MEMBERSHIP

New Members

The following list comprises the names of those persons who became members during the period Mar. 10, 1916 to Apr. 10, 1916.

ALLEN, P. R., Pres., McAlester Coal & Coke Co., Knight Templar Bldg., McAlester, Okla.

BERNARD, CLINTON PERCIVAL, Min. Engr., Care Forminiere Mission Kasai, Tschikapa, Congo Belge, W. Africa.

CARPENTER, GEORGE O., Vice-Pres. National Lead Co., St. Louis, Mo.

CLAYTON, CHARLES YANCEY, Asst. Prof. of Metallurgy and Ore Dressing, Missouri School of Mines, Rolla, Mo.


CLAYTON, CHARLES H., Chief Engr., Dep. of Public Works, Chicago, Ill.

DENISON, CHARLES L., Mine Owner 14 Wall St., New York, N. Y.

EVANS, ARTHUR WILEY, Min. Engr., Supt., State of Tenn., Coal Mines, Petros, Tenn.

FRANK, CICERO COELHO, Haddock Lobo 200, Rio de Janeiro, Brazil, So. Amer.


HOUH, DAVID LEAVITT, Min. Engr., The United, and The Cuban Engineering and Contracting Companies, 17 W. 42 St., New York, N. Y.


KAWAMURA, CHISATO, Chief Engr. Ochi Coal Mine, Sagaken, Japan.


LOVEJOY, JOHN M., Min. Engr., Care Standard Oil Co. of New York, Peking, China.

MCCULLOUGH, ERVIN W., Instructor in Mining, School of Mines, Univ. of Minn., Minneapolis, Minn.


MIYABAKI, ITSUMARU, Chief Engr. Shinnew Coal Mine, Fukuoka, Japan.

NAKAMURA, HAJIME, Chief of Constr. Dept., Ashio Copper Mine, Tochigi-ken, Japan.


PERRINE, IRVING, Chief Geol., Pierce Oil Corp., 1601 A. N. Western Ave., Oklahoma City, Okla.

PIPKN, PHILIP HAILE, Mine Surveyor, St. Louis Smelting & Refining Co., St. Francois, Mo.

PROUD, GEORGE, Beaver Proud Engineering Co., Valparaiso, Chile, S. A.


REYNOLDS, HOMER IRVING. Wallace, Idaho.

SCHMIDT, WALTER A., Genl. Mgr., Western Precipitation Co., 1016 West Ninth St., Los Angeles, Cal.


SMITH, HENRY BOYNTON, Ass. Chemist, Doe Run Lead Co., Rivermiles, Mo.

Twitchell, Karl Saben, Mín. Engr., Care Imperial Ottoman Bank, Nicosia, Island of Cyprus.


Associate Members


Rigaud, N., Secy., Mexican Roessler & Hasslacher Chemical Co., 100 William St., New York, N. Y.

Turspin, F. Blair, Mining .................. Bohemian Club, San Francisco, Cal.

Junior Members

Bartlett, Edward E. .......................... 241 McKee Place, Pittsburgh, Pa.

Briber, Frank Edward ......................... 201 So. Logan St., Denver, Colo.

Cragin, Rodney S. ........................ 316 Quincy St., Rapid City, S. D.

Crandall, Seamore A. ......................... 310 So. 35th, Tacoma, Wash.

Hayes, Frederick H., Student ................ University of Wisconsins, Milwaukee, Wis.

Hsu, Sheu-Chin ................................ Taylor Hall, So. Bethlehem, Pa.

Johnson, J. Harlan, Student ................ S. Dakota School of Mines, Rapid City, S. D.

Krebs, Joseph J. ............................ Missouri School of Mines, Rolla, Mo.


McKirahan, Samuel, Mine Mgr., New Comstock Gold M. & M. Co., Rapid City, S. D.


MacIsaac, Donald .......................... 506 Delaware Ave., S. Bethlehem, Pa.

Richardson, Charles ......................... 94 St. George St., Toronto, Ont., Canada.

Robinson, Edward Moore, Student .......... Lehigh University, So. Bethlehem, Pa.

Whittier, William Harrison .................. 5022 University Boulevard, Seattle, Wash.

Total Membership, Apr. 10, 1916 ........... 5,434

Candidates for Membership

Application for Membership.—The Institute desires to extend its privileges to every person to whom it can be of service. On the other hand, it is not desirable that persons should be admitted to membership in classes for which they are not qualified. Members of the Institute can be of great service if they will make a practice of glancing through the list of applicants and promptly notifying the Committee on Membership, or the Secretary of the Institute, of any persons whom they think should not be classified in accordance with the list given.

The following persons have been proposed during the period Mar. 10, 1916 to Apr. 10, 1916, for election as members of the Institute. Their names are published for the information of Members and Associates, from whom the Committee on Membership earnestly invites confidential communications, favorable or unfavorable, concerning these candidates. A sufficient period (varying in the discretion of the Committee, according to the residence of the candidate) will be allowed for the reception of such communications, before any action upon these names by the Committee. After the lapse of this period, the Committee will recommend action by the Board of Directors, which has the power of final election.

Members

Chester Atkinson, La Fundicion, Peru, S. A.

Proposed by William J. Hamilton, Paul S. Coultrie, Charles V. Drew.


Ralph Feiner Barker, Garfield, Utah.
Present position: 1915 to date; Met., Garfield Smelt. Co.

Present position: 1912 to date; Supt., Arizona Cons. Min. Co.

Henry Franklin Bradley, Murray, Utah.
Proposed by A. H. Richards, Curtis Pigott, Reed W. Hyde.
Born 1887, Salt Lake City, Utah. 1895-1907, Public and private schools and High School, Salt Lake City, Utah. 1907-10, Yale Univ., Ph. B. 1911-12, Univ. of Cal., miscellaneous studies in mining, metallurgy, and geology. 1911, Assistant warehouse man with Mason. 1911, Valley Mines Co., Thompson, Nev. 1912 to present, Assayer and Chemist, American Smelt. & Ref. Co., Murray, Utah.

William Burns, Morenci, Ariz.
Proposed by Arthur Notman, Roger T. Pelton, Leon Feuchere.

Edward Gustav Cahill, San Francisco, Cal.

Webster Page Cary, Sneffels, Colo.
Proposed by Fred Carroll, G. H. Barnhart, Charles A. Chase.

Alonzo Webster Clark, Edwardsville, Ill.
Proposed by J. B. Emerson, J. D. Robertson, W. E. McCourt.

Harrison Streeter Cee, Denver, Colo.
Proposed by John V. N. Dorr, A. L. Blomfield, P. M. McHugh.
Present position: 1915 to date; Dorr Cyanide Machinery Co.

Born 1887, Springfield, O. 1895, eight years in Public School, Springfield, O. 1903, two years in High School, Springfield, O. 1905, one year in High School,


Walter Hinckley, Coleman, Prescott, Ariz.


Present position: Engr., Comet Min. Co.

W. Ransome Cramble, Morenci, Ariz.


Present position: 1914 to date; Engrg. Dept., Detroit Copper Min. Co.

George M. Douglass, New York, N. Y.


Present position: 1903 to date; Asst. Genl. Supt., Oliver Iron Min. Co.

William Henry Elbelt, Hurley, N. M.

Proposed by Obi Wiser, Frank R. Wicks, Melvin Mansfield. Born 1889, St. Joseph, Mo. 1908, Grad., St. Joseph High School. 1912, Grad., Missouri School of Mines, B. S. 1912 to date, General operation and repairs, Chino Copper Co., Hurley, N. M.

Present position: Foreman, Fine Crushing Dept., Chino Copper Co.

Benjamin Ball Freud, Chicago, Ill.


Present position: Associate Prof. of Chemistry, Armour Institute of Technology.
Guy M. Garlock, Collinsville, Okla.
Born 1882, Muscatine, Ia. Common School. 1904, Ore buyer's office. 1905, Office work zinc smelter. 1906 to date, Natural: Gas work, Purchasing Agent and other duties at zinc plants, all office and other work for Prime Western Spelter Co.
Present position: Supt., Gas Dept., The Prime Western Spelter Co.

James Phillips Gaskill, Ajo, via Gila Bend, Ariz.
Proposed by John Greenway, Arthur Notman, Gerald Sherman.
Present position: 1912 to date; Genl. Mgr., Ajo Cons. Copper Co.

Leslie E. Geohegan, Birmingham, Ala.
Present position: Chief Engr., Arizona Copper Co.

Monroe Richmond Hull, Clifton, Ariz.
Proposed by Norman Carmichael, Arthur Crowfoot, Albert E. Wigg.
Present position: Chief Engr., Arizona Copper Co.

Ernest C. Johnson, Chicago, Ill.
Proposed by Hallet R. Robbins, Francis A. Thomson, S. Shed.
Born 1860, Elyria, O. 1879, Grad., High School, Elyria, O. 1894–97, Special course, Armour Institute. 1897–1910, Mining, Milling, Concentrating, Amalgamating, Supt., operator and owner of mines. 1910 to date; Manufacturing for sale, Marathon Crushers, Grinding, Mills, Classifiers, etc., for ore milling plants, cement plants and for all kinds of crushing and grinding.

Benjamin Wallis Knowles, Hedley, B. C., Can.
Present position: Engr., Hedley Gold Min. Co.

Alexander Vladimirovich Kolensky, Petrograd, Russia.
Born 1877, Moscow: Graduate in mathematics of the Moscow Imperial Univ., and Min. Inst. of Petrograd. Formerly, Prof. in the Mining Faculty of the Warsaw Technical Institute of Emperor Nicholas the Second. Cons. Engr. to the Joint
Stock Bank of Petrograd. Cons. Engr. to the Groznos Oil Co. Member of the Board of the Pitoeff Naphta Co. Member of the Board of the Bokovo Krustalsky Anthracite Mines. Member of the Nobility and a man of excellent standing and acquaintances. Also, Co-director of the Hough, Kolensky Trading Co.  
Present position: Managing-director of the Blaugas Company of Russia.  

Armand Louis Labbe, Murray, Utah.  
Proposed by A. H. Richards, Reed W. Hyde, C. W. Adams, Jr.  

Foreman Nathan Leopold, Chicago, Ill.  
Proposed by W. E. Hopper, F. W. McNair, F. W. Sperr.  

Richard McCarthy, Butte, Mont.  
Proposed by Banerof Gore, M. H. Gidel, G. M. Fowler.  
Present position: 1914 to date; Assayer in Custom Office.  

Donald Hamilton McLaughlin, Cambridge, Mass.  
Present position: 1915 to date; Geol., Secondary Enrichment Investigation, and Asst. in Geol., Harvard Univ.  

Henry G. McClain, Telluride, Colo.  
Proposed by Charles A. Chase, John V. N. Dorr, Fred Carroll.  
Present position: 1915 to date; Supt., Liberty Bell Gold Min. Co.  

Fidel C. Martinez, Hurley, N. Mex.  
Proposed by Oba Wiser, Melvin Mansfield, Frank R. Wicks.  
Present position: 1914 to date; Asst. Met. Dept., Chino Copper Co.  

George Pierson Moore, Hartford, Conn.  
Present position: 1914 to date; Asst. Met. Dept., Chino Copper Co.  

Frederick Gallaway Moses, Salt Lake City, Utah.  
Proposed by Ernest Gayford, George W. Riter, J. M. Callow.  
Present position: 1915 to date; Flotation work, General Engineering Co.

Jerry B. Newby, Tulsa, Okla.
Born 1890, Chase Co., Kans. 1912, Univ. of Okla., A. B. in Geol. 1913, Winter and Spring quarters, Univ. of Chicago in graduate work in Geol. 1910, summer, U. S. G. S., Montana. 1911, summer in Vinita Quadrangle in Okla., as Field Geol., U. S. G. S. 1912, summer, Field Geol., Oklahoma Geol. Survey.
Present position: 1913 to date; Asst. Geol., Gypsy Oil Co.

Everett H. Pattison, Spokane, Wash.
Born 1879, Shenandoah, Page Co., Ia. High School. Technical gain from serving as assistant to engineer and assayer and by study of various subjects relating to mining as my work indicated as necessary to satisfactory results.

John H. Robertson, Miami, Ariz.
Present position: Millman, operation, Inspiration Cons. Copper Co.

Francis T. Schimerka, Clifton, Ariz.
Proposed by Henry A. Tobelmann, Frederick W. Osborn, John C. Greenway.
Present position: In charge of leaching experiments, Shannon Copper Co.

Simon Aaron Silverberg, Murray, Utah.
Proposed by A. H. Richards, C. W. Adams, Jr., Curtis Pigott.

John S. Stewart, Ekibastus, Prov. of Semipalatinsk, Siberia.
Present position: Supt. of Lead Smelter and Refinery, Irtysh Corp., Ltd.

George Elwin Stowell, Corvallis, Ore.
Proposed by H. M. Parks, A. M. Swartley, G. E. Goodspeed, Jr.
Present position: 1915 to date; Instructor in mining, assaying, and mineralogy.

Randolph D. Talmage, Joplin, Mo.
Proposed by E. J. Rossbach, George H. Playter, Philip N. Moore.
Born 1879, St. Louis, Mo. Up to 1896, Rugby Academy, St. Louis, Mo. 1900, Lawrenceville, N. Y. Since then practical experience in Old Mexico with Mexican Central Ry. in construction work, as an engineer in the field for Sullivan Mach. Co., and in connection with my own interests in the Joplin district.
Present position: Mining Engineering.
Louis Ibanez Velasco, Lansford, Pa.


Present position: Engineering Corps, Lehigh Coal and Navigation Co.

Ernest Brasher Webster, Regina, Sask.


Present position: Engr., Highway Commission.

Louis John Weintz, Ogdensburg, Sussex Co., N. J.

Proposed by Benjamin F. Tillson, George C. Stone, Lewis G. Rowand.


Present position: Supt. of Mill.

Dudley A. White, Salt Lake City, Utah.

Proposed by William Wraith, O. M. Kuchs, V. A. Hart.


Francis O. Williamson, Chicago, Ill.

Proposed by H. W. Harding, R. B. T. Kiliani, Thomas T. Read.

Born 1882, Milwaukee, Wis. 1903, Michigan College of Mines. 1906-09, Charge engineering and mining work in Cobalt, Ont. district for Canadian Syndicate. 1909-16, Metallurgical work representing Hardinge Conical Mill Co.

Present position: Hardinge Conical Mill Co.

Ross Buxton Rathbun, Salt Lake City, Utah.

Proposed by Reed W. Hyde, Curtis Pigott, A. H. Richards.


Henry Mason Rives, Reno, Nev.

Proposed by Francis Church Lincoln, James O. Greenan, E. A. Julian.


Junior Members

Harry A. Ambler, Rolla, Mo.


Born 1895, St. Louis, Mo. 1909-13, Central High School, St. Louis.

Present position: 1913 to date; Student, Missouri School of Mines.
Ulysses Henry Berthier, Golden, Colo.
Born 1893, Mexico City, Mex. 1911, Spring Hill College, Mobile, Ala., B. S.
1911-14, Colorado School of Mines.
Present position: Student, Colorado School of Mines.

Harold Lewis Bickwell, Oak Park, Ill.
Present position: Student, Colorado School of Mines.

John J. Craig, Minneapolis, Minn.
Proposed by Edward P. McCarty, Peter Christianson, George J. Young.
Born 1894, Woodstock, Minn. 1900-12, Public and High School, Pepin, Minn. 1914, Underground work, Oliver Iron Min. Co., Virginia, Minn. 1915, summer, Mill man, Ohio Copper Min. Co., Lark, Utah.
Present position: Senior, Minnesota School of Mines.

Alfred Jay Diefenderfer, State College, Pa.
Proposed by C. E. McQuigg, Boyd Dudley, Jr., W. R. Crane.
Present position: Student, Pennsylvania State College.

Maxwell E. Erdody, New York, N. Y.
Proposed by Charles P. Berkey, Robert M. Raymond, Robert Peele.
Present position: Senior, School of Mines, Columbia Univ.

H. Edgar McCray, Mentor, O.
Proposed by W. E. Hopper, F. W. McNair, F. W. Sperr.
Present position: Student, Michigan College of Mines.

Roy Harrison Miller, Golden, Colo.
Present position: 1914-16, Student, Colorado School of Mines.

Alexander Milyko, New York, N. Y.
Proposed by Charles P. Berkey, Robert M. Raymond, William Campbell.
Present position: Senior, School of Mines, Columbia Univ.

Charles Lorenz Petzel, New York, N. Y.
Present position: 1913 to date; Student, Columbia School of Mines.

Louis A. Scholl, Jr., New York, N. Y.
Proposed by Robert M. Raymond, Charles P. Berkey, William Campbell.
Present position: Student, Columbia Univ., E. M.

Emil Spurny, Astoria, L. I.
Proposed by Charles P. Berkey, Robert M. Raymond, Robert Peele.
Born 1894, New York. 1907, Public School No. 7. 1911, Bryant High School.
Present position: Student, Columbia University.
Present position: Student, Lehigh Univ.

Wai Kyi Woo, Houghton, Mich.
Proposed by W. E. Hopper, F. W. McNair, F. W. Sperr.
Born 1893, Shanghai, China. 1905-06, St. John's Univ., Shanghai, China. 1907-09, St. Xavier's College, Shanghai, China. 1912-13, Notre-Dame Univ., South Bend, Ind. 1908-12, Student, Kwong-Tung Ry. Co.
Present position: Student, Michigan College of Mines.

Change of Status—Junior Member to Member

James P. Clarke, Jr., Little Rock, Ark.

Change of Status—Associate Member to Member

Charles Simon Herzig, New York, N. Y.
Present position: Cons. Engr., Author "Mine Sampling and Valuing," etc.

Birdell J. Roberts, Embreeville, Tenn.
Present position: Supt. of Mills, Embree Iron Co.

Change of Address of Members

The following changes of address of members have been received at the Secretary's office during the period Mar. 10, 1916 to Apr. 10, 1916.
This list together with the list published in Bulletin Nos. 110 to 112, February to April, 1916, and the foregoing list of new members, therefore, supplements the annual list of members corrected to Jan. 1, 1916 and brings it up to the date of Apr. 10, 1916.

Allen, Glenn L., Research Fellow..............University of Utah, Salt Lake City, Utah.
Allport, R. H..................................Bellefonte, Pa.
Aplin, William, Principal...Technical College, Mount Morgan, Queensland, Aust.
Austin, John F..................................Apartado 101, Monterrey, Mex.
Ball, Max W..................................United States Bureau of Mines, Washington, D. C.
Barrett, Theodore H., Asst. Engr., Utah Metal and Tunnel Co.,
Bingham Canyon, Utah.
Battin, William Frederick.................43 Exchange Place, New York, N. Y.
Benedict W. deL..........................19 Cedar St., New York, N. Y.
Bigelow, Braxton, 170th Field Company Royal Engineers,
British Expeditionary Force, France.
Bingham, R. A..................................84 Park Terrace, W. Orange, N. J.
Bissell, Robert W.........................435 W. 119th St., New York, N. Y.
Blair, George S..........................4408 Penn Ave., Pittsburgh, Pa.
Borie, Adolph W., Pres., Driggs-Seabury Ordnance Co.,
50 Church St., New York, N. Y.
Boyd, A. W.................................So. 618, Madison St., Spokane, Wash.
STACK, James R., Baltimore Copper Smelt. & Ref. Co., Highlandtown, Branch P. O., Baltimore, Md.


STIEBEL, H. J. .................................................. 1923 S. Arizona St., Butte, Mont.

STOFFEL, Paul X., Care Cia Minera De Penoles, S. A., Apartado 251, Monterrey, N. L.

SWANQUIST, G. A. ............................................... 632 N. 7th St., Canon City, Colo.

TARANTOUS, Richard ........................................ 1050 Clay Ave., New York, N. Y.


TIMMONS, Colin ............................................... Commercial Hotel, Patagonia, Ariz.

TOULMIN, Priestley ............................................ 1508 American Trust Bldg., Birmingham, Ala.

TRUAX, Arthur Fuller .......................................... 201 Cosgrove Bldg., Joplin, Mo.

TRUSCHKOFF, N. I. ............................................ Kirzig Mining & Trading Co., Ltd., Ekibastous, Siberia.


TUSCHKA, V. .................................................. 324 Glencoe Bldg., Duluth, Minn.

WEBSTER, Paul W., Care F. H. Kalbfleisch Co., 31 Union Square, West, New York, N. Y.


WHERRY, H. P. .................................................. P. O. Box 36, Shuksburg, Wis.

WHITE, R. T., Genl. Mgr. .................................... Caucasian Copper Co., Ltd., Batum, Russia.

WILEY, Walter H. ............................................. Palm Drive, Glendora, Cal.

WINMILL, Hallett, Min. Engr., The Borneo Co., Ltd., Lakon Lampang, Upper Siam, via Bangko.

WOLF, Martin Y ................................................ 848 Beach St., San Diego, Cal.


WOODS, Clarence ............................................. Toulumne, Cal.

WRIGHT, CLark W. ............................................ 509 Elm St., Anaconda, Mont.

WРОTH, James S. ............................................... Casilla 46-D, Santiago, Chile, So. Amer.

YOUNG, William A. ............................................ Maiden, Mont.

MEMBERS’ ADDRESSES WANTED

Name. Last address of Record from which Mail has been Returned.

BARNEs, BlakeiLsE ........................................ Arrow Engineering Co., Palmyra, Mo.

BELL, D. A. S. ................................................ 136 McLaren St., Ottawa, Canada.

BLOW, J. J. .................................................... 172 Rodney St., Brooklyn, N. Y.

BooTH, E. L. .................................................. 349 W. 145th St., New York, N. Y.

BoYs, H. R. ................................................... Aurora Cons. Min. Co., Aurora, Nev.

BRENNON, J. C. ............................................... Tequisquian, Queretaro, Mexico.


COLE, Robert J. ............................................... McKay Apartments, 7th and Pike Sts., Seattle, Wash.

Cook, Paul Richardson ...................................... 4159 Grand Bouleivard, Chicago, Ill.

ChARY, Charles N. ............................................ Kimberley, Nev.

Draper, Carl H ................................................ Apartado 77, Guadalajara, Jal., Mex.


GORDiCkE, Carl ............................................... Box 535, San Antonio, Tex.


GRANT, Ulysses S., IV ..................................... Westmorley Court, Cambridge, Mass.


GUNTER, C. GODFREY ........................................ Stratford, Conn.

HANLon, John Edward ........................................ Timmins, Ont., Canada.

HOBART, EDMUND Norris ..................................... Clifton, Ariz.


KISHMAN, Maurice W. ....................................... 101 E. Masonic Ave., Cripple Creek, Colo.

LeNOiR, Frank H. ............................................. Douglas, Alaska.

MAINWARING, H. M. C., Mine Mgr., Chillagoe, Ltd., Chillagoe, Queensland, Australia.

MARriott, Alexander D., Jr., Engr., The Dorr Co., Box 6, P. P. I. E., San Francisco, Calif.

MILLER, Frank Barton ....................................... Blair, Esmeralda Co., Nev.
The deaths of the following members were reported to the Secretary's office during the period Mar. 10, 1916 to Apr. 10, 1916.

<table>
<thead>
<tr>
<th>Date of Election</th>
<th>Name</th>
<th>Date of Decease</th>
</tr>
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<tbody>
<tr>
<td>1892</td>
<td>*Hayes, C. Willard</td>
<td>Feb. 8, 1916</td>
</tr>
<tr>
<td>1876</td>
<td>*Leavitt, E. D.</td>
<td></td>
</tr>
<tr>
<td>1914</td>
<td>*Luther, Roland Y.</td>
<td>Jan. 4, 1915</td>
</tr>
<tr>
<td>1883</td>
<td>*Perry, W. A.</td>
<td></td>
</tr>
<tr>
<td>1887</td>
<td>*Young, Edward L.</td>
<td>Mar. 16, 1916</td>
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</tbody>
</table>

*Members.

Edward P. Jennings

Edward Payson Jennings died in Salt Lake-City on the evening of Dec. 31, 1915, as the result of a sudden heart attack. Mr. Jennings, who had been following his profession of mining engineering in Utah for 18 years, first made his reputation in the Great Lakes region, where he was identified with the Kimberley iron interests; in Utah he became connected with several of the larger companies, including the Highland Boy and the Utah Apex at Bingham, at the time of his death being consulting engineer for the Utah Metal & Tunnel Co.

Mr. Jennings was born Aug. 24, 1853, in Becket, Mass., of Puritan stock, the son of Joseph L. and Harriet Chapman Jennings. His mother belonged to the Abbott family of which Lyman Abbott is a member. He obtained
his early education in the schools of Massachusetts, later attending Union College at Schenectady, N. Y., from which he was graduated in 1872 with the degree of C. E. From 1873 to 1879 he was assistant professor of chemistry at Cornell University, with Prof. Charles Shafer as head of the department.

During a part of his vacations, Mr. Jennings studied blast-furnace work at Sharon, Pa., where he became acquainted with the Kimberleys, with whom he was associated as a mining expert over a period of 30 years. Business for the Kimberleys took him west for the first time in 1880, when he went to California, and from there to Arizona, then in the throes of an Apache uprising.

For the next few years Mr. Jennings was occupied with blast-furnace work, in charge of the historic furnaces at Sterlington, N. Y. These furnaces at the time of the revolutionary war made the chains, which were placed across the Hudson River at Newburgh, N. Y., to prevent British boats from going upstream. At the time Mr. Jennings took charge, the Sterlington furnaces had been allowed to run down, and he had the satisfaction of putting them on a paying basis.

From 1886 to 1895 he was continuously in Michigan; here he was engaged in general mining work, at one time having a custom laboratory at Ironwood. Mr. Jennings was one of the first to call attention to the importance of the iron ores of the Mesabi range, where he was engaged in work for P. L. Kimberley. While in the northwest Mr. Jennings continued his acquaintance with John T. Jones, whom he had met in Sharon, Pa., and with whom, throughout his life, he was from time to time associated in experimental work on iron ores.

Mr. Jennings left Michigan, because of ill health, and after spending a year or two in Oregon, came to Utah in 1897. His first position in this State was that of superintendent of the Utah Consolidated at Bingham, then the Highland Boy, where he remained a year. Later he opened an office as consulting engineer in Salt Lake City and continued in this practice until the time of his death. As an examining engineer and in directing development work Mr. Jennings traveled extensively, visiting mines in this country, Canada, and Mexico.

The important strike at the property of the Utah Metal & Tunnel Co. and the subsequent consolidation with Bingham-New Haven occurred a short time before Mr. Jennings' death.

During the years of his practice in Utah, Mr. Jennings was frequently employed as an expert in mining law suits. He was a ready and equable witness, usually being treated with courtesy and caution by the opposing lawyers in cross examination.

Having joined the Institute in 1876, Mr. Jennings would in 1916 have been a member of forty years standing. He left Transactions of the Institute complete from 1875. He was an enthusiastic supporter of the society, and was instrumental in bringing in many new members.

Mr. Jennings was exceedingly well informed on all matters dealing with his profession, and could always find in his books and papers references to almost any subject under investigation, having a store of offhand knowledge that was surprising.

Although engaged in active work throughout a long career, Mr. Jennings was of a retiring nature and essentially a student. He loved to solve a problem for the pure pleasure it gave him, and spent much of his leisure time in chemical and petrographical work, contributing many
papers to technical magazines. He was never happier than when engaged in work of this kind, and often said: "There is so little time and so much to learn, it is a pity to have to spend time working for money."

He was a fellow of the American Association for the Advancement of Science, a member of the Metallurgical and Chemical Society, the American Institute of Mining Engineers, the Canadian Institute of Mining Engineers, etc., contributing numerous papers to the various publications of these societies. He published in the Transactions of the Institute the following papers:

- Copper Deposits of the Kaibab Plateau, Arizona, vol. xxxiv, p. 839 (1903).

and in Economic Geology, the Genesis of Copper Deposits of Yerrington, Nev. and other papers.

That side of his profession which took him to the sparsely settled parts of the country appealed to Mr. Jennings particularly; and he was very fond of nature, poetry, and painting, having a considerable number of pictures by the late H. L. A. Culmer dealing with Utah desert and mountain scenery.

During the last winter of his life, when, in spite of declining health, he remained active to the last, he frequently used to quote J. Charles L. Edson's poem on the discoverer of Muir glacier for whose life and work he had a profound admiration.

"John o' the mountains, wonderful John,
Is past the summit and traveling on;
The turn of the trail on the mountainside,
A smile and "Hail!" where the glaciers slide,
A streak of red where the condors ride
And John is over the Great Divide.

"John o' the mountains camps today
On a level spot by the milky way;
And God is telling him how He rolled
The smoking earth from the iron mold
And hammered the mountains till they were cold,
And planted the Redwood trees of old,

"John o' the mountains says "I knew
And I wanted to grapple the hand o' you
And now we're sure to be friends and chums
And camp together till chaos comes."

Edward R. Zalinski.
Salt Lake City, March 7, 1916.