ability that needs no comment from this publication nor from any other. The position of Mechanical Engineer of any great corporation is one that involves great responsibilities and must necessarily be filled by a man capable in every sense of the word. Such a man is the subject of this sketch.

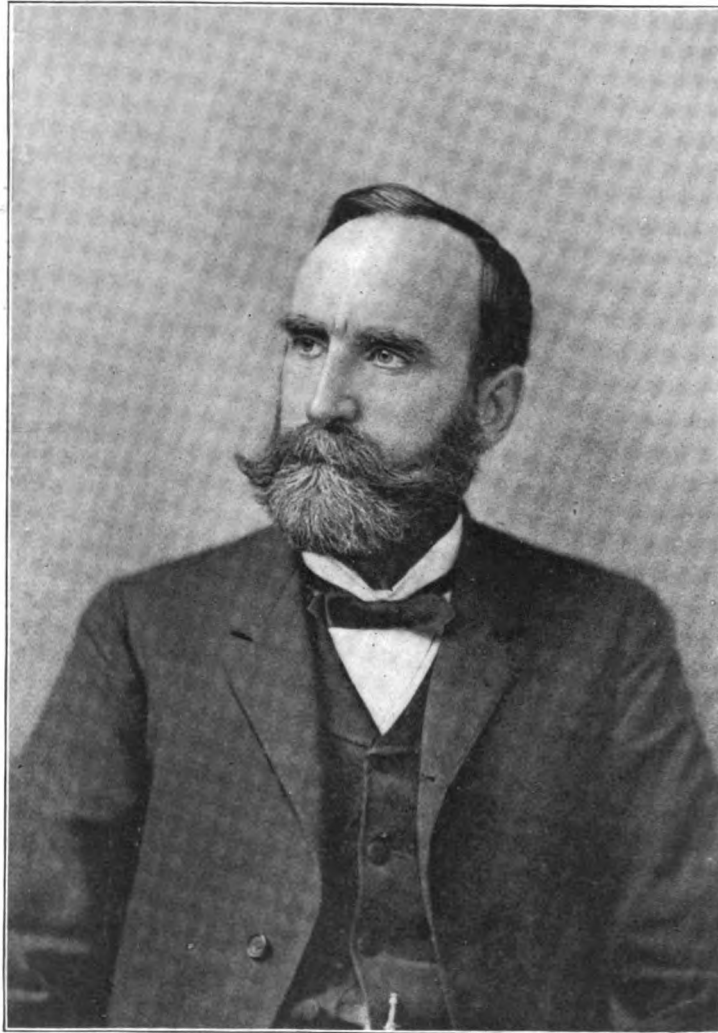
James Christie, Mechanical Engineer of the American Bridge Company, was born near Ottawa, Canada, August 28, 1840, of Scotch parents. His father, Thomas A. Christie, was a farmer and subsequently a masonry contractor. His mother was Elizabeth Holmes. His grandparents were from Aberdeenshire, Scotland.

Mr. Christie was educated in the public schools of his native town, and when through his schooling entered a locomotive works in Detroit, Mich., as a machinist's helper. Later on he finished his apprenticeship with the firm of I. P. Morris & Co., of Philadelphia. After thoroughly learning the machinist's trade, he engaged for several years in the design and construction of rolling

mills in Pittsburgh and vicinity. He became interested in the construction and designing of bridges in 1872, when he engaged in that business at Phillipsburg, N. J., remaining there until 1876. From the latter place he went with the Pencoyd Iron Works as Chief Mechanical Engi-

neer, a position he has held with great ability to the present day. While in Phillipsburg Mr. Christie was a member of the Town Council and later served a term as Mayor of the town.

He is a member of The American Society of Mechanical Engineers, The American Society of Civil Engineers, a fellow of American Association for the Advancement of Science, member of The Engineers' Club of Philadelphia, The Franklin Institute, and Grand Army of the Republic, having served a special term of service in the



JAMES CHRISTIE,
Mechanical Engineer of American Bridge Company, New York.

U. S. Army in 1863, and being honorably discharged therefrom. Mr. Christie is active in public life and beloved by all his associates.

He was awarded the Norman medal by The American Society of Civil Engineers in 1884.

Mr. Christie was married in Philadelphia, in 1866, to Miss M. J. Maxwell, and they have two sons and one daughter living.

CHARLES C. SCHNEIDER.

VICE-PRESIDENT OF AMERICAN BRIDGE CO.—IN CHARGE OF ENGINEERING DEPARTMENT.

PRACTICAL knowledge of every detail of mechanical engineering is absolutely essential to the success of the engineer of the present day. To reach the pinnacle of fame nowadays the student must not only possess a theoretical knowledge of his profession, but a thoroughly practical one as well. Especially so are these requirements necessary in order to associate one's self as a civil engineer or mechanical engineer with a concern of the magnitude of The American Bridge Company, whose contracts for bridge building and structural iron works are such that only the best can be of service to them, and even then the engineer must be ever alert and keep up with the tide of progression. A man who is in this class is the subject of this sketch.

Charles Conrad Schneider, Vice-President, in charge of the

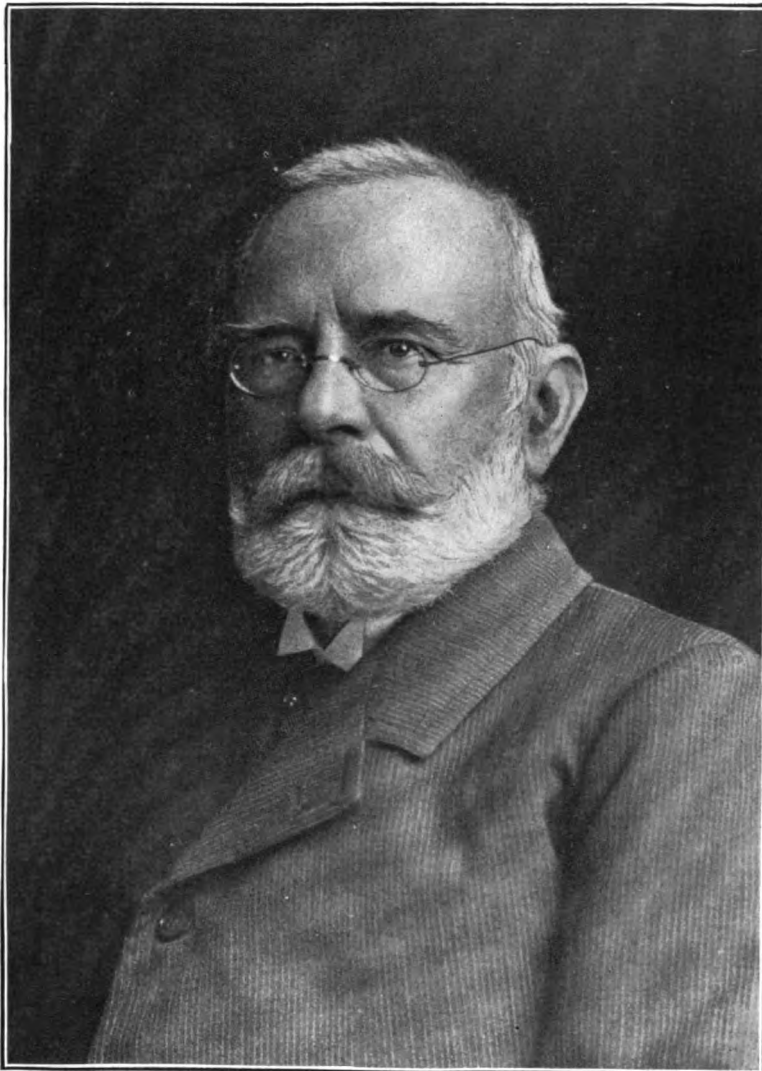
Engineering Department of The American Bridge Company, is one of the most skillful mechanical civil engineers in the profession. He was born April 24, 1843, in Apolda, Duchy of Saxe-Weimar, Germany. His father,

Julius Schneider, was a textile manufacturer. His mother was a Miss Emilie Bengel. Mr. Schneider is of German ancestry, and was educated in the schools of his native city, and in the Royal School of Technology, at Chemnitz, Germany. In 1864 he graduated.

Upon leaving his books, young Schneider was placed as an apprentice in a machine shop, where a practical knowledge of the details of iron working was given him. When thoroughly familiar with this branch of the business, the young iron-moulder began the study of civil and mechanical engineering.

In 1868, Mr. Schneider came to America, and for three years was employed as draughtsman in the Rogers Locomotive Works, of Paterson, N. J. He then accepted the position of Assistant Engineer of the Michigan Bridge & Construction Com-

pany, at Detroit, Mich. He remained with this concern until 1873, when he became the Engineer in charge of the engineering office of the Erie Railroad, in New York City. During the period between 1875 and 1877, Mr.



CHARLES C. SCHNEIDER,
Vice-President, in Charge of Engineering Department, American Bridge Company, New York.

Photo. by Holden.

Schneider was designer for the Delaware Bridge Company. From the year 1877 to 1886, the subject of this sketch practiced his profession in New York City as a Consulting Engineer. His specialty was bridge building and designing.

Mr. Schneider is a member of The American Society of Civil Engineers, New York; The Engineers' Club, the Society of German Engineers, of Berlin, Germany, and the Railroad Engineering and Maintenance of Way Association, of Chicago.

In May, 1886, Mr. Schneider accepted the po-

sition of Chief Engineer of the Bridge Construction Department of the Pencoyd Iron Works, of Philadelphia. This place he held until May, 1900, when the American Bridge Company was organized, and he was appointed Vice-President in charge of the Engineering Department.

Mr. Schneider married Miss Katherine Clyde Winters, daughter of John J. Winters, on January 8, 1880, at his home, Paterson, N. J. Two children were the result of the union, Miss Helen M. Schneider and William W. Schneider, the latter having passed away.

JOSHUA A. HATFIELD.

VICE-PRESIDENT OF AMERICAN BRIDGE COMPANY, NEW YORK.—IN CHARGE OF CONTRACTING DEPARTMENT.

JOSHUA ALEXANDER HATFIELD is Vice-President, in charge of the contracting department of The American Bridge Company. He was born June 11, 1863, in Philadelphia, Pa., and is the son of Daniel Knees Alexander. His father was a well-known merchant and man of affairs in the Keystone State. The mother of the subject of this sketch was Scotch by birth, and came to America with her parents in early girlhood. The paternal ancestors of Mr. Hatfield were one of the earliest families to settle in America.

He received his early education in the Hill School, Pottstown, Pa. Upon graduation from this institution in 1880 he secured a position as Clerk in the Pottstown Iron Company, Pottstown. Mr. Hatfield labored conscientiously, and by degrees worked his way up to the position of General Sales Agent. This position he held until 1896, when he resigned to take charge of the sales department of the A. & P. Roberts Company, at their Philadelphia office. This position he filled until the following September, when he was transferred to their New York offices with a wide field of action, and increased duties to perform.

When The American Bridge Company was organized, one of the first employees invited to go with the new corporation was Mr. Hatfield. In addition to being made a Vice-President, the subject of this sketch is the Manager of the Company's Construction Department for the Eastern District, which department supervises the exports of The American Bridge Company.

Besides being a conspicuous figure in the Company, Mr. Hatfield is connected with the following corporations: The Pottstown Iron Company, of Pottstown, Pa., and the Seneca Lake Salt Company, of New York, and is also a stockholder in several smaller enterprises.

Mr. Hatfield takes active interest in social life. He is a member of the Engineers' Club, the Hardware Club, of this city; the Staten Island Club, the Harbor Hill Golf Club, of Staten Island, and the Pencoyd Club, of Philadelphia. It was on the 8th of May, 1888, that Mr. Hatfield married Mary Ellen Byers, of Pottstown, Pa. Mrs. Hatfield is the daughter of the late Joshua Byers, Esq.

The position Mr. Hatfield now occupies in The American Bridge Company as Vice-President, in charge of Contracts, is one which involves great responsibility, and the smallest details of the immense business must be kept directly under his supervision. In order to successfully do so, he must be possessed of rare business ability, which he is.

Joshua A. Hatfield enjoys the personal acquaintance of everyone prominent in the bridge building industry, and by his strict attention to business and business tact he has risen to his present high position.

THE SUCCESSFUL AMERICAN is a periodical with editors who are newspaper men, keeping their eyes on the latest achievements of men in public life. This will make its files the most valuable reference data in the world. It is unique. It has set a standard and will live up to it.



JOSHUA A. HATFIELD,
Vice-President, in Charge of Contracting Department, American
Bridge Company, New York.

Photo. by Parkinson, New York.

AUGUST ZIESING.

WESTERN MANAGER FOR THE AMERICAN BRIDGE COMPANY.

AMONG American engineers none holds higher or better earned rank than August Ziesing, Western Manager for the American Bridge Company, with some of whose most important works he has been associated as the managing and directing mind. Mr. Ziesing was born February 19, 1858, at Peru, Illinois, being the son of Henry and Katherine Ziesing. The elder Ziesing was a physician and surgeon, highly esteemed for skill in his profession, as well as for other valuable attributes, which gained for him the confidence and respect of all who knew him. Both Henry and Katherine Ziesing came from Germany when young, and settled in La Salle County, Illinois. They were able to give August an excellent education, which laid the foundation for his subsequent success. He was

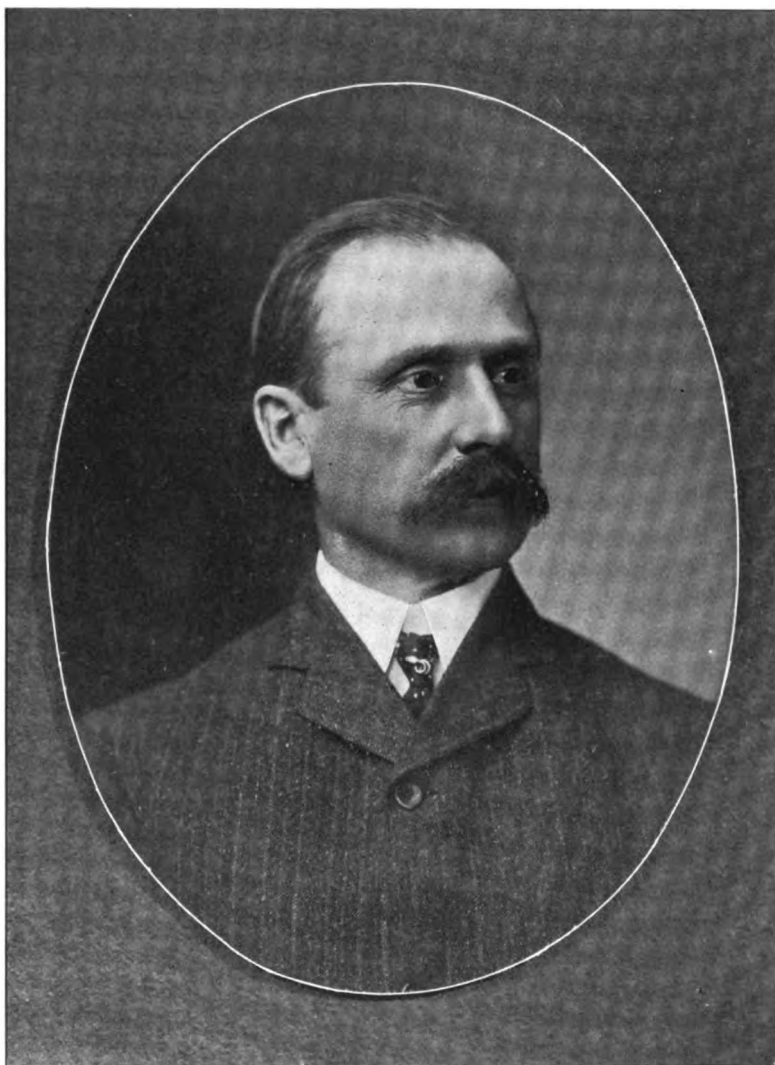
educated in both public and private schools, and was graduated as Civil Engineer from the State University of Illinois in the class of 1878. His first occupation was as a draughtsman, in which he served for two years with such good results that he was appointed Assistant Engineer in charge of

bridges, and also in charge of double-track work in Ohio, with the Pennsylvania Railway Company. From 1883 to 1895, he was Engineer, and later Engineer and General Manager for the Lassig Bridge & Iron Works. From 1895 to 1900, Mr. Ziesing was a Consulting Engineer,

making railway work a specialty, and in 1900 he became Western Manager for the American Bridge Company, which place he still holds. The rapidly extending business of this Company in all parts of the West, as well as of the East, makes Mr. Ziesing's position one of great responsibility and importance, and he has proven himself fully equal to it. Mr. Ziesing was married in 1884, at Wooster, Ohio, to Miss Alice A. Hanna, and they have four children—Henry, Margarette, Gertrude and Katherine.

He is a mem-

ber of the American Society of Civil Engineers, the Western Society of Engineers, the Chicago Athletic, the Technical, the Ravenswood and the Skokie County Clubs, the Am. Railway Engineers and M. of W. Association, the Royal Arcanum, Royal League, National Union of College Clubs, etc.



AUGUST ZIESING,
Western Manager, American Bridge Company.

Photo. by W. J. Root, Chicago.

PAUL LUDWIG WOLFEL.

CHIEF ENGINEER OF THE AMERICAN BRIDGE COMPANY.

COMING to America from Germany in June, 1888, Mr. Wolfel has demonstrated his ability to occupy and satisfactorily fill one of the most responsible positions in the largest bridge-building concerns in the world. To-day he is admittedly at the top of his profession.

Paul Ludwig Wolfel was born at Dresden, Germany, April 19, 1862, his father, Frederick E. Wolfel, being a retired manufacturer whose ancestors were business men and small manufacturers for several generations. On his mother's side, the male members of the family showed a preference for the medical profession and the army. All his ancestors had lived in Saxony, and it was in a private school and the *Realschule* at Dresden that Mr. Wolfel secured his early tuition. He was then a student at the



PAUL L. WOLFEL,
Chief Engineer, American Bridge Company, New York.

Polytechnikum at Dresden from 1880 to 1885, giving special attention to bridge work under Professors Fraenkel and Mohr. From 1885 to 1887 he was Assistant to Professor F. Steiner at the *Polytechnikum*, in Prague, and also a *Privatdocent* at the same college. He served in the German

army for a year and then came to America. He secured employment almost immediately under C. C. Schneider, the then Chief Engineer of the Pencoyd Iron Works. In 1892, he was appointed Assistant Chief Engineer of the bridge and construction department of the Pencoyd Iron

Works. In 1890, he was made Engineer of the railway department of the American Bridge Company, and at the same time Chief Engineer of the bridge and construction department of the Pencoyd Iron Works and of the A. & P. Roberts Company. In January of this year, Mr. Wolfel was further advanced and made Chief Engineer of the Eastern district of the American Bridge Company. He is at present connected with the Bridge Company, the Pencoyd Iron Works and the A. & P. Roberts Company.

Mr. Wolfel

is a member of the American Society of Civil Engineers, the New York Engineers' Club, the Philadelphia Engineers' Club, and the Pencoyd Club, of Philadelphia. He was married in 1893 to Miss Emma Brecht, of Philadelphia, Pa., and they have one child, a daughter, Miss Emma Wolfel.

CHARLES W. BRYAN.

**MANAGER OF CONTRACT DEPARTMENT OF AMERICAN BRIDGE COMPANY,
FOR THE EASTERN DISTRICT.**

THE contract department of The American Bridge Company, for the Eastern District, is in charge of Charles Walter Bryan.

Mr. Bryan was born May 5, 1863, in Warren County, Missouri, and is the son of Arch S. and

Mary E. Bryan, of that place. His father died May 7, 1900. The Bryan family were among the oldest settlers of Kentucky and Missouri, and were with Daniel Boone during the eventful career of that famous frontiersman. He was educated at Washington University, St. Louis, Mo., with degree of Civil Engineer in class of 1884, his early training being in the public schools of Washington, Mo.

His first occupation after leaving college was as a clerk on a Missouri River steamboat, after which he entered the employ of The Pond Engi-

neering Company, of St. Louis, as draughtsman. Following that position he was successively with The Edgemoor Iron Company as Draughtsman, The Missouri Pacific Railroad Company as Engineer, The Edgemoor Bridge Works as Engi-

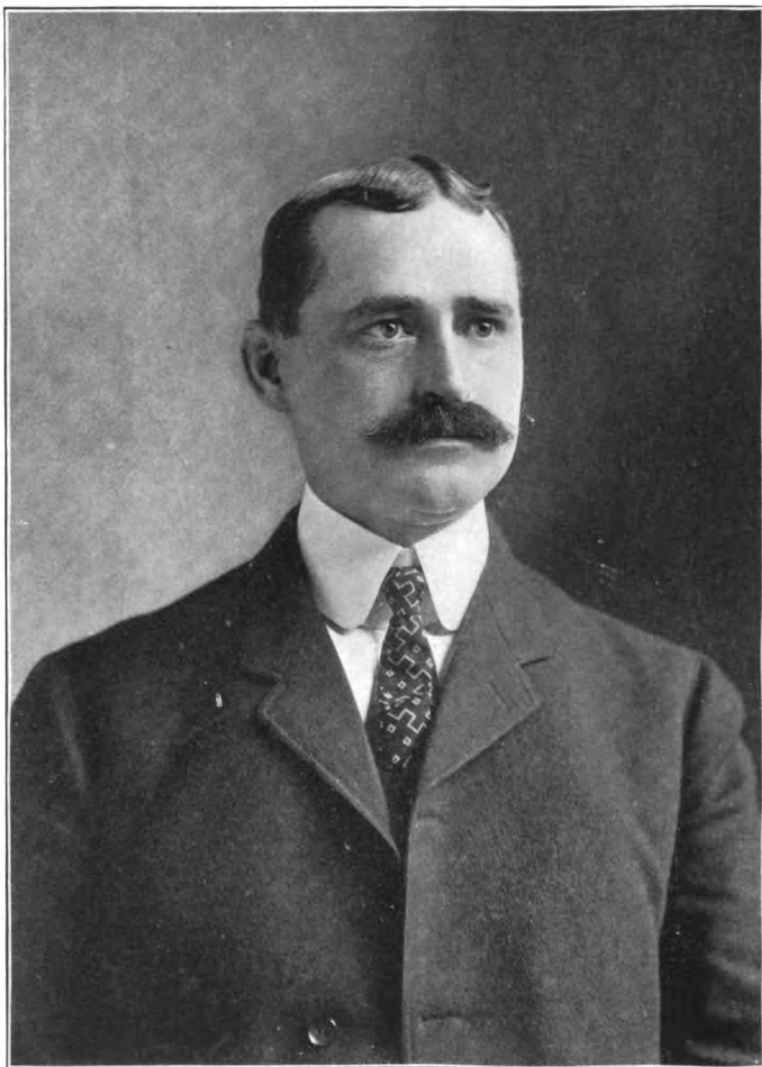
neer, and later as Chief Engineer, and subsequently associated himself with the American Bridge Company, first as Agent of the Railway Department and later as Manager of the Contracting Department, for the Eastern District.

Mr. Bryan is a member of The Engineers' Club, of St. Louis; The Engineers' Society, of Western Pennsylvania, and The Wilmington Club, of Delaware.

He was married April 29, 1889, at Wilmington, Del., to Mary E. Shaw, and is the father of four children—Charles W., Jr., Margaret, Philip, and Katherine.

Mr. Bryan is an authority on the subject of modern structures and is the joint author with Dr. J. B. Johnson and Prof. F. E. Turneure, of the University of Wisconsin, of the standard text and reference book on

bridges, entitled "Modern Framed Structures," which was published by John Wiley & Sons, of New York. Mr. Bryan will make his headquarters at New York City, at the office of The American Bridge Company, 100 Broadway.



CHARLES W. BRYAN,
Manager of Contract Department of American Bridge Company,
Eastern District.

Photo. by Patton, Pittsburgh.

WM. H. CONNELL.

TREASURER OF THE AMERICAN BRIDGE COMPANY.

THE financial department of the American Bridge Company is in the hands of a man who has demonstrated by practical experience his thorough fitness for that position of responsibility. William Henry Connell, treasurer of the corporation, was born May 29, 1845, at Wilmington, Del., the son of William and Sarah Shipley Connell; his paternal ancestors were from Ireland, and his mother was from an old Quaker family of Delaware. Mr. Connell was educated at Wilmington and graduated from the "Classical Commercial Academy" of T. Clarkson Taylor. His first occupation was with the First National Bank at Wilmington as note teller. His ability was appreciated, and he was later made receiving teller. After leaving the bank he accepted a position as general freight

agent of the Delaware Western R. R. Company, which post he held until 1874, when he associated himself with the Edgmoor Iron Company. In 1888 the Edgmoor Bridge Works was organized to take over the Edgmoor Iron Com-

pany's bridge business. Upon the formation of this company Mr. Connell was elected treasurer, and later on was made president of the company, a position he held until the American Bridge Company was formed. This was his first experience in the bridge building line, and he at

once set to work to master its details. Here he had an excellent opportunity, which he took advantage of. The Edgmoor Iron Company had the contract and supplied the filled steel superstructure for the New York and Brooklyn Bridge. In those days, when steel superstructures were rare and difficult of manufacture, this company was one of the few that were advanced in that line. The Edgmoor Company also designed and constructed the Sixth Avenue Elevated structure for the New York Loan and Improve-



WM. H. CONNELL,
Treasurer of The American Bridge Company.

Photo. by Parkinson, New York.

ment Company, which was the construction company that built the West Side Elevated Railways in New York. Mr. Connell was called upon to make the estimates of cost of these structures for his company, and was largely instrumental

in securing the contracts for the Edgmoor Iron Company. During his connection with the Edgmoor Company, which was from May, 1874, until the Edgmoor Bridge Works was merged into and became a part of the American Bridge Company in May, 1900, the development of bridge building advanced so rapidly that it became necessary for self protection and economy to combine with other companies, which was done. The process and method of bridge work manufacture, which are largely used, by reason of which the American bridges, because of their maximum strength and minimum of weight are being erected in all sections of the world, were thus developed.

Mr. Connell was married in 1871 to Emma J. Pyle, eldest daughter of the late Joseph Pyle, Esq., of Wilmington, Del.

RICHARD KHUEN, JR.,

One of the Able Engineers of American Bridge Co., Located at Pittsburgh.

RICHARD KHUEN, JR., was born on the 27th of July, 1865, in Saginaw, Michigan. He is a son of Richard and Caroline Khuen. His father was prominent in the banking and insurance business of his native town. His ancestors were from Southern Germany. His father left there and came to this country in his early youth. On his maternal side his grandfather was forced to leave Germany in 1847, on account of his connection with an agitation for a republic at that time.

Richard Khuen, Jr., received his academic education at the University of Michigan at Ann Arbor. His first occupation in life was that of an engineer, and he has steadily followed that profession to the present day. From 1887 to 1891 he was with Messrs. Geo. S. Morrison and E. Z. Carthell, as Assistant Engineer, on works in various parts of the United States. In 1891-1892 he was Assistant Engineer on the Erie Railroad, and was First Assistant Engineer on the projected elevated railway at Philadelphia in 1893.

From 1893 to 1900, he was associated with The Pencoyd Iron Works, a greater part of the time in charge of estimating and designing in the bridge and structural department. In 1901 he was made Chief Engineer of the Pittsburgh district of The American Bridge Company.

Mr. Khuen is a member of The American Society of Civil Engineers and of The Philadelphia

Engineers' Club and the Pencoyd Club, of Philadelphia.

He was married in 1895, to Elizabeth B. Meason, at Greensburg, Pa., and one child, Richard, Jr., is the result of the union.

A. L. SCHULTZ,

District Manager of the American Bridge Company, Pittsburgh District.

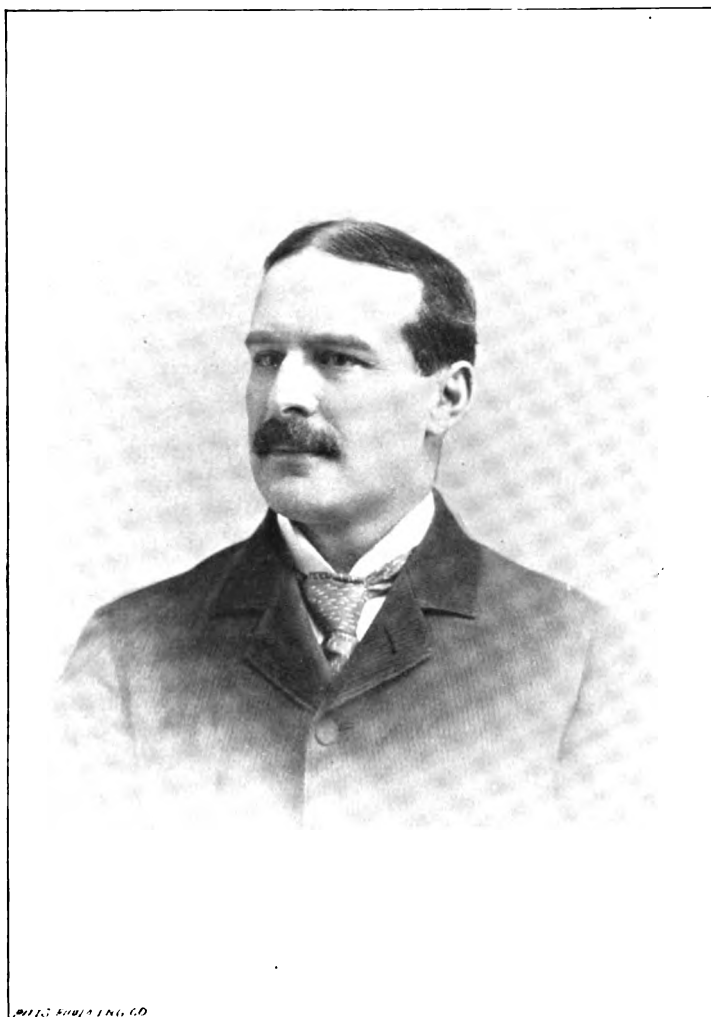
ALBERT L. SCHULTZ, the head of the operating department of the American Bridge Company for the Pittsburgh District, has come by his inclination to build bridges by inheritance. He is the son of the founder of the first steel bridge-building works started in this country. Mr. Schultz's father was Civil Engineer C. L. Schultz, who came to America from the free city of Harsentic Lubeck, after graduating from the University of Copenhagen. The elder Schultz landed in New York in 1849. He subsequently took his young wife to New Orleans, La., where Albert was born in 1851. Later the Schultzes settled in Pittsburgh, where the subject of this sketch was reared in the steel and iron trade. After graduating from the Pittsburgh Central High School in 1871, Mr. Schultz took a three years' course in civil engineering in the Royal Polytechnic Institute, Berlin, Germany, graduating in 1874.

Upon his return to his native land the young engineer became the Draughtsman for the Iron City Bridge Company, Pittsburgh. A short time later, the Presidency of the Schultz Bridge Iron Company was assumed by Mr. Schultz. When the American Bridge Company was formed, the former President was one of the first to merge his company into the combination.

During Mr. Schultz's career as a civil engineer he designed and built most of the Pittsburgh bridges, including the Schenley Park Bridge, the Monongahela River structure, known as the Twenty-second Avenue Bridge, and acted as consulting engineer of most of the bridges in New York City. Mr. Schultz was Construction Engineer for the Pittsburgh cable roads, and won high praise for the skill he exhibited in introducing this mode of travel into the Smoky City.

In Pittsburgh, Mr. Schultz is deemed one of the most public-spirited citizens. He is deeply interested in educational matters. For twelve years he has been a School Director.

Mr. Schultz was the chief promoter of the Highland Park Bridge over the Allegheny River.



ALBERT L. SCHULTZ,
District Manager Pittsburgh Branch American Bridge Company.

He is a Director and practically the foremost man in the new Kensington Bridge Company, and a Director of the West Side Belt Railway of New York, and of the American Bridge Company, of New Jersey.

When away from his charts and directors' meetings, the subject of this sketch spends some of his time with congenial spirits at the University and Duquesne Clubs, of Pittsburgh, Pa. He is also a member of the Engineers' Club, of New

York, and The Americus Republican Club, of Pittsburgh. In 1878 this able engineer married Miss Minnie Clay Bigelow. The result of the union are four children—Thomas Steel Schultz, a Harvard law student; Albert Bigelow, student at Princeton; Miss Mary Bigelow and Miss Virginia Clay Schultz.

Mr. Schultz is prominent in the Masonic order. He is P. M. of his Lodge, P. E. C., Duquesne Commandery, No. 72, and No. 320 A. A. S. R.



RICHARD KHUEN, JR.,
Chief Engineer of Pittsburgh Branch of The American Bridge Company.

CHARLES S. BELSTERLING.

FREIGHT AGENT OF THE AMERICAN BRIDGE COMPANY.

ONE of the most energetic of the younger officials of the American Bridge Company is Charles Stearne Belsterling, freight agent of that corporation, with headquarters at Philadelphia.

Mr. Belsterling was born in Philadelphia, Pa.,

May 31, 1874, and is therefore in his twenty - eighth year, and consequently has a bright future ahead. He is the son of William F. and Ida J. Belsterling. He is of old Pennsylvania ancestry. His father was prominent as a real estate operator and conveyancer, and his grandfather was mayor of "Northern Liberties," now a part of Philadelphia, for five terms prior to 1850, and was very prominent as a public man and able lawyer of his time. He was a representative of the old Jacksonian Democratic party,

which was such a power in those days. His grandfather was one of the early settlers of Philadelphia, and was a charter member of the first German Masonic lodge in that city. On his grandmother's side is the old English Qua-

ker stock, the family of Preston, who came to this country with William Penn and settled in Philadelphia.

Charles S. Belsterling, the subject of this sketch, was educated in the public schools of Philadelphia, and graduated from the Philadel-

phia City High School in 1890, and later on studied law at Sprague's Correspondence School, of Detroit, Mich. After completing his law studies he entered the firm of A. & P. Roberts Company (the Pencoyd Iron Works) in 1892. Here he attended strictly to business, and steadily arose from clerk to the office of general freight agent, to which place he was appointed August 1, 1900, managing the traffic of the Pencoyd Iron Works and the American Bridge Company, the largest institution of the kind in the



CHARLES S. BELSTERLING,
Freight Agent of The American Bridge Company.

world. He is also general freight agent of the Pencoyd & Philadelphia Railroad Company. He is a member of the Pencoyd Club of Philadelphia, and is superintendent of Sunday school of Second Reformed Church of Philadelphia.

JAMES A. HUSTON.

GENERAL MANAGER, PITTSBURGH DISTRICT, OF THE AMERICAN BRIDGE COMPANY.

AT the time of the formation of the American Bridge Company one of the most important concerns engaged in the construction of bridges was the Toledo Bridge Company, of Toledo, Ohio, of which the subject of this sketch was the honored head. Overtures were made and an agreement arrived at whereby this company became a part of the big combination of bridge manufacturers, and Mr. Huston was made a director in that corporation.

James Archibald Huston was born October 6, 1853, at New Lexington, Perry County, Ohio, the son of Robert E. and Elizabeth Hayes Huston. His ancestors were Scotch Presbyterians for many generations.

Mr. Huston received a common school education at his native place, and upon graduation he started in business as a retail druggist and remained there until 1884. After disposing of that business he turned his attention to the industry of bridge building, and has been engaged continuously in that line for the past sixteen

years in various capacities—from salesman to president and general manager of the Toledo Bridge Company up to the time it became a part of the American Bridge Company. Mr. Huston is general manager of the Pittsburgh district,



JAMES A. HUSTON,
General Manager, Pittsburgh District, of The American Bridge Company.

and a director of the American Bridge Company of New York, president of the Toledo Bridge Company, president of the Toledo Bowling Green and Tremont Railway, vice-president of the Snell Cycle Fittings Co., vice-president of the Tunnel Hill Coal Company, chairman of the Executive Committee of the Northern Central Life Insurance Company and a director of the Central Savings Bank. He has passed through the various degrees of Masonry and is a thirty-second

degree Mason and an active member of that fraternity. He is also an associate member of the American Society of Civil Engineers.

Mr. Huston was married at Granville, Ohio, in 1879 to Amanda Wilkins, and has three children—James A., Jr., Nanette and Hayesel Huston.

LEWIS S. GILLETTE.

PROMINENT FACTOR IN THE DEVELOPMENT OF THE AMERICAN BRIDGE COMPANY.

LEWIS SINGER GILLETTE was born at Niles, Michigan, on the 9th day of May, 1854, the son of Mahlon B. and Nancy M. Gillette. His father was a well-known farmer, stockman and miller. Mr. Gillette was educated

at Niles, Michigan, in a private school; from there he entered the High School University of Minnesota, class of 1876. He carried two courses through college and graduated with two degrees—B. S. and B. E. He received the honorary degree of C. E. from the University of Minnesota in 1896.

His first occupation in life was farming, near Niles, Michigan. He then became a wholesale dealer and shipper of fruits, which trade he carried on with success until 1878, when he purchased an interest in the Niles Plow Co. and became manager of that concern. In 1881 he sold out his interest in the Plow Co. and removed to Minneapolis to accept a position under J. J. Hill as Right-of-Way Agent of St. P. M. & M. Railway. During the time he held this position he was also engineer

and agent of St. Anthony Falls Water Power Company. These two offices he held until May, 1884, when he resigned and purchased an interest in the Herzog Mfg. Co., which later became the Gillette-Herzog Mfg. Co., with Mr.

Gillette as president. In May, 1900, this company became a part of the American Bridge Company, and Mr. Gillette was elected a director. In addition to the above connections he is also president of the Minnesota Malleable Iron Co., president of the Electric Steel Elevator Co., vice-president of the Metropolitan Bank of Minneapolis, Minn., director of the Minneapolis Loan and Trust Co. and the American Bridge Co., and Western manager of the American Bridge Company.

He is a mem-

ber of the Engineers' Club, and American Society of Civil Engineers of New York City, Minnesota Engineers' Club, Minikahda Club, Lafayette Club, and "Chi Psi" Society, U. of M. of Minneapolis. Mr. Gillette was married to Louesa E. Perkins, of Minneapolis, December 18, 1877.



LEWIS S. GILLETTE,

Prominent Factor in the Development of The American Bridge Company.

CHARLES C. PRICE.

AUDITOR OF THE AMERICAN BRIDGE COMPANY.

THE American Bridge Company, although a young corporation itself, is the outcome of the leading bridge building concerns of the United States formed into one large combination for the purpose of supplying better work at lower figures than was possible as individual companies; also to economize by making executive heads of each department of the corporation instead of full sets of officers, as was the case in the individual companies.

Upon the formation of the American Bridge Company in May, 1900, it was necessary that each position be filled by a man whose experience and ability could be vouched for, and the success attained by the company speaks volumes for the selections made. The auditing department of a great corporation is one of the vital spots of the company; millions of dollars yearly must be passed upon and the greatest care maintained to guard against error; all bills payable must pass through this department and must receive the O. K. of the auditor

before payment. Herewith we give a brief sketch of the auditor of the American Bridge Company.

Charles Coale Price was born June 26, 1859, at Falston, Md. His father, John F. Price, was a government employee in the post-office department;

his mother was Rebecca W. Price.

Mr. Price is of sturdy old Quaker ancestry for many generations, and was educated in the Friends' Central School, at Fifteenth and Race Sts., Philadelphia, which is an old Quaker institution. After leaving school his first occupation in life was at the Pencoyd Iron Works. This was twenty-two years ago, and how well he liked his position is evidenced by the fact that he is still there, after having been passed along the line of promotion for faithful service.



CHARLES C. PRICE,
Auditor of The American Bridge Company.

Mr. Price is treasurer of the Penroyd & Philadelphia R. R. and the Wissahickon Bridge Company, and is auditor of the Koken Iron Works, the Detroit Bridge and Iron Works, and the A. & P. Roberts Company.

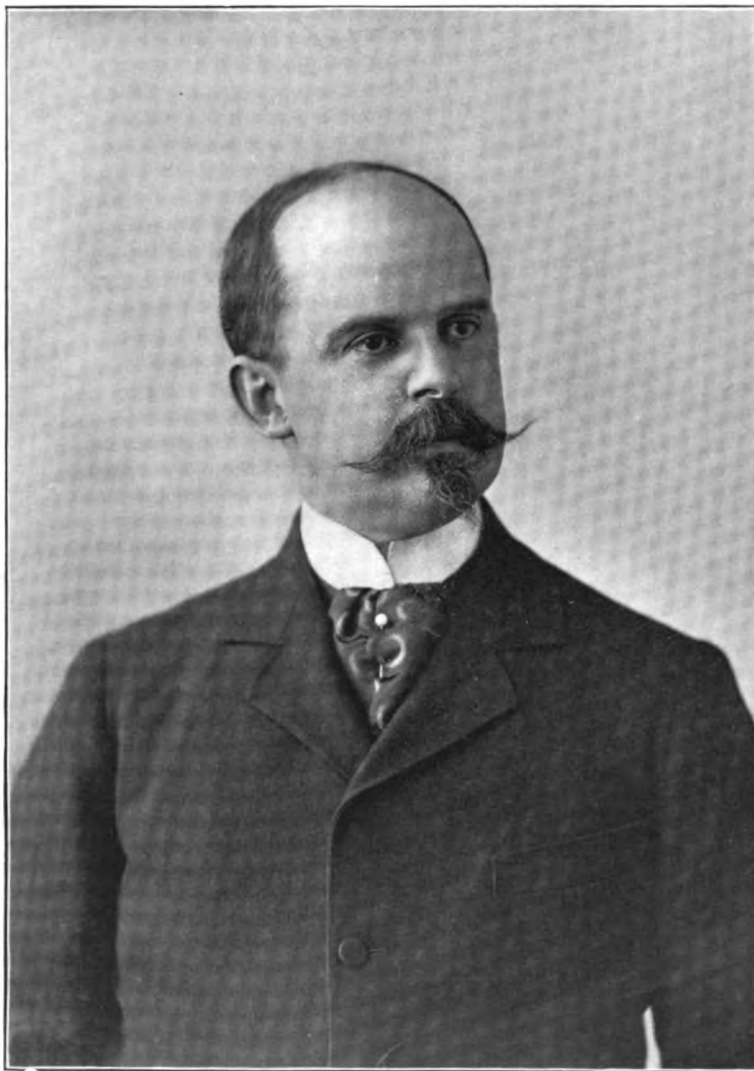
FRANCIS W. HEISLER.**PURCHASING AGENT OF THE AMERICAN BRIDGE COMPANY.**

THE subject of this sketch began as a boy with the Edge Moor Iron Company and rose to the position of Vice-President of the Edge Moor Bridge Works.

Francis W. Heisler, Purchasing Agent of The

years engaged in the manufacture of brass and copper.

Mr. Heisler was educated in the public schools and at the Reynolds Institute, of Wilmington, after which he entered the employ of the Edge



FRANCIS W. HEISLER,
Purchasing Agent of The American Bridge Company.

American Bridge Company, with headquarters at 259 South Fourth Street, Philadelphia, was born in Wilmington, Delaware, in 1856, the son of Barzillai and Rebecca S. Heisler, both of whom were native Americans. His father was for many

Moor Iron Company as junior clerk. Later on the Edge Moor Bridge Works was organized, and Mr. Heisler was Vice-President when it was absorbed by The American Bridge Company, and he was selected as Purchasing Agent.

SAMUEL P. MITCHELL.

CHIEF ENGINEER OF THE AMERICAN BRIDGE COMPANY, OF NEW YORK.

THE engineering corps of the American Bridge Company is composed of men foremost in the engineering profession of the world. This is the secret of their great progress and success, which places them at the head of the great bridge building industry.

Samuel Phillips Mitchell, chief designer of the American Bridge Company of New York, was born in Richmond, Va., June 10, 1864. He is a son of Samuel Phillips Mitchell and Mary Emily Mitchell. His father was of French origin and was a prominent tobacco manufacturer of Richmond, and served in the Confederate army with the rank of major. His mother was of the famous Fry family and of old English ancestry.

Samuel P. Mitchell was educated in a private school at Richmond, and later attended the University of Virginia. After graduating he entered the engineers' corps of the Richmond & Danville R. R. in 1883. Subsequently he became resident engineer for the B. & O. R. R. and was engaged in the construc-

tion department between Baltimore and Philadelphia. Later on he was inspector of bridges on the same road, and in 1887 he entered the Edgmoor Bridge Works as assistant engineer. In 1889 he was engineer in charge of erection

for this company, and in 1890 became assistant manager. In 1896 he was appointed manager, which position he maintained until the formation of the American Bridge Company, when he was appointed erecting engineer, and on the formation of the American Bridge Company of New York he was further advanced to the post of chief engineer, which position he now holds, having full charge of the erecting department.

Mr. Mitchell was married in 1888 and has one son.



SAMUEL P. MITCHELL,
Chief Engineer of The American Bridge Company, of New York.

The erecting department of such a large corporation as the American Bridge Company is one of the most important positions and entails more responsibilities than that of any other post, and necessarily none but the most capable are entrusted with the charge of the work.