

NECROLOGY

ALBERT CARTER ASHTON

Albert Carter Ashton, general manager and treasurer of the Ashton Valve Co., Boston, Mass., died on January 31, 1922, in St. Petersburg, Fla. Mr. Ashton was born on May 12, 1869, in Norfolk, England. He attended the Chauncey Hall preparatory school in Boston and later the Massachusetts Institute of Technology from which he was graduated in 1889.

He served his apprenticeship with the Ashton Valve Co., a concern which was founded by his father. In 1892 he was appointed superintendent and two years later became secretary, assuming the additional duties of treasurer in 1895. For the last twenty years, Mr. Ashton has held the positions of treasurer and general manager of the company.

Mr. Ashton became a member of the Society in 1901. He was also a member of the New England Association of Commercial Engineers, the Employers' Association of Eastern Massachusetts, the National Metal Trades Association, the Boston Chamber of Commerce and the Somerville Board of Trade. He belonged to the Masonic Order, was a Knight Templar and a member of the Mystic Shrine. He belonged also to a number of clubs, including the Engineers' Club of Boston and the New England Railroad Club.

ELTON D. BAILEY

Elton D. Bailey, who became a member of the Society in 1912, died on March 29, 1922. Mr. Bailey was born on June 16, 1877, in Richmond, Mich., where he received his grammar and high-school education. Later he took the three-year mechanical engineering course at Michigan Agricultural College. Upon his graduation he became actively engaged in cement-plant construction and operation, having charge of the power equipment of Portland cement plants at Cement City, Mich., Durham, Ontario, Rockmart, Ga., Independence, Kan., Eagleford, Tex., and Macon City, Iowa.

During the War he was associated with the Packard Motor Car Co., Detroit, Mich., as engineer in the construction and maintenance department. Late in 1921 he returned to his home in Richmond, Mich., where he died.

JOHN A. BENNIE

John A. Bennie, assistant in the planning department of the Ohio Body & Blower Co., Cleveland, Ohio, was accidentally killed on October 18, 1922. Mr. Bennie was born on March 29, 1888, in Chatham, Ont., Canada, where

he received his early education. Later he attended Queens University, from which he was graduated in 1916 with the degree of M.A.

For about a year Mr. Bennie was connected with the Western Electric Co., in the cost-reduction and tool-capacity section, and at the end of that period he entered the requisition section of the engineering department of the Emergency Fleet Corporation. Later he was for short periods with the Industrial Works, Bay City, Mich., in charge of time-study, and with the Nordyke & Marmon Co., Indianapolis, Ind., in the same capacity. In January, 1920, he became production manager for the Ohio Body & Blower Co., and in April, 1922, assistant in the planning department.

Mr. Bennie became an associate member of the Society in 1922.

JOHN ANDERSON BENSEL

John Anderson Bensel, prominent consulting engineer of New York City, died on June 19, 1922. Mr. Bensel was born in New York City on August 16, 1863. He received his engineering training in Stevens Institute of Technology, where he was graduated in 1884 with the degree of M.E.

His first work was with the Pennsylvania Railroad as rodman. Later he worked on the Croton Aqueduct for a short period and then entered the employ of the New York City Dock Department, where for some years he was assistant engineer in charge of the North River waterfront. He resigned from this position in 1895 to open his own office, and the following year acted as engineer for the Girard estate and the city of Philadelphia in the improvement of the waterfront and the widening of Delaware Ave. along the Delaware River. He also acted as engineer for the city of Newburgh in fixing the tax valuation of the property of the Pennsylvania Coal Co.

In 1898 he became chief engineer of the Department of Docks and Ferries of New York City, which post he held until 1906 when he was appointed commissioner for two years. During this ten-year period the greater part of the water-front improvements of the city were designed and constructed, notably the large piers immediately below Twenty-second Street where the North River was deepened to accommodate the largest steamers.

From 1908 to 1911 Mr. Bensel was president of the Board of Water Supply in charge of building the Catskill Reservoir and Aqueduct. In 1910 he was elected State Engineer and held that position until 1914, during which time the greater part of the State Barge Canal was constructed. He was engaged in private practice when the War called him away and he entered the Army with the rank of major in the Engineers' Corps. He had charge of the construction work at the Naval Base in Norfolk, Va., in connection with the embarkation of troops for the War zone and also work in connection with Norfolk's water supply, which threatened at one time to become inadequate. Later he had command of the 125th Engineers at Camp Forrest, Ga. He was mustered out of the service in January, 1919, and returned to his private practice.

Since then he has been engaged as engineer in various special projects—engineer for the cities of Schenectady and Oswego in bridge and hydro-

electric development work; engineer for the Port Improvement of Jersey City, N. J., member of the Board of Consulting Engineers of the New York State Bridge and Tunnel Commission, etc. At the time of his death he was engaged in some large valuation work for the City of New York.

Mr. Bensel was a member and a past-president of the American Society of Civil Engineers, a member of the Institution of Civil Engineers of Great Britain, of the Institute of Mining Engineers and the Society of Military Engineers. He became a member of our Society in 1917. He was also a member of the Municipal Art Society of New York and of the U. S. Pan-American Society. He belonged to the Engineers', University, Union League and the Army and Navy Clubs as well as to several country clubs. In June, 1922, Stevens Institute conferred upon him the degree of Doctor of Engineering.

ERNEST WILKINSON BENTLEY

Ernest W. Bentley, consulting engineer, Jacksonville, Fla., died on August 14, 1922. Mr. Bentley was born on November 14, 1872, in New Brighton, Pa., where he received his early education. Later he entered Cornell University from which institution he received his M.E. degree in 1894.

Upon graduation he served his apprenticeship with the firm of Bentley & Gerwig, Ltd., then becoming connected with the Pierce-Crouch Engine Co. From 1896 to 1900 he held the position of superintendent with the Champion Saw & Gas Engine Co., Beaver Falls, Pa. He resigned from this concern to become superintendent of the Braddock Machine & Manufacturing Co., Braddock, Pa., where he was located for about a year when he became associated with the Carnegie Steel Co., in the engineering department. In 1906 he became sales manager of the Rust Boiler Co. and the following year manager of the Pittsburgh office of the Skinner Engine Co.

Mr. Bentley was compelled to resign from this position in 1916 because of ill health and he went to Florida where he bought and worked a farm. Regaining his health, he opened his own office in Jacksonville, Fla., as a consulting engineer on machinery. He was engaged in this work at the time of his death.

Mr. Bentley became a member of the Society in 1904. He was also a member of the Florida Engineering Society and a number of organizations and clubs in Rochester, Pa.

AXEL E. BERGGREN

Axel E. Berggren, assistant professor of steam and gas engineering in the University of Wisconsin, died on August 10, 1922, from injuries received in an automobile accident. Professor Berggren was born on October 16, 1882, in Marshalltown, Iowa, where he attended grammar and high school. He was graduated from Iowa State College in 1908 with the degree of B.S. in mechanical engineering. In 1914 he received the degree of M.E. from the University of Wisconsin.

Upon graduation Professor Berggren became an instructor at the University of Colorado where he remained until 1910, when he accepted an instructorship in the University of Wisconsin. In 1917 he was appointed assistant professor of steam and gas engineering in charge of the steam and gas laboratory of the University, which position he was holding at the time of his death.

Professor Berggren became an associate member of the Society in 1915 and was advanced to full membership in the spring of 1922. He was a member of the Society for the Promotion of Engineering Education and of several honorary as well as social fraternal bodies.

WILLIAM NEWTON BEST

William Newton Best, one of the very well-known members of the Society in the field of liquid-fuel burning, died in Brooklyn on April 11, 1922. Mr. Best was born at Clayton, near Quincy, Illinois, on June 3, 1860, and attended the public schools there and the Gem City Business College. He then went into railroad work and continued in various capacities until 1901, when he resigned his position as superintendent of the Los Angeles and Salt Lake Railroad to begin the manufacture of his own inventions. At the time of his death he had U. S. letters patent covering forty-four devices, most of them relating to the oil-burning industry, and was president and consulting engineer of the W. N. Best Furnace and Burner Corporation at 11 Broadway, New York.

Dr. Best was the author of the book *Science of Burning Liquid Fuel*, and in 1917 the honorary degree of Doctor of Science was conferred on him by the Lincoln Memorial University, Cumberland Gap, Tenn., of which he was for some time a member of the Board of Trustees.

He became a member of the A.S.M.E. in 1912; he was one of the committee appointed in 1918 to revise its Boiler Test Code, and served for some time as its representative on the Board of the Engineering Societies Library. He was also a Fellow of the Royal Society of Arts, London, and a member of the American Institute of Mining and Metallurgical Engineers, the American Institute of Metals, the International Railway Fuel Association, American Railway Master Mechanic's Association, The Franklin Institute, the Aero Society of America and of the New York Academy of Sciences.

He was also a member of the Long Island Lodge 382 F. and A. M., vice-president of the Board of Directors of the Goodwill Industries of Brooklyn, Inc., vice-president of the Board of the Williamsburgh Rescue Mission, Inc., and a member of the Board of Governors of the Neponsit Club of Long Island.

Dr. Best will be missed by a host of friends, as well as in the many activities in which he was interested.

CHESTER BORGSTROM

Chester Borgstrom, draftsman with the W. A. Jones Foundry & Machine Co., Chicago, Ill., was accidentally shot and killed on April 5, 1922. Mr. Borgstrom was born on September 8, 1899, in Chicago, Ill., and received his

education in the schools of that city, attending the Lewis Institute and later the Armour Institute of Technology. He was connected with the W. A. Jones Co. for five years, serving his apprenticeship and learning his trade with that firm.

Mr. Borgstrom became a junior member of the Society in 1921. He was a member of the American Legion.

WILLIAM H. BRADLEY

William H. Bradley, for 36 years chief engineer of the Consolidated Gas Co., New York City, died suddenly on January 18, 1922, of heart disease. Mr. Bradley was born in August, 1838, in New Haven, Conn. He was formerly chief engineer of the Municipal Gas Co., New York City.

Soon after he entered the employ of the Consolidated Gas Co., Mr. Bradley made an extensive tour of Europe, returning with a detailed report on all the foreign holdings of the company and plans for the future guidance of the concern in their development in New York City. He is credited with the discovery of the process of enriching coal gas with oil for illuminating purposes. His experiments in this direction were successful and later he developed what is known today as carburetted water gas. He designed the Astoria, L. I., plant of the company which he formally opened about ten days before his death. This plant is said to be the largest of its kind in the world, having a 15,000,000 cubic-foot gas holder.

Mr. Bradley became a member of the Society in 1892. He was a past president of the American Gas Institute and a member of several other technical gas associations. He belonged to the Masonic fraternity.

CARL F. BUCK

Carl F. Buck, who became a member of the Society in 1914, died on December 1, 1922, at his home in Newark, N. J., having been ill for over a year. Mr. Buck was born on June 8, 1871, in Coffeyville, Kansas. In his youth he learned the machinist's trade, later taking up architectural designing in which he was actively engaged for twelve years in the cities of St. Louis, Kansas City and Chicago.

His leaning toward mechanical engineering led to his forming a connection with the American Smelting and Refining Co., with which firm he continued with but few interruptions until his death. In his capacity as mechanical engineer and designer he was closely identified with the design and construction of the company's most important properties, particularly the smelters at Murray and Garfield, Utah, and Hayden, Ariz. By virtue of his many years of service he was possessed of a knowledge of the several plants' requirements which was equalled by few of his associates.

Mr. Buck was an inventor of some ability and owned a number of patents for various mechanical devices. At the time of his death he had been a member of the Society for eight years. He belonged to the Masonic Order.

ELLIS M. BURR

Ellis M. Burr, president of the Burr Company, Champaign, Ill., died on April 3, 1922. Mr. Burr was born in Woodstock, Ill., on February 27, 1858. He was graduated from the University of Illinois in 1878 with the degree of B.S. and immediately opened a machine shop in partnership with Mr. Robinson in Champaign. The partnership was of but few years duration but the work was carried on by Mr. Burr individually until 1912 when the corporation of the Burr Company was formed.

Mr. Burr's accomplishments were largely in the precision field, where he was responsible for the invention and development of thermometer graduators, bottle graduators, bottle markers, tractor dynamometers, railroad dynamometers, etc. During the War the firm manufactured and furnished the special structural work for all but two of the Aviation Fields, ammunition hangfire testing equipment, a special dynamometer for testing Liberty motors in flight and also did a large amount of work for the Emergency Fleet Corporation.

Mr. Burr had practically retired from active business, having been in ill health for about two years. He became a member of the Society in 1917. He was a member of many local and civic clubs in Champaign and also of the Hamilton Club in Chicago.

WILLIAM CAIRNS

William Cairns, who, until his retirement in November, 1920, was vice-president and general manager of the Detroit Pressed Steel Co., Detroit, Mich., died in St. Petersburg, Fla., on December 19, 1922. Mr. Cairns was born in Charlottetown, Prince Edward Island, Canada, on August 17, 1865. He was educated in the Charlottetown schools and the Boston Technical School.

He served his apprenticeship as machinist for three years with Geo. G. McLaughlin, Boston, Mass. From 1884 to 1887 he worked in the tool room of the Walworth Manufacturing Co., So. Boston, then becoming tool maker with the Thompson-Houston Electric Co., Lynn, Mass. Five years later he became machine-shop foreman of the Boston Cash Register Co., Northampton, Mass. From 1892 to 1895 he served as tool maker with the Overman Wheel Co., Chicopee Falls, Mass. At the end of that time he became superintendent of the Spaulding Machine Screw Co., Buffalo, N. Y. From 1898 to 1900 he was superintendent of the Monarch Bicycle Co., Chicago, Ill., resigning to become master mechanic for the Howe & Path Co., Danville, Pa. In 1902 he became associated with the Elyria Iron & Steel Co., Elyria, Ohio, as general superintendent, erecting a new mill for the company and designing and patenting a process for tube making. In 1905 he became development engineer for the Cadillac Motor Car Co., Detroit, Mich., resigning the following year to become superintendent of the General Railway Signal Co., Rochester, N. Y. In 1908 Mr. Cairns became general manager of the Parish & Bingham Co., Cleveland, Ohio. Three years later he reorganized the company, and under his management the concern expanded into one of the largest manufacturers of automobile frames in the country. He re-

signed from this firm in 1914 to become vice-president and general manager of the Detroit Pressed Steel Co., manufacturers of automobile frames and heavy steel stampings. He retired from active business on November 1, 1920.

For many years Mr. Cairns was a prominent figure in the automobile industry, his research work in pressed steel winning him wide recognition. He became a member of the Society in 1911. He belonged to a number of clubs in Detroit and Cleveland and was a member of the Elks and the Knights of Columbus.

CHARLES W. CASE

Charles W. Case, designer of special machinery for the Louisiana Celotex Co., Marrero, La., died on April 18, 1922. Mr. Case was born in New Orleans, La., on April 22, 1879. He received his early education in the public schools of that city and later his technical training in the Home Institute and the Tulane University of Louisiana Night School. He served for a short period as an instructor of mechanical drawing at the Institution.

He was well and favorably known throughout that section as a draftsman and mechanical engineer of ability, being at various times connected with the following engineering firms: Boland & Schwind Co., Ltd., chief draftsman; Ford, Bacon & Davis, chief draftsman; J. H. Menge & Son, machinery designer; John H. Murphy Iron Works, machinery designer; American Brewing Co., mechanical engineer; Wm. Garrigue & Co., chief draftsman; Freeport & Mexican Fuel Oil Corporation, superintendent of construction; Atlantic Loading Co., mechanical engineer; Ophuls, Hill & McCreary, superintendent of construction. His last position was with the Louisiana Celotex Co. as a designer of special machinery for paper manufacture.

Mr. Case became an associate-member of the Society in 1919.

FRANK WOOD CASLER

Frank Wood Casler, president of the Frank W. Casler Coal Co., New York City, died on October 27, 1922. Mr. Casler was born in Champaign, Ill., in June, 1867. He received his early education in the schools of that city and later attended the University of Michigan.

In 1892 Mr. Casler became chief engineer of the Newport Illuminating Co., Newport, R. I., in charge of operating. Eight years later he became associated with the Rhode Island Co., Providence, R. I., as chief engineer in charge of operating the Eddy and Manchester Streets power stations. After seven years with this company he became chief engineer of the Boston Elevated Railroad Co., in charge of operating the Lincoln Wharf and East Cambridge power stations. In 1910 he became connected with the Public Service Electric Co. of Newark, N. J., as general superintendent in charge of production. In 1919 Mr. Casler established his own coal business in New York City in which field of work he was engaged at the time of his death.

Mr. Casler became a member of the Society in 1913. He was also a member of the New Jersey State Board of Boiler Rules. He belonged to a number of fraternal organizations of Newark, including the Masonic Order.

ALFRED CLARKE

Alfred Clarke, well known as an inventor and the engineer who installed the Lick Observatory, died on April 27, 1922. Mr. Clarke was born in Leicester, England, on June 4, 1849. He was educated in the public schools of Leicester and in the department of science and art, South Kensington, London.

He came to the United States in 1876 as chief engineer of the Bradley Fertilizer Co., North Weymouth, Mass. From 1877 to 1885 he was connected with the Kitson Machine Co., Lowell, Mass., as superintendent and while there invented improvements in cotton machinery which are now used in every cotton mill in the world. For two years he was general manager of the Prospect Machine & Engine Co., Cleveland, Ohio.

Later in association with Arthur E. Childs he founded the Light, Heat & Power Co. of Boston which led to the formation of the Massachusetts Lighting Companies, owning twenty-seven gas, electric light and power companies in that state, of which Mr. Clarke was president when he retired seven years ago.

Mr. Clarke was a director of the American Investment and Securities Co., the Columbia National Insurance Co. and the Massachusetts Trust Co. He was one of the early members of the Society, joining the organization in 1886. He was also a member of the American Association of Engineers, the Boston Engineers' Club, the University Club of Boston and of many others, including the Masonic Order.

EDWARD E. CLAUSSEN

Edward E. Claussen, mechanical engineer, Hartford, Conn., died on August 15, 1922. Mr. Claussen was born on August 20, 1858, in Terre Haute, Ind. He was educated abroad, attending the Polytechnic Institute of Zurich, Switzerland. Upon his return to this country he engaged in the designing of labor-saving machinery in the paper, pulp and metal-goods industries. He was associated for seven years with the Continental Paper Bag Co. and from 1911 to 1921 was with the Public Service Cup Co., Brooklyn, N. Y., where he designed and built machinery for the manufacture of Lily paper cups. He also acted as consulting engineer for this firm.

Mr. Claussen had taken out over one hundred patents in the United States and abroad, covering his many inventions. He became a member of the Society in 1921. He belonged to the Masonic Order.

JAMES B. CLOUDSLEY

James B. Cloudsley, who at the time of his retirement in 1916 was chief engineer of the Bureau of Water for the city of Buffalo, N. Y., died on December 11, 1922. Mr. Cloudsley was born on March 26, 1848, in Dundee, Scotland, where he received his early education.

He served his apprenticeship with Charles Parke & Son, engineers of Dundee, and in 1869 came to the United States where for several years he worked as a machinist with the Nashville & Chattanooga Railroad. He

then went to Toronto, Ont., Canada, and became connected with the Grand Trunk Railway, later becoming inspector for the Canadian Steam Users Insurance Association. In 1887 he was made chief engineer for the National Transit Co. with offices at Williamsport, Pa. He resigned from this position in 1894 to accept the appointment of chief engineer of the Buffalo General Electric Co., Buffalo, N. Y., serving for six years or until the advent of the Niagara Falls electric power. In 1902 Mr. Cloudsley was offered and accepted the position of chief engineer of the Bureau of Water for the city of Buffalo from which he retired in 1916.

Mr. Cloudsley became a member of the Society in 1892.

FREDERICK W. COX

Frederick W. Cox, commercial engineer with Andersen, Meyer & Co., Ltd., Shanghai, China, died in 1922. Mr. Cox was born in November, 1864, in Summerton, England, where he received his early education.

He came to this country and served his apprenticeship with the Chicago & Northwestern Railway, Chicago, on locomotive construction, and was then assigned to the roundhouse of that line. A short while later he was appointed general foreman and master mechanic of the Chicago, Milwaukee & St. Paul Railroad, his work taking him to Babcock, Sioux City and Milwaukee as well as Chicago. His next position was as machine inspector with the Baltimore & Ohio Railroad at Baltimore, Md., from which he resigned to become superintendent of the Milwaukee Electric Co., Milwaukee, Wis. In 1910, Mr. Cox became assistant manager of works for the Westinghouse Electric & Manufacturing Co., East Pittsburgh, Pa., where he remained for about three years when he became general salesman for Shewan Tomes & Co., Hongkong, China. About 1916 he became connected with the firm of Andersen, Meyer & Co., with which he was associated at the time of his death.

Mr. Cox became a member of the Society in 1908.

OLIVER CROSBY

Oliver Crosby, managing partner of the American Hoist & Derrick Co., St. Paul, Minn., and widely known inventor and manufacturer, died on December 8, 1922, of anemia. Mr. Crosby was born on January 29, 1856, in Dexter, Me., where he received his early education. Later he attended the University of Maine being graduated in 1876 as a mechanical engineer.

In 1882 he opened in St. Paul a small machine-shop employing four men. Three years later the plant was incorporated as the American Hoist & Derrick Co. In 1886 the plant was moved to a more advantageous position in the city and continued to grow until its buildings covered an area equal to many city blocks, and branches were established in all of the larger cities of the country.

Under the management of Mr. Crosby the concern handled from its earliest history many large Government contracts and during the War devoted its full resources to war-time construction. In the building of the

Panama Canal the firm supplied considerable equipment and was awarded the contract for the largest traveling crane in the world, a fifty-ton jib crane for use by the Government in the ship yard at Balboa in the Canal Zone. This crane was constructed at a cost of \$80,000, weighed 590,000 pounds without counter or balance weights and fifteen freight cars were required to transport it from St. Paul. Members of the A.S.M.E. St. Paul Section and the St. Paul Society of Civil Engineers visited the plant while the crane was under construction.

Mr. Crosby's inventive genius was a material factor in the development of many mechanical devices manufactured by the company. He was the inventor and patentee of the Crosby wire rope clip, the American log loader, the American railroad ditcher, the American locomotive crane and more than a score of other devices used in heavy carriages and the hoisting business.

Mr. Crosby was very much interested in the civic affairs of St. Paul, was an active member of the St. Paul Association and was identified with other civic development organizations. He was much devoted to his Alma Mater and at his death left \$100,000 for a mechanical engineering building to bear his name. He became a member of our Society in 1911. He was also a member of the Engineers' Society of St. Paul and of several national foundry and machinists' organizations. He belonged to the Masonic Order and was a Knight Templar and a Shriner.

WILLIAM WYMAN CROSBY

William W. Crosby, member of the firm of Haven & Crosby, architects and engineers, Boston, Mass., died on March 19, 1922. Mr. Crosby was born on March 3, 1871, in Arlington, Mass., where he received his early education. He attended the Massachusetts Institute of Technology from which he was graduated in 1893 with the degree of B.S. in mechanical engineering.

For one year he served as an instructor in steam engineering in the Institute, then becoming mechanical engineer for Otis Allen's Sons, Lowell, Mass. For several years he was principal of the Lowell Textile School and was instrumental in bringing that school to a high technical standard. Contemporaneously he acted as consulting engineer in the textile industry. Later he became chief engineer of the Brighton Mills, Passaic, N. J., where he was especially interested in the development of tire fabrics.

For a number of years he was a member of the firm of F. W. Dean & Co., engineers and architects in Boston, Mass., resigning to found the firm of Haven and Crosby of which he was a member at the time of his death.

Mr. Crosby became a member of the Society in 1900. He was a member of the Boston City Club, the Engineers' Club of Boston and of many other organizations.

HENRY HAVELOCK CUMMINGS

Henry H. Cummings, president of the Cummings Machine Works, Boston, Mass., died on December 25, 1922. Mr. Cummings was born in February, 1858, in Worcester, Mass., where he received his early education. His subsequent education was attained through private instruction and study.

From 1876 to 1881 Mr. Cummings worked as an apprentice and journeyman machinist in the shops of Boston, Mass. At the end of that period he started in the machine business for himself. This developed into the Cummings Machine Works.

Mr. Cummings was the inventor of the Brown bag-filling machine which packs Government seeds at Washington, the Cummings torsion meter, averaging revolution counters, sub-target rifle, speed clocks and the engine log system. He became a member of the Society in 1916.

FRANZ JOHANN DENK

Franz J. Denk, president of the Denk Engineering Co., Pittsburgh, Pa., died at his home in Clifton Heights, Pa., on May 18, 1922. Mr. Denk was born on February 27, 1874, in Mainz, Germany, where he received his early education. Later he was graduated from the Technische Hochschule, Darmstadt, Germany, remaining until 1903 as an instructor in engineering.

In 1903 he came to the United States where he became connected with the Pittsburgh Valve, Foundry & Construction Co. and the Duquesne Steel Co., Pittsburgh. In 1915 he established his own business as consulting engineer, specializing in fuel saving for glass and steel mills.

Mr. Denk became a member of the Society in 1919. He was also a member of the American Ceramic Society, the Technical Society of Pittsburgh and of the Masonic Order. He was well known as a writer for technical magazines.

THOMAS CLARK DILL

Thomas Clark Dill, formerly president of the T. C. Dill Machine Co., Inc., Philadelphia, Pa., died on January 6, 1922, of heart disease. Mr. Dill was born on April 10, 1864, in Berlin, N. J., and was educated in the public schools there.

He served his apprenticeship in Rickards Machine Shop, manufacturers of fire engines for the city of Philadelphia. In 1889 he started in business for himself as general machinist and in 1898, while building coining presses, rolling mills, etc., for the U. S. Mint at Philadelphia, found that he needed a slotter to do this work. Not being able to purchase one in time to suit his needs, he designed and built the first Dill travelling head slotter.

Mr. Dill became a member of the Society in 1913. He was also a member of the Old Colony Club of Philadelphia.

GEORGE H. EWING

George H. Ewing, manager of the Pacific Northwest Inspection Bureau, Seattle, Wash., died on March 1, 1922. Mr. Ewing was born in Glasgow,

Scotland, in 1870. He was educated at the Glasgow and West of Scotland Technical College and for six years was connected with Alex Nicholson & Co., Glasgow, as draftsman. From 1900 to 1909 he was managing director for Ewing & Lawson, Ltd., boilermakers and engineers of Glasgow.

After a year's travel through India, China, Japan, Argentine and Australia, Mr. Ewing, in the latter part of 1910, went to British Columbia, where he became resident engineer for Smith, Kerry & Chase, working on the design and construction of a hydroelectric plant for the municipality of Revelstoke. In 1912 he became chief engineer for the Mt. Hood Railway Light & Power Co. at Portland, Ore. From 1913 to 1916 he was inspector for R. W. Hunt & Co. at Seattle, Wash., and Vancouver, B. C., and at the close of that period became general manager for the Pacific Northwest Inspection Bureau.

Mr. Ewing became a member of the Society in 1919. He was also a member of the Institute of Engineers and Shipbuilders in Scotland.

GORDON SANDS FALK

Gordon Sands Falk, mechanical engineer in the gear department of The Falk Co., Milwaukee, Wis., died on December 31, 1922. Mr. Falk was born in Milwaukee, in May, 1887. He received his early education in the schools of that city and later attended the University of Wisconsin from which he received the degree of B.S. in 1910.

Upon graduation he entered the employ of The Falk Co. as a designer in the kerosene-engine department. Two years later he left this firm to become a partner in the Milwaukee Patent Leather Co., then newly organized to tan and manufacture patent leather. In 1915 Mr. Falk sold his interest in the company and returned to The Falk Co. in charge of the costs of the herringbone-gear department. The following year he became designing, estimating and sales engineer for this branch of the work.

Mr. Falk became an associate member of the Society in 1919.

WALTER G. FRANZ

Walter G. Franz, a prominent consulting engineer of Cincinnati, died at Biddeford, Me., on August 12, 1922. Mr. Franz was born in St. Louis, Mo., in July, 1875. He was educated in the schools of that city and attended the University of Missouri from which he was graduated in 1899 with the degree of B.S. in mechanical engineering.

He served an apprenticeship with the American Arithmometer Co., the Terminal Railroad Association and the Missouri River Commission, all in St. Louis. In his earlier work he was an inspector with the Bell Telephone Co. and later was employed by the Struthers-Wells Co., Warren, Pa., and by the Excelsior Wooden Pipe Co., Lynchburg, Pa. In 1905 he went to Cincinnati and became associated with Gustave W. Drach, architect. Three years later he began his own very successful career, becoming consulting engineer for the University of Cincinnati, Miami University and Tuskegee Institute. He also handled the engineering work on many of the

larger hospitals, office buildings and industrial plants in Cincinnati and the vicinity.

Mr. Franz was young and comparatively unknown when he went to Cincinnati but made for himself in but few years a place as engineer of unquestioned judgment and unswerving honesty. Quiet and unobtrusive in manner he made a silent appeal that reached and held men from every walk of life. The remarkable gathering at the final simple services proved that a man of unusual qualities had passed away.

Mr. Franz became a member of our Society in 1907. He was also a member of the American Institute of Electrical Engineers and belonged to the University, Rotary, Country and Engineers' Clubs of Cincinnati and to the Chamber of Commerce. He took a great interest in the Community Chest, providing for three French children, and was an enthusiast in the Boy and Girl Scout movement.

JAMES HENDERSON GEER

James Henderson Geer, who, until his retirement in 1915, was superintendent of construction of the Cambria Steel Co., Johnstown, Pa., died on March 15, 1922. Mr. Geer was born in Blairsville, Pa., on August 2, 1843. He received his early education in Johnstown schools, leaving at the age of fourteen to enter the employ of the Cambria Iron Co. From that time until 1915 he served the same concern with but one break—the period he spent during the Civil War in the Union Army.

Mr. Geer worked as a pattern maker until 1871 when he entered the drafting department. In 1881 he was master mechanic of the company and three years later assistant to the chief engineer. He held this position until 1896 when he was promoted to the position of superintendent of the mechanical department. In 1904 he became superintendent of the Cambria Steel Co. (formerly the Cambria Iron Co.) and held this position until 1915 when he was retired as a pensioner of the company. In 1917 he retired from the pension list and severed all relations with the concern.

In *McClure's Magazine* in a summary of Mr. Geer's activities it is said "What Mr. Geer accomplished in his particular line (the manufacture of steel from iron) cannot be adequately told in words; but it certainly is not asserting too much to say that his name suggests a power in the steel trade, a power that to a large degree controlled and directed the workings of the company which he so faithfully served and his name stands today as representative of leading steel men of his day."

Mr. Geer was a life member of the Society, joining the organization in 1884.

A. W. GIBBS

Alfred Wolcott Gibbs, chief mechanical engineer of the Pennsylvania Railroad System, died on May 19, 1922. Mr. Gibbs was born at Fort Filmore, N. M., on October 27, 1856. He received his preparatory schooling at Rutgers College Grammar School and then studied for two years in Rutgers College, when he entered Stevens Institute of Technology, being graduated in 1878.

In March, 1879, Mr. Gibbs entered the service of the Pennsylvania Railroad Co. as a special apprentice at the Altoona Shops, continuing such service until June 1, 1881, when he became draftsman with the Richmond and Danville Railway. In 1886 he was appointed master mechanic of the Atlantic and Charlotte Division of that line and two years later became superintendent of motive power of the Central of Georgia Railway. When that position was abolished he was again appointed master mechanic on the Atlantic and Charlotte Division.

In 1893 Mr. Gibbs reëntered the service of the Pennsylvania Railroad Co. as assistant mechanical engineer, and nine years later was advanced to the position of superintendent of motive power of the Philadelphia, Wilmington & Baltimore Railroad Co. On January 1, 1913, Mr. Gibbs was appointed general superintendent of motive power of the Pennsylvania Railroad Co. In 1911 he assumed the duties of the newly created position of chief mechanical engineer of that line and under the reorganization in 1920 became chief mechanical engineer of the Pennsylvania system.

Mr. Gibbs became a member of The American Society of Mechanical Engineers in 1920. He was also a member of the Mechanical Division of the American Railway Association, of the American Engineering Standards Committee, the American Railway Engineering Association, the American Society of Naval Engineers, of the Board of Managers of the Franklin Institute, of the Board of Managers of the Philadelphia Institute and Free Library and Past-President of the American Society for Testing Materials.

HERMAN F. GIELE

Herman F. Giele, for the past ten years foundry superintendent of the Grabler Manufacturing Co., Cleveland, Ohio, died in Baltimore, Md., on April 17, 1922. Over fifty years of his life was spent in the study and advancement of malleable-iron practice.

Mr. Giele began work in a foundry in 1869 and worked for several years in that and other foundries in central and southern Ohio. At the Erie Malleable Iron Co. he collaborated with B. J. Walker in conducting a long series of experiments over a period of eighteen years on iron mixtures, melting and annealing and on problems connected with furnace construction.

In 1893 Mr. Giele became connected with the Gould Coupler Co., Depew, N. Y., and personally supervised the building of the furnaces and the purchasing and installing of equipment in what was at that time the largest malleable iron foundry in the country. Later he built up the operating organization. In 1900 he organized the Meadville Iron Co., Erie, Pa., and as vice-president and general manager constructed and operated the plant. He returned to Erie in 1906 to assume charge of the erection and operation of the malleable plant of the Morse Iron Works, retaining a directorship in the Meadville Iron Co. In 1912 he became associated with the Grabler Manufacturing Co. at Cleveland. During the War he developed at this plant a successful method of producing the difficult castings for the Mills hand grenade.

Mr. Giele became a member of the Society in 1913.

WILLIAM GLEASON

William Gleason, president and founder of the Gleason Works in Rochester, N. Y., died at his home on May 24, 1922, in his 87th year. He was born in Tipperary County, Ireland, and came to this country at the age of fifteen. He went to work in the machine shop of Asa R. Swift in Rochester, serving his apprenticeship there and in the shop of I. Angell & Sons. During the Civil War he was a workman in the Colt Armory in Hartford, Conn. In 1865 Mr. Gleason returned to Rochester and formed the nucleus of the Gleason Works. For a few years he was in partnership with John Connell and James S. Graham, but this partnership was dissolved in 1873. It was just at this time that he perfected the first practical bevel-gear planer which revolutionized the bevel-gear-cutting machine industry, and Mr. Gleason went with the Kidd Iron Works as superintendent. Two years later he took over the business.

Expansion of the business necessitated a larger plant in 1896. In 1910 there was a further enlargement, and the business has extended not only all over the United States but to foreign fields as well. Beginning with six employees in a one-room plant, the Gleason Works now covers more than twenty-five acres and employs 800 men. During the War the plant employed 1700 men in making ordnance supplies for the Government, and expanded its production capacity to three times its pre-war capacity.

William Gleason piloted his firm through many dangerous business periods. His interest was always primarily with his employees and customers, and oftentimes he lost sight of cost and profit in an endeavor to turn out high-grade tools. He kept his standards high, and it was this integrity which brought him through periods which sometimes wrecked his competitors. At the fiftieth anniversary of the founding of the plant, old employees bore witness to his fairness and honesty.

Up until the latter part of 1920 Mr. Gleason took an active part in the management of the firm. He leaves to carry on his work two sons and Kate Gleason, his daughter, who is one of the three women members of the Society. Mr. Gleason became a member of the A.S.M.E. in 1897. He was a member of the Automobile Club of Rochester and of the Oak Hill Country Club.

JAMES E. GREENSMITH

James E. Greensmith, president of the Boston Scale & Machine Co., Boston, Mass., died on March 8, 1922. Mr. Greensmith was born in Burton-on-Trent, England, where he was educated as a mechanical engineer. His early business experience was in India where he was engineer in charge of the machinery on a tea plantation.

He came to this country in the eighties to take charge of the Pond Machine Tool Co. who were at that time preparing for a new factory in New Jersey. Mr. Greensmith supervised the construction and equipment of this plant as well as the design and development of a new type of heavy gun turning and boring lathe, later installed at the Watervliet Arsenal.

His next position was with the Portland Co., Portland, Me., as superin-

tendent, where he remained but a short time when he became superintendent of the Mason Machine Works, Taunton, Mass., holding this position for a number of years. For the past six years Mr. Greensmith was president and general manager of the Boston Scale & Machine Co.

Mr. Greensmith became a member of the Society in 1892. He was a member of the Engineers' Club of Boston and belonged to the Masonic Order.

FLORENCE M. GRISWOLD

Florence M. Griswold, who was often spoken of as the "Dean of Fire Insurance Engineers," and who was responsible for the standardization of fire-hose couplings, died on April 25, 1922. Mr. Griswold was born in Hoboken, New Jersey, in November, 1843, and received his education in the public schools there and at Wittenburg College, Springfield, Ohio. He served in the Union forces during the Civil War.

At the close of the war he entered the insurance business under the supervision of his father, Jeremiah Griswold, who was the author of many publications on various phases of the insurance business. Until 1875 he was connected with several of the principal fire-insurance companies in various responsible capacities, when he became general inspector of the Home Insurance Co. of New York. Since that time he had particular charge of the special hazards and technical work conducted by this company throughout the whole field of its operation.

When Mr. Griswold entered the insurance business the system was admitted to be one of guessing as to hazards and rates. He began to study the situation in an attempt to reach the scientific principles underlying it.

He made himself familiar with the methods of all classes of manufacturing industries and the fire hazards incident to each. He assisted in the organization of many of the inspection bureaus and had an active hand in the formulation of a number of schedules for rating industrial plants.

His investigations naturally led him into the field of fire extinguishment. For many years he worked strenuously to secure universal standards for all classes of fire-fighting facilities and utilities. The National Fire Protection Association selected him to head a special committee to secure the adoption of a universal standard for hose and hydrant threads. Persistent efforts in this direction had failed many times in the past. Mr. Griswold was finally able to secure for his coupling the endorsement of many of the leading and most influential organizations of this country, and its use became general in all parts of the country. In 1917 it was approved and adopted by the United States Bureau of Standards as the "National Standard Hose Coupling and Hydrant Fitting" to be used for public fire service.

Mr. Griswold became a member of The American Society of Mechanical Engineers in 1914. He was also a member of the Grand Army of the Republic, the American and New England Water Works Associations, an associate member of the International Association of Fire Engineers, and an honorary life member of the National Fire Protection Association.

FREDERICK HANDEL HAYWARD

Frederick Handel Hayward, a member of the Society since 1889, died on May 8, 1922, at his home in London, England. Mr. Hayward was born on April 30, 1860, in Providence, R. I., where he was educated. He was for some years chief engineer for the Ball & Wood Engine Co., and later for the firm of Armington & Sims. Still later, in association with others, he established the business of Julian Scholl & Co., New York City, for the manufacture of steam rollers.

During the whole of this period he was in close touch with the Standard Oil Co., actively engaged in the erection of pipe lines, pumping stations, etc. In 1897 he went to England as European agent for the Ludlow Valve Manufacturing Co., Snow Steam Pump Works and the Pennsylvania Tube Works. In 1900 Mr. Hayward established his own business under the title of F. H. Hayward & Co., petroleum engineers, London, and was still actively engaged in the direction of this business at the time of his death.

HENRY HESS

Mr. Henry Hess, Past Vice-President of The American Society of Mechanical Engineers, died at his home in Atlantic City on March 23, 1922. He had been in failing health for the past two years but had been so much improved that he had visited his office in Philadelphia several days before his death.

Henry Hess was born in Darmstadt, Germany, in March, 1864, and came to the United States when a small boy. His education was received in the New York schools, and was supplemented by several years of additional schooling in Germany. After his return to the United States he was employed at the Watervliet Arsenal, Troy, N. Y., and later at the Niles Tool Works, Hamilton, Ohio. While in the employ of the latter concern he was sent to Germany to erect the German Niles Tool Works at Oberschoeneweide, near Berlin. He remained to have charge of the operation of this plant for two years after its erection. Upon his return to the United States in 1902 he organized the Hess-Bright Manufacturing Co. In 1912 he sold his interests in this company and organized the Hess Steel Corporation of Baltimore, with which organization he was connected at the time of his death.

Mr. Hess became a member of The American Society of Mechanical Engineers in 1906. From 1911 to 1914 he served the Society as Manager, and from 1914 to 1916 as Vice-President. In 1915 he presented to the Society a gift of \$2000, the income from which is given annually as the Junior and Student Prizes for the best technical papers by Junior and Student Members. Mr. Hess was past-president of both the Society of Automotive Engineers and of the Philadelphia Engineers' Club; he was a member of the American Institute of Mining Engineers, the American Society for Testing Materials, The American Iron and Steel Institute, the American Electrochemical Society, the American Academy of Political and Social Science, The Franklin Institute, the New York Engineers' Club, the Art Club of Philadelphia and the Economics Club.

During his lifetime Mr. Hess was a contributor to various technical publications. He was a special lecturer at Columbia University on subjects on which he was an authority. Of late years he had been greatly interested in color photography and had lectured on this subject before various organizations.

Mr. Hess is survived by his wife, two daughters and a son, Mr. H. Lawrence Hess of Philadelphia, a member of the Society.

WILLIAM HEWITT

William Hewitt, a former manager of the Society and for forty-eight years in the service of the Trenton Iron Co., died on August 2, 1922. Mr. Hewitt was born in Trenton, N. J., on October 26, 1853. His early education was obtained at the New Jersey State Model School. Upon his graduation from that school in 1868 he worked for about a year at roll-turning and drafting at the works of the Trenton Iron Co., now the American Bridge Co. In the fall of 1869 he entered Lehigh University. He left this institution at the end of his sophomore year to enter as a junior the Stevens Institute of Technology which had just been opened. He had but one classmate and the two constituted the class of '73. Because of illness, however, Mr. Hewitt was graduated with the class of '74.

Soon after graduation he entered the service of the Trenton Iron Co., first as paymaster and later as assistant to his father, Charles Hewitt, President and general manager, in the work of designing, remodeling and installing new machinery. Upon his father's death, Mr. Hewitt's brother, Abram S. Hewitt, was made president and he, himself, was made vice-president, also holding from 1879 to 1888 the office of managing director. At the end of that period he became engineer in the new department of the business, concerned with the designing and building of aerial tramways and other methods of haulage involving the use of wire rope. Upon his brother's death, the works were sold to the American Steel & Wire Co., and the operation was continued under the old name of the Trenton Iron Co. In January of 1913, the old name was finally dropped. During all of these changes Mr. Hewitt continued to serve as tramway engineer and estimator, resigning on June 30, 1922, after forty-eight years of service.

Mr. Hewitt was one of the very early members of our Society, joining the organization in 1880; from 1884 to 1887 he served as one of the board of managers. He belonged also to the former Engineering Association of the South and was a member of the Theta Xi and Tau Beta Pi fraternities. He was the author of *The Application of Wire Rope to Transportation, Power Transmission, etc.*, and also contributed numerous articles to the technical press as well as papers to the professional societies.

HARRY DENARD HILDEBRAND

Harry D. Hildebrand, president of the Hope Engineering & Supply Co., Pittsburgh, Pa., died on April 8, 1922. Mr. Hildebrand was born in Baltimore, Md., in September, 1870, where he received his education.

He served his apprenticeship with the Hall Steam Pump Co., later

becoming chief draftsman and sales engineer. In 1913 he became president of the Hope Engineering & Supply Co., engaged in directing and designing natural-gas pumping stations, the making of gasoline, the manufacture of pipe lines, etc.

Mr. Hildebrand became a member of the Society in 1916.

HOWARD M. INGHAM

Howard M. Ingham, efficiency engineer with offices in New York City, died on January 16, 1922. He was born on April 14, 1877, in Philadelphia, Pa. He was educated at Sheffield Scientific School, Yale University, and received his degree in 1897. The following year he took a post-graduate course in mechanical engineering.

From 1898 to 1904 he served his apprenticeship and gained his shop experience at the Southwark Foundry of Philadelphia, thereafter becoming associated in business with M. W. Kellogg. From 1907 to 1912 he was with the Bliss-Griffith Construction Co., resigning to open his own office as efficiency engineer. During the War he served for two years as Lieutenant, senior grade, in the U. S. Navy, inspecting and expediting the manufacture of ordnance. From 1919 until the time of his death he again engaged in private practice, specializing in efficiency work.

Mr. Ingham became a member of the Society in 1907. He was a member of the American Legion and belonged to several clubs.

CHARLES MURDOCH JAMIESON

Charles M. Jamieson, production and development engineer, died on May 8, 1922, in Tampa, Fla. Mr. Jamieson was born on November 12, 1882, in Bridgeport, Conn. He was a graduate of Sheffield Scientific School, Yale University, Class of 1904.

From 1904 until the outbreak of the War he designed tools and special machinery for various concerns about the country and as production engineer developed methods for increased production. During the War he had complete charge of the operation planning in the Wright-Martin airplane factories increasing the monthly production of Hispano-Suiza motors from 180 to 540 in the New Brunswick plant, when the lack of stock became the limiting factor. He was then transferred to the Long Island City Plant and did similar work there until after the Armistice. He then resumed his private practice as consulting and development engineer.

Mr. Jamieson became a member of the Society in 1919. He was also a member of several clubs in Bridgeport, Conn. and in Hamilton, Ohio.

BERNARD G. JEFFERIS

Bernard G. Jefferis of the Celluloid Co., Newark, N. J., died on January 21, 1922. Mr. Jefferis was born in West Chester, Pa., on October 1, 1896. He was graduated in 1920 from Pennsylvania State College with the degree of B.S. in industrial engineering.

His first employment was with Day & Zimmerman, Inc., Philadelphia,

Pa., as assistant to the appraisal engineer. After several months there he became connected with the Ace Motor Corporation, Philadelphia, as assistant to production engineer where he engaged in time study and planning. His next position was with the U. S. Cast Iron Pipe & Foundry Co., Burlington, N. J., as assistant to planning chief in charge of time-study work through the several plants. In March of 1921 he entered the task-setter production department of the Celluloid Co., where he was employed at the time of his death.

Mr. Jefferis became a junior member of the Society in 1921.

LAWRENCE BATES JENCKES

Lawrence Bates Jenckes, a director of the Crompton & Knowles Loom Works and a member of their Development Board, died at his home in Worcester, Mass., March 29, 1922. He was born in Millville, Mass., in March, 1867, and received the degree of Ph.B. from the Sheffield Scientific School, Yale University, in 1887.

Among his earlier works were the laying out of the present four-track line between New York and New Haven, and the surveying of the Croton watershed. For a time he was city engineer for Stamford, Conn., and later became superintendent of public works for the same city. In 1899-1900 he was assistant general manager of the Electric Light Axle & Power Co., New York City, leaving this position to enter the purchasing department of the Westinghouse Electric & Manufacturing Co. at Pittsburgh. For the past seventeen years, Mr. Jenckes had been connected with the Crompton & Knowles Loom Works, devoting much of his time to the invention and perfection of many types of looms, upon which subject he was regarded as an authority.

Besides membership in The American Society of Mechanical Engineers, dating from 1912, Mr. Jenckes was a member of the American Society of Civil Engineers, the Yale Club of New York, the Tatunek Country Club and the Squantum Association of Providence, R. I.

FRANK N. JEWETT

Frank N. Jewett, formerly sales manager of the Wagner Electric Manufacturing Co., St. Louis, Mo., died on January 4, 1922. Mr. Jewett was born on June 11, 1870, in Tioga, N. Y. He was graduated in 1893 from Cornell University. For two years after graduation he was engaged in experimental work in the shops of the Payne Engine Co., Elmira, N. Y., at the close of that period becoming their New York City salesman.

From 1896 to 1906 he was connected with Evans, Almirall & Co., first as salesman in New York City, and later as the western manager of their Chicago office. In 1906 he became Chicago district manager for the Wagner Electric Manufacturing Co. of St. Louis, and in 1909, sales manager of their St. Louis office. In 1913 Mr. Jewett was forced to resign from this position because of ill health but he remained with the company until the time of his death.

Mr. Jewett became a member of the Society in 1908. He was also

a member of the Society of Heating and Ventilating Engineers and an associate member of the American Institute of Electrical Engineers.

WILLS JOHNSON

Wills Johnson, chairman of the appropriation committee and assistant to vice-president in charge of operation of the General Motors Corporation, died suddenly on December 25, 1922, at his home near Greenwood, Va. Mr. Johnson was born on August 16, 1876, in Louisa County, Va.

Upon his graduation he took post-graduate work in mechanics and at the same time instructed in shop work. In 1897 he became instructor and assistant professor of mechanics at Clemson Agricultural and Mechanical College, S. C. During the summers he worked in the shops of the Richmond Locomotive Works, the drawing room of the Phoenix Bridge Co., Phoenixville, Pa., and the shops of the Straight-Line Engine Works, Syracuse, N. Y.

In 1903 he entered the University of Virginia and in 1906 was graduated with the degree of M.E., then becoming connected with E. I. Du Pont de Nemours & Co. as engineer in the construction of smokeless powder plants. From 1916 to 1920 he was in charge of the design division of the engineering department and did important work in directing the design of many of the larger War plants built by the company for Government work. In the fall of 1920 he joined the General Motors Corporation.

Mr. Johnson became a member of the Society in 1921. He belonged to a number of social clubs and organizations and was a member of the Delta Tau Delta fraternity.

THOMAS FRANCIS JUDGE

Thomas Francis Judge, general mill superintendent of the Anglo-Newfoundland Development Co., Ltd., Grand Falls, Newfoundland, died on May 12, 1922. Mr. Judge was born on December 19, 1877. He was educated in the Biddeford, Me., high school and the University of Maine, from which he was graduated in 1900 as an electrical engineer.

Upon graduation he spent one year in the drafting department of the Saco & Pette Machine Shops, of Biddeford, Me., then becoming assistant erecting electrical engineer for the Great Northern Paper Co., Millinocket, Me. His next position was with the Union Paper & Bag Co., Hudson Falls, N. Y., where he was engaged in the construction and operation of a hydro station. For two years he served as erecting electrical engineer with the Lawrentide Paper Co., resigning to become consulting and erecting engineer with George F. Hardy, in charge of work for the St. Croix Paper Co., the Champion Fibre Co., the Champion Paper Co., the A. N. D. Co., Ltd., and A. E. Reed & Co. During these years he also designed a great number of electrical plants for paper mills throughout the United States and Canada. From 1910 to 1913, Mr. Judge was chief electrician for the A. N. D. Co., Ltd., Grand Falls, Newfoundland. In 1913 he was appointed general superintendent of the Anglo-Development Co., Ltd., which position he was holding at the time of his death.

Mr. Judge was a member of the American Institute of Electrical

Engineers, the American Association for the Advancement of Science and of several other scientific associations. He became a member of our Society in 1921.

WILLIAM KANE

William Kane, president of the William Kane Manufacturing Co., Philadelphia, Pa., died on May 22, 1922. Mr. Kane was born on June 17, 1849, in Ireland.

In early life he developed and patented the first dry-joint automatic fire extinguisher which was later purchased by the General Fire Extinguisher Co.. He developed and manufactured the first circulating gas water heater in the United States. In 1896 he patented his automatic steam boiler, gas fuel.

Mr. Kane, although seventy-two years of age, was actively engaged in directing the affairs of his company up to within a few days of his death. He became a member of the Society in 1917.

PIERRE O. KEILHOLTZ

Pierre O. Keilholtz, consulting engineer, Baltimore, Md., died January 21, 1922. Mr. Keilholtz was born in Baltimore, Md., on April 22, 1862. In 1884 he was graduated from the United States Naval Academy and for the following two years he was a graduate student at Johns Hopkins University.

In 1887 he became associated with the Electric Light, Power & Street Railway Corporation of Baltimore and was in responsible charge of the design, construction and operation work for the company until 1907 when he started private practice as a consulting engineer, in which field of work he was engaged at the time of his death.

Mr. Keilholtz became a member of the Society in 1901. He was also a member of the American Institute of Mining and Metallurgical Engineers, the American Institute of Electrical Engineers, the American Institute of Naval Architects and Marine Engineers and the American Society for the Advancement of Science. During the War Mr. Keilholtz served as a recruiting officer in the Aviation Section of the Signal Corps, U. S. Army.

O. W. KELLY

O. W. Kelly, president of the O. S. Kelly Co., Springfield, Ohio, and a member of the Society since 1885, died on October 31, 1922, at the age of seventy-one. He was educated abroad, attending the Polytechnic Institutes at Zurich, Switzerland, and Aix la Chapelle, Prussia.

He returned to this country in 1873 and entered the employ of Whiteley, Fassler & Kelly in Springfield, Ohio, where he spent three years at practical work in the shop and drafting room. In 1876 he became connected with the Champion Malleable Iron Works, working in the pattern room. The following year he was appointed superintendent of the works, which position he held until 1880 when he resigned because of poor health and went to Colorado. At Bonanza he erected a smelter for lead ores which he

operated successfully for nine months. In 1882 he returned to Ohio and became superintendent of the works of the Springfield Engine & Thresher Co., where he was located for a number of years. At the time of his death he was president of the O. S. Kelly Co.

JOHN T. KENYON

John T. Kenyon, formerly Major, Ordnance Department, U. S. Army, died suddenly on March 1, 1922. Major Kenyon was born in New York City on January 23, 1856. His family moved to Springfield, Mass., when he was still young and he was educated in the schools of that city.

For a short while he worked in the shops of the Boston & Albany Railroad and then entered the employ of the Government in the Springfield Armory in 1880. In 1904 he was transferred to Rock Island Arsenal, Rock Island, Ill., to take charge of the small-arms department. When the Remington Arms Co. opened its Eddystone, Pa., plant for the manufacture of rifles, Major Kenyon accepted the position of consulting engineer to the works manager. Shortly after this, the United States entered the War and he was commissioned a major in the Ordnance Department of the Army, serving as an inspector of small arms. At the close of the War he was transferred to Rock Island Arsenal, soon afterward being discharged from the service, but remaining as a civilian in Government employ. In January, 1921, at the age of sixty-five, he was retired from active service.

Major Kenyon became a member of the Society in 1917. He belonged to the Army Ordnance Association and was a member of several fraternal organizations, including the Odd Fellows and the Masons.

ERNEST KRETSCHMER

Ernest Kretschmer, machine engineer with the E. W. Bliss Co., Brooklyn, N. Y., died on June 8, 1922. Mr Kretschmer was born on September 6, 1880, in Kolmar, Germany. He received his early education in the Royal Gymnasium of Schneidemull, and later was graduated from the Polytechnic Institute of Munich.

He obtained his practical experience in machine factories in Breslau and in 1905 came to this country where he became associated with the E. W. Bliss Co. He was with this concern for seventeen years. Mr. Kretschmer became a member of the Society in 1922.

ALBERT H. LA CASSE

Albert H. La Casse, superintendent and engineer, Sampson Magnesite Co., Mendota, Cal., died on February 10, 1922. Mr. La Casse was born on February 19, 1873, in Oswego, N. Y. He received his early education in the schools of Auburn, N. Y. Later he studied in evening schools to acquire his technical knowledge.

Mr. La Casse was first employed in 1890 by Connell & Dengler, manufacturers of wood-making machinery in Rochester, N. Y. He was next associated with Knowlton & Beach, of the same city, as a designer of

general paper-box manufacturing machinery. From 1897 to 1904 Mr. La Casse was connected for varying periods with the Hardy Cycle Co., Cobb & Hesselmeier, the Risdon Iron Works and the L. C. Smith & Brothers Typewriter Co. In 1905 Mr. La Casse opened his own offices in Los Angeles where he designed machines for printing, folding and wiring ribbon on bottles; he was engaged in this business until 1914 when he became engineer and chief draftsman for the California & Hawaii Sugar Refining Co. In 1919 he was associated as engineer with the Meese & Gottfried Co., in San Francisco. He had been with the Sampson Magnesite Co. for a little over a year at the time of his death.

Mr. La Casse became a member of the Society in 1920. He was also a member of the Masonic Order.

JOHN ADAMS B. LANDELL

John A. B. Landell, of the Hanson-Van Winkle Co., Newark, N. J., died on June 3, 1922. Mr. Landell was born on February 27, 1888, in Philadelphia, Pa. He was educated in the Germantown Academy and the University of Pennsylvania, being graduated with the class of 1909, with the degree of B.S. in M.E.

Upon graduation he was employed by the Trinidad Lake Petroleum Co., Ltd., in the designing and erecting of a large topping plant for the recovery of gasoline from crude oil. He was with this firm for four years when he established his own business as consulting engineer on the design and construction of pipe-line pumping stations, gasoline extraction plants, etc. From 1917 to 1919 he served in the U. S. Army, gaining his pilot's license as an instructor.

When he was discharged from the Service, Mr. Landell became sales engineer for the Texas Gulf Sulphur Co., New York City. In 1920 he resigned from this position to become chief engineer of the Gasoline Recovery Corporation, also in New York City. At the time of his death he was associated with the Hanson-Van Winkle Co.

Mr. Landell became an associate member of the Society in 1921. He was a member of the University of Pennsylvania Club.

JAMES LANG

James Lang, estimating and contracting engineer of the John Inglis Co., Ltd., Toronto, Canada, died on June 5, 1922. Mr. Lang was born in Birkenhead, England, on April 2, 1858. He was educated at Watson's College, Edinburgh, and Edinburgh University. He served his apprenticeship with the W. G. Armstrong Co., of Manchester, where for a number of years he held the position of chief draftsman.

In 1888 Mr. Lang went to Canada where he became connected with the John Inglis Co., Ltd., Toronto, as draftsman and mechanical engineer. In 1897 he resigned to become chief engineer of the Northey Co., also of Toronto, remaining with that firm for four years when he opened offices as a consulting engineer. In 1904 he became chief mechanical engineer for the Canada Foundry Co., Toronto. In 1908 he returned to the John

Inglis Co., as estimating and contracting engineer which position he held at the time of his death.

Mr. Lang became a member of the Society in 1918.

CHARLES LANGLOTZ

Charles Langlotz, former mechanical superintendent of the Brooklyn Cooperage Co., Brooklyn, N. Y., died on September 29, 1922. Mr. Langlotz was born on March 15, 1862, in New York City, where he obtained his early education. He served his apprenticeship as a machinist and about 1880 operated the first power plant used for outdoor electric arc illumination in New York City.

In 1882 he entered the employ of the Brooklyn Cooperage Co. as assistant engineer, and shortly afterward, resolving to complete his technical education, enrolled in the evening course at Cooper Union from which he was graduated as a mechanical engineer in 1893. Under his management the present cooperage plants of the company in Brooklyn, Boston and New Orleans were constructed, and during this period he developed the first machine for automatically welding steel barrel hoops electrically.

In 1898 the construction of a large stave and heading mill was started under his direction at Poplar Bluff, Mo. Upon completion of the construction work, Mr. Langlotz was placed in charge of operation and remained at this post until 1908 when he returned to New York to design new plants required in the East. His last work was the construction of the plant at Georgetown, S. C. He retired from active service in 1921.

Mr. Langlotz became a member of the Society in 1894. He was also a member of the Brooklyn Engineers' Club.

SCHUYLER LAWRENCE

Schuyler Lawrence, long prominent in mining and railroad circles of Northern Mexico, died on January 9, 1922. Mr. Lawrence was born in Topeka, Kansas, in 1864. At the age of eighteen he went to Mexico where he was employed in the construction of the Mexican Central Railway from El Paso to Mexico City.

Upon the completion of the road he turned his attention to mining, settling in the City of Chihuahua, his principal operations being on properties in the vicinity of the camp of Santa Eulalia. At the beginning of the Mexican revolutions he left Mexico and returned to the United States, settling in Wysox, Pa., where he entered the apple-raising business.

During the War Mr. Lawrence was in charge of the Intelligence Bureau of the Mexican Division of the War Trade Board where his work was of unusually high character, drawing much favorable comment.

Mr. Lawrence became a member of the Society in 1902. He was also a member of the American Society of Mining and Metallurgical Engineers. He belonged to the Chihuahua Foreign Club and was the first president of the American Society of the State of Chihuahua.

RALPH A. LEE

Ralph A. Lee, specialty engineer, the Barrett Manufacturing Co., New York City, died on March 3, 1922. Mr. Lee was born in June 1884, in New York City, and was educated in Cooper Union Institute where he received the degree of B.S. in 1905 and M.E. in 1908.

From 1900 to 1909 he was associated with the following firms: National Meter Co., engineering department; H. R. Worthington, pump draftsman; Power Specialty Co., draftsman on superheaters; Barrett Manufacturing Co., mill construction; U.S. Wood Preserving Co., engineer in charge of construction; Walter Kidde Co., engineer. In 1909 he again became connected with the Barrett Manufacturing Co., as draftsman, and the following year was advanced to the position of chief draftsman; three years later he became assistant to the assistant general manufacturing manager and still later mechanical engineer. At the time of his death he was the specialty engineer for the company.

Mr. Lee became a junior member of the Society in 1909 and was promoted to the grade of associate member in 1914.

HERBERT K. MCBRIDE

Herbert K. McBride, structural and mechanical engineer, Wilson & Co., Chicago, Ill., died on January 7, 1922. Mr. McBride was born on September 14, 1870, in Olathe, Kansas, where he received his early education. Later he supplemented this with courses in the International Correspondence School.

From 1893 to 1898 he was connected with the Consolidated Electric Light & Power Co., Kansas City, resigning at the close of that period to take a position with Swift & Co., also of that city. The following year, 1899, he became chief electrician at the Kansas City plant of Wilson & Co. (then Schwarzschild & Sulzberger); in 1906 he was advanced to the position of chief engineer of the same plant and six years later became superintendent of all of the company's power houses, with headquarters in Chicago. At the time of his death, he was structural and mechanical engineer for the same concern.

Mr. McBride became a member of the Society in 1918.

EMERSON McMILLIN

Emerson McMillin, head of the banking house of Emerson McMillin & Co., New York City, chairman of the Board of the American Light & Traction Co., and president of a dozen other lighting and traction companies throughout the country, died on May 31, 1922. Mr. McMillin was born in Ewington, Ohio, on April 16, 1844. He attended a country school until he was about ten years old when he was compelled to go to work. He subsequently gained his knowledge of science, art and literature by reading and studying after his day's work was done.

At the age of seventeen he responded to Lincoln's call for men and enlisted in the 18th Ohio Infantry as a private, serving his country until the

middle of 1865 when he was honorably discharged with the rank of second lieutenant. He had been wounded five times. At the close of the war he went into merchandising but soon sought more congenial employment in a gas works and for fifteen years he devoted all his leisure time to the study of civil and mechanical engineering, chemistry and geology. In 1883 Mr. McMillin ceased to give further attention to the iron and steel industry in which he had been interested and devoted himself entirely to the gas business, acquiring control of small works by purchase or lease throughout the West. In 1889 he gradually withdrew from the personal management of the gas works and took up almost exclusively the financial phase of the business and through banking houses in New York finally controlled several large corporations. In 1891 he established, in partnership with Col. Henry B. Wilson, the banking house of Emerson McMillin & Co.

During his whole life Mr. McMillin took a keen interest in civic matters, and was for many years actively interested in the National Civic Federation. He was appointed a member of the "Committee of One Hundred" which had for its object the establishment of a "True International Court of Justice." He was one of the speakers at the World Court Congress in 1915 in Cleveland, Ohio. He was also one of the principal organizers of the World Court League. He served on the board of governors of many institutions.

When the War was declared in 1914 and before this country became involved Mr. McMillin was one of the largest contributors to the aid of Italy, and in recognition of his interest received from King Victor Immanuel an honor medal.

He belonged to so many different clubs and organizations that it is hardly possible to name them all, but among them may be mentioned the Franklin Institute, the American Gas Association, the Natural Gas Association, the Academy of Political Science, the Numismatic Society of America, the Union League, the Bankers, Lawyers, Engineers and Chemists Clubs, the Army and Navy Club, the National Civic Federation, the Merchants' Association of New York and the Aero Club of America. Mr. McMillin became a life member of our Society in 1895.

JOHN G. MAIR-RUMLEY

John G. Mair-Rumley, formerly director of Messrs. Gwynnes, Ltd., Hammersmith Iron Works, London, and connected also with P. J. Mitchell Shaw & Co., Ltd., London, died early in 1922. Mr. Mair-Rumley was born on September 5, 1844. He was educated at Rugby and served his apprenticeship with Easton & Amos, mechanical engineers. He was associated with the North Eastern Railway and with Simpson & Co., before becoming connected with the Hammersmith Iron Works.

Mr. Mair-Rumley was a life member of the Society, joining the organization in 1892. He was also a member of the Institution of Mechanical Engineers and of the Institution of Civil Engineers in Great Britain. He was awarded the Watt Medal and three Oxford premiums for various papers presented before the latter society.

LESTER MANGELS

Lester Mangels, formerly assistant engineer with Murrie & Co., Inc., New York, N. Y., died on May 28, 1922. Mr. Mangels was born in Brooklyn, N. Y., on March 4, 1899. He was educated in the Brooklyn schools and Cooper Institute where he took the four-year course in architectural construction.

Upon graduation he started work with the Scottish Mexican Oil Co., New York, N. Y., as draftsman. A short while later he became connected with the Empire City Subway Co., New York City, also as draftsman. In April, 1917, he was employed by Westinghouse, Church, Kerr & Co., New York, N. Y., where he was located for about six months when he became assistant engineer with W. C. K. & Co. During the War he was in Muscle Shoals, Ala., as assistant engineer for that company on Nitro Plant No. 2. He remained with the firm until 1920 when he became squad chief with Dwight P. Robinson & Co., New York, N. Y., in charge of the design and preparation of plans for power and industrial plants. In January, 1921, he became associated with Murrie & Co., Inc., as assistant engineer in charge of the mechanical equipment appraisal of the N. Y. Edison power plants. He resigned from this position because of illness.

Mr. Mangels became a junior member of the Society in 1921.

EARL POTTER MASON

Earl P. Mason, production engineer with the Anti-Corrosion Engineering Co., New York City, died on August 14, 1922. Mr. Mason was born on May 18, 1876, in Providence, R. I., where he received his early education. Later he attended the Massachusetts Institute of Technology, being graduated with the class of 1897.

Upon graduation he entered the employ of the Eastman Kodak Co., Rochester, N. Y., where he remained a year, then becoming superintendent of the experimental department of the Draper Co., textile manufacturers in Hopedale, Mass. From 1902 to 1914 Mr. Mason was associated with the Newport Engineering Works, Newport, R. I., and as secretary and superintendent was responsible for the expansion of that concern from a small to an extensive plant.

In 1917 he resigned to accept a commission as lieutenant in the U. S. Naval Reserve Force. Early in 1919 he was promoted to the rank of lieutenant commander and a little later became a commander. In December of that year he was relieved from active duty at his own request and immediately took over for the U. S. Shipping Board the supervision of the maintenance and repair work in the New York District. He resigned from this position in May 1920 to become connected with the Anti-Corrosion Engineering Co.

Mr. Mason became a member of the Society in 1914. He was also a member of the Society of Naval Architects and Marine Engineers and belonged to a number of clubs and fraternal organizations, including the Masonic Order.

STANLEY G. MILLER

Stanley G. Miller, vice-president and general manager of the Crex Carpet Co., St. Paul, Minn., died on March 18, 1922. Mr. Miller was born in Philadelphia, Pa., on March 6, 1867. He was associated with the textile industry practically all of his life. After being graduated from the Philadelphia Textile School he was for many years connected with the Southern Cotton & Oil Co., Charlottesville, Va.

In February of 1910 he became vice-president and general manager of the Crex Carpet Co. in St. Paul and was soon a recognized leader in the business life of the community. He did very unusual work for his firm by improving the machinery and standardizing the product and by his interest in the establishment of right relations between employer and employee. Due to his work in this direction he was elected a director of the St. Paul Association of Public and Business Affairs and in consequence was made chairman of the Sub-Division of Industrial Relations. Shortly afterward he became president of the St. Paul division of the National Safety Council to which he devoted his time and energy unsparingly.

Mr. Miller became an associate of the Society in 1917 and since the summer of 1921 was chairman of the St. Paul Section.

MARK RICHARDS MUCKLE, JR.

Mark R. Muckle, Jr., for the last twenty years head of the engineering firm of M. R. Muckle, Jr., & Co., Philadelphia, Pa., died on May 19, 1922. Mr. Muckle was born on March 3, 1857, in Philadelphia, Pa., and was educated in private schools of that city.

He served his apprenticeship with Wm. Sellers & Co., machine-tool builders in Philadelphia, and afterwards became a draftsman with that company. In 1883 he became a member of the firm of Ferrell & Muckle Enterprise Hydraulic Works, designers and builders of pumps and steam and hydraulic machinery. Later he became head of the firm of M. R. Muckle, Jr. & Co., consulting and contracting engineers for plants operated by steam, electricity and gas.

Mr. Muckle was one of the early members of the Society, having joined in 1885. He was one of the founders of the Engineers' Club of Philadelphia and one of the original members of the Society of Naval Architects and Marine Engineers.

WILLIAM T. MURPHY

William T. Murphy, general manager of the Standard Machinery Co., Cranston, R. I., died on July 9, 1922. Mr. Murphy was born on June 1, 1882, in Providence, R. I., and was educated in the public schools of that city and Brown University from which he was graduated in 1903 with the degree of M. E.

He was first employed by the Taft-Pierce Manufacturing Co., Woonsocket, R. I., in their machine shop, where he remained for about a year,

then becoming connected with the Gorham Co. as a designing draftsman in the mechanical department. Upon the completion of this apprenticeship he accepted the position of tool designer with the American Locomotive Co. where he was located for about two years, when he became mechanical engineer for the Standard Machinery Co. He was associated from that time, 1907, until the time of his death with this concern.

Mr. Murphy became a member of the Society in 1911. He was also a member of the Automotive Engineers of Providence and of a number of clubs.

SAM L. NAPHTALY

Sam L. Naphtaly, of the Great Western Power Co. of California, San Francisco, Cal., died on June 25, 1922. Mr. Naphtaly was born in November, 1874, in San Francisco, where he received his early education. Later he was graduated from the University of California.

He was first employed by the California Light & Power Co., where he remained a year when he took a position with the Central Light & Power Co., installing a 1200-kw. plant. From 1900 to 1905 he was with the S. F. Gas & Electric Co., in charge of construction and engineering. In 1905 this company was merged with the Pacific Gas & Electric Co. and Mr. Naphtaly was made engineer of the latter concern. Later he became general manager of the Reno Light, Power & Water Co., and then general superintendent of the City Electric Co. of San Francisco. He was for a short period president of the Oakland and Antioch Railway and vice-president and general manager of the Los Angeles Shipbuilding and Dry Dock Co. Early in 1922 he entered the employ of the Great Western Power Co.

Mr. Naphtaly became a member of the Society in 1907.

HENRY NOYES

Henry Noyes, of the firm of Noyes Brothers, Sydney and Melbourne, Australia, died on March 20, 1922. Mr. Noyes was born in England in 1861 and received his education in English schools. In 1888 he and his brother Edward left England for Australia where they established their own business in Sydney and later in Melbourne. The firm held a number of important agencies, British, American and others, and carried out many large engineering works, including the installation or initiation of electric tramways at Dunedin, N. Z., Freemantle and Adelaide.

Mr. Noyes was a recognized authority on steel and a member of the Iron and Steel Institute of Great Britain and the American Institute of Mining and Metallurgical Engineers. During the War he took an active part in recruiting, paying a special visit to England to consult Sir John Monash in reference to that work. He gave large gifts to the Red Cross and provided a complete X-ray outfit for use in hospital work.

Mr. Noyes was a life member of our Society, joining the organization in 1899.

HENRY B. PRATHER

Henry B. Prather, consulting engineer, Cleveland, Ohio, died on March 9, 1922. Mr. Prather was born on September 14, 1867, in Indianapolis, Ind., and spent his early life in that vicinity. He received his engineering education in Cornell University, being graduated in 1890.

Until 1897 Mr. Prather was employed as chief draftsman for the Buffalo Forge Co., Buffalo, N. Y. From that time until 1900 he was the district representative for the same company in Pittsburgh and Cleveland. In 1901 he became associated with the American Stoker Co. and the following year he was with the Charles Bradley Co. Toward the latter part of 1902 the Reisinger-Prather Co. was formed, with headquarters in Pittsburgh, doing business as contracting engineers; three years later Mr. Prather founded the Prather Engineering Co., contracting engineers, with headquarters in Cleveland, and until 1907 he held the office of president in the firm. In that year Mr. Prather opened an office for himself as consulting engineer, continuing in this capacity until his death.

Mr. Prather became a member of the Society in 1893. He was also affiliated with the Cleveland Engineering Society, the Cleveland Chamber of Commerce, the Technical Association of the Paper & Pulp Industry, the Knights Templar and the Detroit Athletic Club.

ARTHUR BREESE PROAL

Arthur Breese Proal, for twenty-three years connected with the Robins Conveying Belt Co., New York City, died on August 21, 1922. Mr. Proal was born in New York City in 1869 and received his early education in the city schools, later attending Pratt Institute and for a period Stevens Institute of Technology.

For one year he served as assistant on an ocean liner, then becoming associated for eight months with the Metropolitan Telegraph & Telephone Co. At the end of that period he became constructing and operating engineer with the Newark Electric Light & Power Co., Newark, N. J., where he was located for five years. His next position was with the New Haven Street Railway Co., as superintendent, from which he resigned to become chief engineer of the New York & Staten Island Electric Co. and the New York & New Jersey Ferry Co. Two years later he became associated with the Robins Conveying Belt Co.

Very little had been done with conveying belt machinery up to 1899 and Mr. Proal was credited with recognizing the possibilities in this method of handling raw material. He was engaged in the development of the Panama Canal and the Baltimore & Ohio Railroad coal-handling plants at Baltimore. In the latter 9000 tons of coal are handled in one hour. His last work, which has just been completed, was the coal-handling plant at Astoria, L. I., consisting of three bridges and an extensive conveying machinery layout, involving many new features.

Mr. Proal became a member of the Society in 1905. He also belonged to the American Society of Civil Engineers.

WILLIAM E. PULIS

William E. Pulis, president and treasurer of the Wilkata Folding Box Co., Newark, N. J., died on November 3, 1922. Mr. Pulis was born on March 29, 1883, in Paterson, N. J., and received his early education in the Rogers Military Academy of that city, later attending the Paterson Classical and Scientific School. He served his apprenticeship in the machine shop of the Robins Conveying Belt Co., Passaic, N. J., then becoming assistant shop engineer of the Portland Shipbuilding Co., Portland, Me.

In 1905 Mr. Pulis became associated with H. L. Gantt, working under his direction first at the Chester Steel Castings Co., Chester, Pa., and then at the Sayles Bleacheries, Saylesville, R. I. In 1909 he was made superintendent of bleachery No. 3, and in the period which followed he directed the reconstruction and rebuilding of the bleaching department. From 1912 to 1916 he was Mr. Gantt's representative at the Westinghouse Electric & Manufacturing Co., East Pittsburgh, Pa., and in 1917 represented him at the Celluloid Co., Newark, N. J. Soon after he severed his connection with Mr. Gantt to become works manager, vice-president and member of the Board of Directors of the same concern, which positions he held until 1921 when he resigned because of failing health. In the spring of 1922 he organized and became president and treasurer of the Wilkata Folding Box Co.

During the War Mr. Pulis served in an advisory capacity in the Ordnance Department of the Army and also with the Emergency Fleet Corporation. He became a junior member of the Society in 1909 and was advanced to full membership in 1916. He belonged to a number of clubs in Newark.

ROBERT QUAYLE

Robert Quayle, who, until his retirement in the early part of 1922, was general superintendent of motive power of the Chicago & Northwestern Railway Co., died on September 13, 1922. Mr. Quayle was born in Douglas, Isle of Man, on November 23, 1853, and came to the United States in 1868, where he started work for the Chicago & Northwestern Railway as a machinist's apprentice.

In 1877 he was made assistant foreman of the Chicago shops and in 1880 foreman of the car and machine shops. In 1885 he was appointed general master mechanic of all the company's lines in Iowa. Six years later he became general master mechanic of the M. L. S. & W., which road was absorbed by the C. & N. W. in 1893. The following year he was appointed general superintendent of motive power for the C. & N. W., which position he held until his retirement in 1922, after fifty-four years of continuous service.

In 1891 Mr. Quayle built and installed on the M. L. S. & W. the first locomotive-testing plant ever used on a railway. One of his achievements was the designing and building of the first Atlantic type of locomotive in 1900. He also designed and developed the sloping tanks which solved the problem the locomotive fireman encountered in getting at the coal.

Mr. Quayle became a member of the Society in 1914. He was also a member of the Franklin Institute, the Western Society of Engineers and a past-president of the American Railway Master Mechanics' Association.

ALANSON D. QUINT

Alanson D. Quint, former manager of the Turret Drill Co., Hartford, Conn., died on July 16, 1920. Mr. Quint was born on March 27, 1847, in Lexington, Me., where he received his early education. He served his apprenticeship as a machinist in Whitman's Machine Shop in Winthrop, Me., and subsequently worked as a journeyman machinist and tool maker in different towns of Maine, New Hampshire and Massachusetts.

In 1870 he was engaged by Colt's Patent Fire Arms Manufacturing Co., Hartford, Conn., as a tool maker, later becoming master machinist and foreman with the company. In 1892 he resigned from this position to become manager of the Turret Drill Co., Hartford, with which firm he was associated until his retirement in 1919.

Mr. Quint was a life member of the Society, joining the organization in 1891. He belonged to the Masonic Order.

JOHN RAE

John Rae, secretary and treasurer of the MacDonal & Campbell Co., Philadelphia, Pa., died on January 11, 1922. Mr. Rae was born on August 13, 1871, in Ely, England. He was educated in the schools of Philadelphia and was a graduate of the Franklin Institute where he specialized in machine design.

He was first employed by Wm. Wharton, Jr., & Co. as a draftsman in railroad engineering. Subsequently he held the following positions all with firms in Philadelphia: The year of 1889-90 he spent with the Link-Belt Engine Co., working on conveying machinery. He then became connected with A. Whitney & Sons, manufacturers of car wheels. For four years he was with the firm of William Wood & Co. as draftsman, assisting in the organization of a department system, the rearranging of machinery, etc. In 1898 he became associated with Wm. Sellers & Co. as draftsman and examiner, remaining with that company until 1909 when he became general manager and director of the Kearns Manufacturing Co., Philadelphia. Later he held the position of service engineer with the Tabor Manufacturing Co. and was for a short period shop engineer with the Bement-Niles Works in Philadelphia, resigning from the latter position to become secretary and treasurer of the MacDonal & Campbell Co.

Mr. Rae became a member of the Society in 1912. He belonged to several clubs and organizations and to the Masonic Order.

LINGAN STROTHER RANDOLPH

Lingan Strother Randolph, consulting engineer and professor of mechanical engineering at the Virginia Polytechnic Institute for twenty-five years,

died at his home in Baltimore, Md., on March 7, 1922. Professor Randolph was born in Martinsburg, W. Va., on May 13, 1859. He was educated in the Shenandoah Valley Academy, the Virginia Military Institute and Stevens Institute of Technology, where in June, 1921, he was awarded the honorary degree of doctor of engineering.

He spent his apprenticeship in the shops of the Baltimore & Ohio Railroad, then becoming engineer of tests with the New York, Lake Erie and Western Railroad. Later he became superintendent of motive power for the Florida R. & N. Co. from which position he resigned to accept a similar situation with the Cumberland & Pennsylvania Railroad. He returned to the Baltimore Railroad as engineer of tests in the Mount Clair shops. In 1893 he became professor of mechanical engineering in the Virginia Polytechnic Institute, Blacksburg, Va., where he remained for twenty-five years, retiring as dean of the engineering school.

The War recalled him to active service and he joined the research section of the U. S. Shipping Board, Emergency Fleet Corporation, Philadelphia. Upon the completion of his work there he opened offices in Baltimore, Md., as consulting industrial engineer, in which activity he was engaged at the time of his death.

Professor Randolph was a very early member of the Society, joining the organization in 1884. He was also a member of the American Society of Civil Engineers, a Fellow of the American Institute of Electrical Engineers and a member of the International Association of Testing Materials. He belonged to the National Arts Club of New York and the Engineers' Club of Philadelphia.

RICHARD DURFEE REED

Richard D. Reed, after a long illness, died on August 16, 1922. Mr. Reed was born in Westfield, Mass., on February 4, 1862. He was educated in the public schools of Westfield and at the Massachusetts Institute of Technology.

His first professional experience was gained with the H. B. Smith Co., Westfield, where he engaged in iron molding and steam fitting. With the exception of two years, 1882 to 1884, when he was constructing and designing low-pressure steam and water-warming apparatus for E. H. Cook & Co. in Elmira and Rochester, N. Y., and Chicago, Ill., his entire business career was spent with the H. B. Smith Co., where he constructed and designed cast-iron boilers and radiators for steam and water warming.

Mr. Reed served a two-year period on the councils of both the National Metal Trades Association and the National Founders Association. For two years previous to his becoming a member of the Society in 1915, he assisted in the work of the Boiler Code Committee and in 1915 was appointed a member of this Committee in whose work he took a deep interest, giving as active support as his health would permit up to the time of his death.

RICHARD H. RICE

Richard H. Rice, late manager of the Lynn Works of the General Electric Co., an outstanding member of the engineering profession and a leading authority on steam turbines, died on February 10, 1922, at Bolton on Lake George, N. Y. Mr. Rice was born on January 9, 1863, at Rockland, Me. He was educated in public schools and Stevens Institute of Technology from which he received his M.E. degree.

He served his apprenticeship with the Pittsburgh, Columbus, Cincinnati and St. Louis Railroad, then becoming a draftsman at the Bath Iron Works in Maine. His enthusiasm and ability as chief draftsman with E. D. Leavitt, Cambridge, Mass., brought him the position of general superintendent of the Wm. A. Harris Steam Engine Co., Providence, R. I. Later he was secretary-treasurer of the Rice Sargent Engine Co. and the Providence Engineering Works.

In 1903 he became associated with the General Electric Co. as engineer in the turbine department of their Lynn Works where he started work on the development of the turbine to its present extensive proportions. In 1918 he was made manager of the plant.

Mr. Rice combined the qualities of a skilled engineer and inventor with marked ability as an executive. He had a warmth of human sympathy, a regard for the feelings of others and a democratic spirit which made him a man easy of approach. He leaves as a monument to his memory the plan of representation in effect at the Lynn Works whereby his fellow employees reap the advantages of a new, yet very old idea—good will, friendship and coöperation.

Many business and professional organizations counted him as a member. He became a member of The American Society of Mechanical Engineers in 1890 and from 1904 to 1907 served as one of its managers. For the first two years of its existence he was president of the Associated Industries of Massachusetts; he was a past-president of the National Conference of State Manufacturers' Associations. He was also a member of the Providence Engineering Society and the American Institute of Electrical Engineers. He was a member of the Boston Chamber of Commerce, a director of the Lynn Chamber of Commerce, a member of the State Committee on Unemployment and during the War served as a member of the Lynn Fuel Commission. He was the author of several technical papers dealing with turbine engines and the inventor of some fifty patented devices for use of steam, air and water, chief among which was his design for the first turbo-blower for blast furnaces in America. In June of 1921 he was awarded degree of Doctor of Engineering by Stevens Institute.

CARL JOHN ROELKER

Carl J. Roelker, a member of the firm of Roelker & Lee, consulting engineers of Richmond, Va., died on July 7, 1922. Mr. Roelker was born in Osnabruck, Germany, in October, 1873. His education included two years study at Lehigh University and a year's training in the drafting room of

the Bureau of Steam Engineering, U. S. Navy. From 1897 to 1905 he was engaged in marine engineering with various companies, as follows: Newport News Shipbuilding and Dry Dock Co., in charge of the arrangement of the flooding system for the U.S.S. *Illinois*; Wm. R. Trigg Co., in charge of the design and arrangement of machinery and dock tests of the U.S. Destroyers *Dale* and *Decatur*; dock tests for the U.S. torpedo boats *Shubrick*, *Stockton* and *Thornton*; New York Shipbuilding Co., design of a triple-expansion engine for dredges and also the design of a hydraulic-launching gear; Standard Oil Co., design and arrangement of machinery for the S.S. *Capt. A. F. Lucas*. From 1901 to 1903 he served as an instructor in mechanical engineering at the Virginia Mechanics Institute in Richmond.

Mr. Roelker became a member of the firm of Roelker & Lee in 1905, with which he was associated at the time of his death. He became a member of the Society in 1909.

WILLIAM HENRY SAWTELL

William Henry Sawtell, sales engineer with the Mehl Machine Tool & Die Co, Roselle, N. J., died on December 16, 1922. Mr. Sawtell was born in April, 1870, in Worcester, Mass., where he received his early education, which he later supplemented with special technical correspondence courses.

His first employment was with the Waltham Watch Co., Waltham, Mass., where he was located for twelve years as machine-operating and assistant job master. From 1899 to 1904 he was connected with the firm of Alcorn & Ames, Waltham, Mass., as working foreman on tool and machine design and construction. The following two years he was foreman of the tool and machine department of the E. Howard Watch Co., also in Waltham, and at the end of that time became master mechanic with the L. S. Starrett Co., Athol, Mass. From 1911 to 1913 he was associated with the Geo. D. Day Machine Co., Laconia, N. H., as superintendent; B. C. Ames & Co., Waltham, as designer; Remington Tool & Machine Co., Woburn, Mass., as superintendent; American Watch Tool Co., Waltham, Mass., as designer.

From 1913 to 1915 he was superintendent of the Universal Trolley Wheel Co., Northampton, Mass., resigning to become mechanical engineer with the Athol Machine Co., Athol, Mass. From 1918 until 1921 he was associated with the Worcester Shock Absorber Co., Worcester, Mass., as superintendent. At the time of his death he was sales engineer for the Mehl Machine Tool & Die Co.

Mr. Sawtell became a member of the Society in 1918.

ARMAND J. SCHENKLE

Armand J. Schenkle, connected with the Reading Foundry & Supply Co., Reading, Pa., died on September 10, 1922. Mr. Schenkle was born on August 9, 1879, in Philadelphia, Pa., where he received his early education. Later he attended Drexel Institute from which he was graduated in 1911 with the degree of M.E. Upon graduation he was employed by the Philadelphia Iron Works as a designer, remaining there for a year when he became superintendent of the Natural Manufacturing & Engineering Co.

In 1916 Mr. Schenkle became connected with the Pennsylvania Iron Works, Eddystone, Pa., as a designer of tools and fixtures, very shortly being appointed general superintendent of the Works. He resigned from this position to become associated with the Baldwin Locomotive Works as chief inspector on artillery ammunition. In 1917 he entered the employ of the United States Government as an Army inspector of Ordnance. He rendered valuable service in organizing and equipping various plants in the Chicago district. He was associated with the Chicago district office until June of 1921. At the time of his death he was with the Reading Foundry & Supply Co.

Mr. Schenkle became an associate member of the Society in 1919 and was advanced to full membership in 1922. He was a member of the Masonic Order.

FREDERICK C. SCHOFIELD

Frederick C. Schofield, designing engineer with the United Cigarette Machine Co., Lynchburg, Va., died on September 26, 1922. Mr. Schofield was born on August 23, 1870, in Glenrock, Pa. He received his early education in the schools of Frostburg, Md., which he supplemented later with technical correspondence courses.

During his professional career he was associated with the following firms: National Electric Supply Co., Washington, D. C.; Cardwell Machine Co., Richmond, Va., as a machine designer; Tobacco Stemming Machine Co., Baltimore, Md., as designing engineer; R. J. Reynolds Tobacco Co., Winston-Salem, N. C., as designing engineer; Comas Cigarette Machine Co., Salem, Va., and the International Filler Corporation, Petersburg, Va., as designing engineer with both firms. In 1921 he became associated with the United Cigarette Machine Co., as designing engineer.

Mr. Schofield became a member of the Society in 1921.

JAMES B. SEAGER

James B. Seager, formerly general manager of the Seager Engine Works, Lansing, Mich., died on April 21, 1922. Mr. Seager was born in Lansing, Mich., on December 10, 1868. He was graduated from the Michigan Military Academy in 1886 and from the Michigan College of Mines in 1888. He then took a two-year post graduate course at the Massachusetts Institute of Technology.

From 1890 to 1894 he was in charge of the mine engineering for the Tylers Forks Mining Co., Plumer, Wis.; from 1894 to 1897 he was general manager of the Mackolite Fire Proof Construction Co., Chicago, Ill., on the erection and fireproofing of steel structures in Chicago and the middle West. For the next five years he was general manager of the Helvetia Copper Co., Helvetia, Ariz., in charge of the design and erection of smelting works and railroad, underground and surface workings of the mines. At the end of that time he became general manager of the Olds Gas Power Co., later the Seager Engine Works, Lansing, Mich.

Mr. Seager became a member of the Society in 1908.

COLEMAN SELLERS, JR.

Coleman Sellers, Jr., was born in Cincinnati, Ohio, September 5, 1852, and died after an acute illness of several months in Bryn Mawr, Pa., on August 15, 1922. Mr. Sellers' health became impaired as a result of his heavy duties during the War as head of the draft board in his district.

After an early education received in the private schools of Philadelphia, Mr. Sellers entered the University of Pennsylvania, where he was a first-honor man throughout his course. He was graduated in 1873 with the degree of Bachelor of Science, and three years later received his Master's degree for shop tests and a thesis relating to steam-boiler injectors. He entered the employ of William Sellers & Co. in November, 1873, and from 1886 to 1902 was assistant manager. In 1902 he was appointed engineer, and on the death of William Sellers was made president of the company. He continued in these capacities until the time of his death.

Mr. Sellers was of the sixth consecutive generation of a family engaged in the mechanical arts. His father, Coleman Sellers, a Past-President of The American Society of Mechanical Engineers, had a long career as an inventor. The sound judgment, ingenuity and experience of Coleman Sellers, Jr., contributed in full measure in maintaining the high reputation of his company as a designer of machine tools and appliances in its special field.

From 1890 to 1893 Mr. Sellers served The American Society of Mechanical Engineers on its Board of Managers; he was among the earliest to join the Society, having become a member in 1882. He was also a member of the American Philosophical Society, the American Society of Naval Architects and Marine Engineers, the American Academy of The Fine Arts, the University Club of Philadelphia, the City Club, Contemporary Club, Pennsylvania Society of Sons of the Revolution, and the New England Society of Pennsylvania. He was one of the founders of the Philadelphia Engineers' Club, had served on the Board of Managers and later as vice-president of The Franklin Institute, was a former president of the Chamber of Commerce of Philadelphia, and from 1908 until his death was one of the three State Commissioners of Navigation for the Delaware River.

JAMES F. SHACKLEFORD

James F. Shackelford, assistant superintendent gasoline plants, Standard Oil Co. of Indiana, Drumright, Ind., died on April 24, 1922. Mr. Shackelford was born in Columbus, Ga., on August 17, 1888. He was educated in the schools of Savannah, Ga. From 1913 to 1917 he was employed in the oil fields of Oklahoma, part of that time being spent with the Shaffer Oil & Gas Co. in the general construction and operation of gasoline plants. In 1917 he became connected with the Standard Oil Co. of Indiana and at the time of his death was assistant superintendent, in charge of five casinghead plants in the Drumright region.

Mr. Shackelford became an associate member of the Society in 1921.

WILLIAM DURWOOD SHERMAN

William D. Sherman, president and consulting engineer of the Industrial Engineering Co., Los Angeles, Cal., died on October 11, 1922. Mr. Sherman was born on August 15, 1859, in Dixon, Ill., where he received his early education. From 1871 to 1883 he served his apprenticeship in the manufacture of agricultural machinery in Dixon. He was then employed by the Union Hydraulic Drain Tile Co., Omaha, Neb., where he gained his drafting-room experience. He resigned to become associated with the Wilson & Baillie Manufacturing Co., Brooklyn, N. Y.

While with this firm he designed and perfected machinery for the manufacture of cement, egg-shaped and round sewer pipe and also designed a very complete conveyor system. He designed, erected and operated the system for a filter plant in Albany, N. Y., and as superintendent and mechanical engineer built a mixer and engines for the system of concrete walls for the greater part of the Wallabout Basin, Brooklyn. For the past ten years Mr. Sherman had been located in Los Angeles as president of the Industrial Engineering Co.

Mr. Sherman became a member of the Society in 1907.

WILLIAM E. SNYDER

William E. Snyder, mechanical engineer of the American Steel & Wire Co., Pittsburgh, Pa., died on June 24, 1922. Mr. Snyder was born on June 15, 1868, in Allegheny County, Pa. He was educated in the old Duquesne University, Curry University and Pennsylvania State College, from which he was graduated in 1896 with the degree of B.S. in mechanical engineering, receiving his M.E. degree in 1900.

Upon graduation he became associated with the Shoenberger Steel Co., Pittsburgh, where he gained his drawing-room and shop experience, then becoming assistant master mechanic of the same company. In 1899 Mr. Snyder accepted a position with the American Steel & Wire Co. as mechanical and electrical expert. A little later he was given the position of power engineer in the Pittsburgh district of the concern and in 1902 was appointed mechanical engineer, which position he held at the time of his death.

For five years Mr. Snyder was secretary of the Committee of Steam Engineers formed in the U. S. Steel Corporation by a number of the constituent companies who appointed representatives for this work. The purpose of the Committee was to make recommendations in the various plants of the corporation which might lead to improvements in economy of various kinds, but particularly that of fuel.

In the early part of 1908 Mr. Snyder was delegated by the American Steel & Wire Co. to investigate the utilization of blast-furnace and coke-oven gas in Europe, where he visited a large number of manufacturing plants in France, Germany, Austria, Belgium, Holland, Switzerland, Italy and also England and Wales.

Mr. Snyder became a member of the Society in 1900. He was a past

vice-president of the Engineers' Society of Western Pennsylvania and a member of the American Iron and Steel Institute. He also belonged to the Masonic Order.

WILLIAM NORTON STEVENS

William N. Stevens, an officer of the Stevens-Aylsworth Co., Inc., New York, N. Y., died on December 28, 1922. Mr. Stevens was born on January 11, 1863, in Brooklyn, N. Y., where he received his early education. He was graduated from the Stevens Institute of Technology in 1885.

He gained his shop experience at the hydraulic works of the Worthington Pump & Machinery Corporation in Brooklyn, N. Y., and later served as engineer with the J. G. White Co., Ford, Bacon & Davis, the New York Edison Co., and the Interborough Rapid Transit Co., all of New York City. He was particularly identified with the construction of the 76th Street power house and the earlier New York subways.

From 1910 until his death he was an officer in the Stevens-Aylsworth Co., Inc., and in his work for this company designed many improvements in chemical apparatus and was the holder of a number of valuable patents.

Mr. Stevens became a junior member of the Society in 1886. He was also a member of the American Geographic Society.

ARTHUR BOWERS STITZER

Arthur B. Stitzer, chief engineer of the Republic Railway & Light Co., consulting and contracting engineers, New York City, died on May 26, 1922. Mr. Stitzer was born in Hackettstown, N. J., in July, 1877. He was graduated from the University of Pennsylvania in 1899 with the degree of B.S. in electrical engineering. In 1909 he received his E.E. degree.

From 1899 to 1910 he was associated with the Union Traction Co. which later became the Philadelphia Rapid Transit Co., Philadelphia, Pa. He entered their employ as a draftsman. In 1903 he was advanced to the position of assistant engineer and in 1905 was appointed electrical engineer of the company.

In 1910 he resigned from that concern to become connected with the firm of Ford, Bacon & Davis as electrical engineer in charge of design and construction in connection with the production, transmission and distribution of power. In 1917 he accepted the position of chief engineer with the Republic Railway & Light Co.

Mr. Stitzer became a member of the Society in 1917.

J. WHEATON STONE

J. Wheaton Stone, general manager and treasurer of the Eastern Machinery Co., New Haven, Conn., died on February 22, 1922. Mr. Stone was born on August 18, 1859, in Waterbury, Conn. He was educated in the schools of that city and later took a course in mechanical drawing.

He served his apprenticeship from 1877 to 1880 with J. E. Gaylord, where his experience covered planning and estimating as well as iron-foundry

and machine-shop work. In 1880 he was promoted to the position of foreman which position he held for two years when he took charge of the foundry department of the Collins Co., Collinsville, Conn., manufacturers of iron, brass and steel castings. In 1884 Mr. Stone became general foreman of the McLagon Foundry Co., New Haven, Conn., where he had entire charge of the designing, building and installing of power-transmission machinery, etc., resigning in 1895 to become general manager and treasurer of the Eastern Machinery Co.

Mr. Stone became a member of the Society in 1898. He was a member of the Masonic Order and belonged to several New Haven Clubs.

LOUIS E. STROTHMAN

Louis E. Strothman, Vice-President of the Society, died at his home in Milwaukee, Wisconsin, on May 8, 1922, after an illness of some months. Mr. Strothman was born in Milwaukee in 1879 and received his education in the public schools there and at St. John's Military Academy. From 1899 to 1902 he served as draftsman for several Milwaukee concerns, and then entered the employ of the Allis-Chalmers Manufacturing Co., with which he was associated in various capacities until August, 1919. At that time he became vice-president and general manager of the Richardson-Phenix Co., which position he held until his death.

Mr. Strothman had an extensive and varied engineering experience. He was a member of a number of engineering societies, including the American Society of Civil Engineers, the American Waterworks Association, the National Association of Stationary Engineers, and the Engineers Society of Milwaukee, of which latter he was president in 1916-17. In 1916 he was appointed a member of the board of directors of the Organization for National Preparedness for the state of Wisconsin, and was also appointed an associate member of the Naval Consulting Board.

He became a member of The American Society of Mechanical Engineers in 1909 and has taken an active interest in its affairs. In 1915-16 he was chairman of the Milwaukee Section. He served as chairman of the 1917 Nominating Committee and has since that time been a member of the Main Committee on Power Test Codes and chairman of the individual committee on Reciprocating Displacement Pumps. In 1919 he was appointed by President Cooley to represent the Society in company with himself on the National Industrial Conference Board. Later in the same year he was elected manager of the Society to fill a vacancy for a year. In 1921 he was elected Vice-President of the Society, which office he was holding at the time of his death.

The Council of the Society, at the Spring Meeting at Atlanta, Ga., received the news of Mr. Strothman's death with great regret, and voted to appoint a special committee to draw up resolutions to be entered upon the records of the Society and to be sent to his family.

From a close friend of Mr. Strothman's, Henry A. Allen, consulting engineer, Chicago, we have received the following appreciation: "Louis E. Strothman was a gentleman and an excellent engineer, always striving to

increase his knowledge and to better the engineering profession. When manager of the pumping-engine department of the Allis-Chalmers Co. about twenty years ago, I had the opportunity of advancing him from the drawing board to the desk, where he handled the estimates and correspondence dealing with centrifugal pumps. He was very efficient and his rise from that time on to manager of the department was deserved and steady. His death was a distinct loss to the engineering profession, and to me and many others means the loss of another long-time dear friend."

GILBERT CARL SUNDBERG

Gilbert C. Sundberg, assistant master mechanic with the Wyman-Gordon Co., Worcester, Mass., died on October 25, 1922. Mr. Sundberg was born on July 1, 1890, in Worcester, Mass., where he received his early education. Later he attended the Wentworth Institute of Boston from which he was graduated in 1914, in the machine construction and tool-design course.

He obtained his shop experience with the Wyman-Gordon Co., and his early experience in designing with the firm of Wells Brothers, Greenfield, Mass., and with the Winchester Repeating Arms Co., New Haven, Conn. In 1918 he returned to the Wyman-Gordon Co. as designing engineer, later being advanced to the position of assistant master mechanic.

Mr. Sundberg became a junior member of the Society in 1920. He belonged to the Masonic Order.

KNOX TAYLOR

Knox Taylor, president since 1910 of the Taylor-Wharton Iron & Steel Co., High Bridge, N. J., died on April 4, 1922. Mr. Taylor was born on October 19, 1873, in High Bridge and received his early education in the schools of Chester, N. J. Later he attended the Hill School at Pottstown, Pa., and the Model School at Trenton, N. J. He was graduated from Princeton University in 1895 with the degree of B.S. and his first employment was with Waddingham & Taylor, surveying and prospecting in New Mexico. A year later he became connected with the Philadelphia & Idaho Mining Co., Ketchum, Idaho, where he was located until 1902 as manager of the properties.

In 1902 he returned to the East to enter the employ of the Taylor Iron & Steel Co., where he started at the bottom and worked up through the various departments, becoming general manager in 1905 and president of the company in 1910. From the combination of William Wharton, Jr., & Co., Inc., Philadelphia Roll & Machine Co., Tioga Iron & Steel Co. with the Taylor Iron & Steel Co. grew the present organization. Each subsidiary retained its identity and Mr. Taylor was president of each.

Deeply interested in civic affairs of High Bridge, he was responsible for the formation of the Boy Scouts, the Y. M. C. A., and was interested in the bank and the home newspaper. During the War, in addition to the work of his company's own contracts, he helped supply railway-track ma-

terial for the A.E.F., representing in the dealings with the Government all of the principal manufacturers of this class of product.

Mr. Taylor was a member of a large number of organizations and clubs, among which were the American Institute of Mining and Metallurgical Engineers, the American Chemical Society, Society for the Promotion of Engineering Education, American Society for Testing Materials, Iron and Steel Institute, England; he was vice-president of the Railway Business Association, a life trustee of Princeton University, a member of the Engineers' Club of New York, and a director of the Delaware & Bound Brook Railway. He became a member of the Society in 1918.

WINTHROP GORDON THOMAS

Winthrop G. Thomas, vice-president of the Batavia Service Corporation, New York City, died on January 31, 1922. Mr. Thomas was born on September 14, 1892, in New York City. He studied for three years in the Massachusetts Institute of Technology. He was formerly associated with the Baltimore & Ohio Railroad as assistant efficiency engineer and with the Western Electric Co. as special sales representative and later as electrical engineer.

Mr. Thomas became a junior member of the Society in 1916.

THEODORE THURN

Theodore Thurn, engineer in charge of steam-turbine construction for the Japan office of the General Electric Co., died on November 9, 1922, in Geneva, Switzerland. Mr. Thurn was born in Fort Lee, N. J., in September, 1871. He was educated in the Royal Technologic Institute, Dresden, Germany, receiving his M.E. degree in 1898.

He gained his shop experience with Gebr. Koerting, Hanover, Germany, and the Dresden Gasmotor Fabrik, Dresden. Upon coming to this country he entered the drafting room of the General Electric Co. in Schenectady, N. Y., and later worked through the steam-turbine shops. For six years he had charge of turbine-construction work and general engineering for the General Electric Co. both in this country and Japan. For the last fifteen years he was associated mainly with the Yokohama, Japan, office of the company, handling the steam-turbine end of the business, for the promotion of which in Japan he was largely responsible, having superintended and had in his charge Curtis steam turbines installed by the G. E. Co. amounting in capacity to over 300,000 kw.

Mr. Thurn became a junior member of the Society in 1904 and was advanced to full membership in 1909. He belonged also to the Japan Society for Mechanical Engineers, in Tokyo, the American-Japan Society, Tokyo, the Tokyo Club, the American Association at Tokyo and the Yokohama United Club.

C. LOTHROP TOWER

C. Lothrop Tower, sales engineer in the Boston office of the Babcock & Wilcox Co., died on July 19, 1922. Mr. Tower was born on June 20, 1837,

in Auburndale, Mass. He attended the Newton, Mass., high school, and later Cornell University where, after three years' study toward his M.E. degree, he was taken ill and forced to leave.

He did not return to the University but entered the employ of Lee, Higginson & Co., Boston, Mass., where he engaged in statistical work in their bond department. At the end of three years he resigned from this position to become a partner in the firm of A. F. Carva & Co., manufacturers of portable electric tools, with charge of the design and production end of the business. In 1916 he became connected with the Stone & Webster Co., Boston, as draftsman and assistant engineer, resigning to become associated with the Babcock & Wilcox Co., as sales engineer in their Boston office.

Mr. Tower became a member of the Society in 1921.

CHARLES WELLINGTON WALKER

Charles W. Walker, works manager of the Walker Silent Typewriter Co., Bridgeport, Conn., died in June, 1922. Mr. Walker was born on August 6, 1856, in Worcester, Mass. He was educated in the State Normal School, Orangeville, Pa.

From 1893 to 1906 he was engaged as expert and inventor by the Union Typewriter Co., Bridgeport. From 1917 to 1920 he served as engineer with the Remington Arms Co., also in Bridgeport. The following year he became works manager of the Walker Silent Typewriter Co.

Mr. Walker became an associate member of the Society in 1921.

DRUID A. WALTON

Druid A. Walton, president C. J. Walton & Son, Louisville, Ky., died on October 30, 1922. Mr. Walton was born on September 24, 1864, in Louisville, Ky., where he received his early education. Later he attended Stevens Institute of Technology and was graduated in 1887 with the degree of M.E.

Immediately upon graduation Mr. Walton returned to Louisville and entered his father's boiler works with which he was associated to the time of his death. He worked his way up through the shops, holding various positions, to the appointment of general manager. Twelve years ago he became president of the firm, which position he held at the time of his death.

Mr. Walton became a member of the Society in 1920.

ERNEST D. WILLIAMS

Ernest D. Williams, turbine engineer in the Erie Works of the General Electric Co., Erie, Pa., died on March 25, 1922. Mr. Williams was born on September 7, 1883, in Martin's Ferry, Ohio. He was educated in the public schools and Ohio University from which he was graduated in 1905 with the degree of M.E.

During his summer vacations he worked in the shops of the Carnegie Steel Co. and also with the Puzzle Mining and Milling Co., Breckenridge, Col. Upon his graduation he became connected with the General Electric Co., Schenectady, N. Y., in the department for the experimental and com-

mercial testing of steam turbines. He was with this concern until the time of his death although not in the same office, having been transferred to the Erie Works of the company in 1915.

Mr. Williams became a junior member of the Society in 1905.

JAMES E. WILLITS

James E. Willits of the Thermal Efficiency Co., Kansas City, Kansas, died suddenly on June 20, 1922, from an accident in diving. Mr. Willits was born in Quincy, Ill., on June 23, 1891. He was educated in the public schools of Brookline, Mass., and attended Amherst College for one year.

In 1911 he became connected with the Worthington Pump & Machinery Corporation, working on installation and tests of condensers and auxiliaries at the Boston Edison and Boston elevated power plants. The following year he became resident superintendent for the same concern in charge of the erection and test of a waterworks pumping engine, installed at Garden City, N. Y. From 1912 to 1917 he held the position of sales engineer in the Kansas City office of the company, resigning at that time to enter the Service.

He was commissioned a first lieutenant in the Field Artillery of the Army and later was advanced to the rank of captain. He saw active service overseas, taking part in five major engagements and being gassed in one. He was honorably discharged from the Service in June, 1919, and returned to his position as sales engineer in the Kansas City office of the Worthington company.

Early in 1920 Mr. Willits accepted the position of district manager and engineer in charge of sales for the Merkle Machinery Co., Kansas City. He resigned from this company to open his own office as engineer and contractor in Tulsa, Okla. He had become associated with the Thermal Efficiency Co. just a short while before his death.

Mr. Willits became an associate member of the Society in 1921. He belonged to several clubs in Kansas City and was a member of the American Legion.

BENJAMIN F. BROWN

Benjamin F. Brown, president and manager of the Brown Bag Filling Machine Co., Fitchburg, Mass., died on February 21, 1922. Mr. Brown was born on December 8, 1849, in Lowell, Vt., where he received his early education. Later he attended Amherst College from which he was graduated in 1874 with the degree of A.B.

From the time of his graduation to 1890, Mr. Brown was engaged in the teaching profession in the following schools: Fitchburg high school from 1874 to 1880; the Day Street grammar school, Fitchburg, from 1880 to 1881; the Montpelier, Vt., high school from 1883 to 1885; and the Gibson School, Boston, from 1885 to 1890.

In 1890 Mr. Brown started the Brown Bag Filling Machine Co. which was finally organized two years later with him as president and general manager. This company engaged in the development and perfection of machines for handling flat paper bags and filling them with measured quantities of any designated material.

Mr. Brown became a member of the Society in 1916.