

THE TECH.

Published daily except Sunday during the college year by students of the Massachusetts Institute of Technology.

Entered as second class matter Sept. 29, 1909, at the post office at Boston, Mass., under the Act of Congress of March 3, 1879.

Committee in Charge.

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Printed by Puritan Linotype, Boston

BOSTON, MASS., DECEMBER 11, 1909.

Briefly, the purpose of the series of special issues on the Institute Departments, of which this is the first, is to make the various Courses more familiar, not only to the freshmen who have yet to choose their profession, but to the upper classmen, who though they may know their own Course fairly well, seldom know anything about the others. It is hoped, also, that the issues may be invaluable to many high school men who have yet to choose their life work and their Alma Mater.

The committee in charge takes this opportunity to thank the professors in the Departments of Civil and Sanitary Engineering, and Mr. Howard and Mr. Waller, for the articles they have so kindly written for these pages.

For the hearty co-operation of the Board of Editors of The Tech the committee is also duly grateful.

INSTRUCTING STAFF

(Continued from page 3.)

At one time in New Mexico, Professor Allen was chief engineer of the water works at Los Vegas, New Mexico, works costing about \$100,000, and was also employed for a short time by the First National Bank at Los Vegas.

Since coming to the Institute, Professor Allen has done some outside work, but has devoted his best energies to the work of the Course.

He has been President at different times of the Boston Society of Civil Engineers, of the New England Railroad Club and of the Society for the Promotion of Engineering Education. He has been a member of the American Society of Civil Engineers since 1878.

Dwight Porter, Ph. B., Professor of Hydraulic Engineering, graduated from the Sheffield Scientific School of Yale University in 1880. In the fall of 1883, he came to the Institute as Instructor in first-year mathematics and assistant in first-year drawing. Two years later he was transferred to the department of Civil Engineering and, in 1887, became Assistant Professor. At the end of three years he was promoted to be Associate Professor and in 1896 became Professor of Hydraulic Engineering.

Immediately after his graduation from the Sheffield Scientific School, Professor Porter began a special investigation for the Tenth U. S. Census, of the water power resources of the more accessible streams of the United States. This was done under Francis A. Walker, who was afterward President of the Institute. Engaged in this work with Professor Porter were George F. Swain, afterward a professor in the Civil Engineering department of M. I. T. and head of the course until last year, and James L. Greenleaf of the Columbia School of Mines.

In 1887-88 Professor Porter made, with the aid of a number of students, a sanitary survey of certain tenement districts of Boston as a basis for improving their condition. He has been a member of the committee of three engineers for examining applicants for civil engineering positions under control of the Mass. Civil Service Commission.

Professor Porter has served as expert in a number of court cases and before legislative committees where hydraulic or sanitary questions were involved.

He is a member of the American Society of Civil Engineers, Boston Society of Civil Engineers, New England Water Works Association, Society for

Promotion of Engineering Education, etc.

Charles Milton Spofford, S. B., Hayward Professor of Civil Engineering graduated from the Institute in 1893. The second term of the following school year he returned to take up a post-graduate course. In 1896 he came to the Institute as assistant in the department of Civil Engineering and remained on the instructing staff in various positions until 1903.

In 1905 he went to the Brooklyn Polytechnic Institute as professor of Civil Engineering.

In February of this year the Executive Committee of the Technology Corporation appointed Professor Spofford to the chair of Hayward Professor of Civil Engineering, left vacant by the resignation of Professor George F. Swain. Professor Spofford was asked to take charge of the instruction in structural engineering, in which branch he has specialized.

In 1894, after he completed his post-graduate course, Professor Spofford went to Phoenixville, Pa., to engage in the employ of the Phoenix Bridge Co., remaining with this concern until his appointment as Assistant at the Institute in 1896.

Professor Spofford has had a great deal of practical experience in his chosen branch of civil engineering, namely, structural work. During the summers of 1896-1903, while he was at the Institute, he was in the employ of the Engineering Department of the City of Boston, as assistant engineer upon the design of several well-known bridges as for instance, the Broadway, Atlantic Avenue and Northern Avenue bridges and upon a wide variety of structural work. Professor Spofford has done expert work for the Boston Elevated, having examined and reported upon reinforcements required to make several Boston bridges safe for the increasingly heavy street car traffic. This work included the design for reinforcing the Boylston Street bridge over the B. & A. R. R.

During his stay in Brooklyn, he was connected with Mr. C. W. Hudson of New York, in a most interesting, important and valuable piece of work. This consisted in an investigation of the strength of the Blackwell's Island bridge over the East River, a most difficult problem requiring the application of the highest principles of structural engineering.

Prof. Spofford is a member of the American Society of Civil Engineers, the Boston Society of Civil Engineers, the Brooklyn Engineers Club, and the Society for the Promotion of Engineering Education

Alfred E. Burton S. B., Professor of Topographical Engineering, is perhaps best known to almost all Institute students in his capacity of Dean. Professor Burton is a graduate of Bowdoin College, Class of 1878. He came to the Institute in the fall of 1882 as instructor in Civil Engineering and also assisted in first year drawing courses. In 1884, he was made Assistant Professor and took charge of the second and third year surveying work. Professor Burton has been in charge of most of the Summer Schools of Surveying from 1885 to 1903. In 1906 he was promoted to his present rank of Professor of Topographical Engineering and became Dean in 1902.

After graduation he spent a few months as a land surveyor and then took an examination for the position of Topographical Surveyor on the U. S. Coast and Geodetic Survey. This examination included six months trial in the Coast Survey office in Washington. Among the four successful candidates at the end of this time, were Alfred E. Burton and Robert E. Peary, since Commander U. S. N. and a claimant for the discovery of the North Pole.

In 1882, Professor Burton was aid to Assistant Edward Herzsheimer, in a survey of Long Island Sound. It was in the fall of this year that Professor Burton was offered and accepted the position of Instructor at the Institute.

In the summer of 1886, with the assistance of two of the engineering students he made a survey for the Appalachian Mountain Club of Mount Moosilauke, N. H.

The organization and conduction of the scientific expedition to North Greenland in 1896 was under the direction of Professor Burton and was a result

of the suggestion of his friend, Lieutenant Peary. Some valuable data on pendulum and magnetic observations were obtained.

To Professor Burton is due the honor of obtaining the geodetic observatory at Middlesex Fells, a most important addition to the instruction in Geodesy at the Institute. He organized the eclipse expedition to Georgia in 1900 and a similar expedition to Sumatra, the next year.

He is a member of the American Society of Civil Engineers.

Arthur G. Robbins, S. B., Professor of Topographical Engineering, graduated from M. I. T. with the Class of 1886. He accepted a position as assistant in the department of Civil Engineering the same year and in 1888 was made an instructor. In 1896 he was promoted to the rank of Assistant Professor, and again in 1906, to Associate Professor.

During the summers of 1901, and 1905 to 1909, Professor Robbins has been in charge of the Summer School of Surveying of the Institute of Technology.

In the vacations of other summers he has been employed in various positions, including work in the office of the Holyoke Water Power Co., Water Works Construction at Norway, Maine, etc. He has been Assistant to the Engineer of Maintenance of Way of the J. M. & I. R. R., Louisville, Ky., Surveyor and Draftsman with the Boston Manufacturer's Mutual Fire Insurance Co., and Assistant to U. S. Light-House Surveyor 1st and 2nd Districts, Boston, Mass.

George L. Hosmer, Assistant Professor of Civil Engineering, was a member of the Class of 1897. For the next three years he was assistant in the department of Civil Engineering and in 1900, became Instructor. In 1907, he was made Assistant Professor of Civil Engineering.

Professor Hosmer was a member of the M. I. T. eclipse expedition to Georgia in 1900, and the one to Sumatra the next year. In 1905 he went with the Carnegie Institute expedition to Labrador.

During the summer vacations, Professor Hosmer, has been connected with the Mass. boundary surveys, survey of Charles River, for the Charles River Dam Committee, N. Y. Water Supply, and surveys for the R. I. Metropolitan Park Commission.

Charles B. Breed, S. B., Assistant Professor of Civil Engineering, was graduated from the Institute in 1897. In 1898, he came back to the Institute as Assistant, was made an Instructor in 1900 and became Assistant Professor in 1907.

Previous to his graduation, Professor Breed worked in the civil engineering department of the City of Lynn, in the civil engineering department of the Boston & Maine Railroad, and in the department of masonry inspection of the Boston & Albany Railroad; this work being done during the summer vacations.

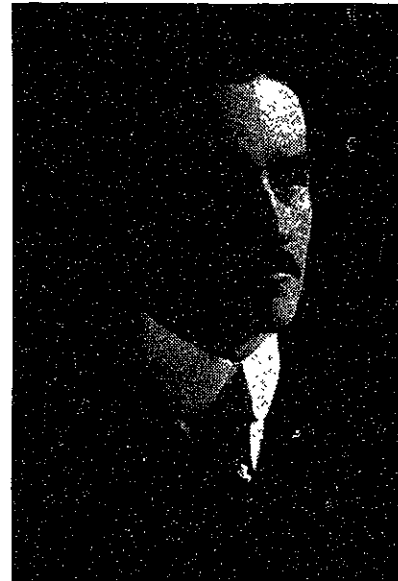
After graduation, he spent a year with the Boston and Albany, being concerned principally with the abolition of grade-crossings in Newton and Natick. For the next eight summers he was inspector of the Weston aqueduct of the Metropolitan Water Works and was also on the sewerage committee.

He has been inspector of dredging, on the Harbor and Land Commission, assistant engineer of the City of Lynn, assistant engineer of the Chicago and Western Indiana R. R., on track elevation in Chicago, resident engineer of the Walton Pond Dam of the City of Lynn and for the last five years consulting engineer in Lynn on the abolition of grade-crossings. At the present time Professor Breed is consulting engineer for the work of elimination of grade-crossings at White River Junction, Vt., and also at Quincy Mass.

He is an associate member of the American Society of Civil Engineers, a member of the Boston Society of Civil Engineers, of the American Railway Engineering and Maintenance of Way Association, of the New England Railway Club and of the Society for the Promotion of American Railroad Engineering.

George E. Russell, S. B., Assistant Professor of Civil Engineering, graduated from the Institute with the class of 1900. The year immediately fol-

lowing his graduation he spent as assistant in the department of Civil Engineering here. At the end of this time he resigned to accept a position as designing engineer with the American Car and Foundry Co. of New York and was intimately connected with the development of the steel car until 1904.



PROF. GEORGE E. RUSSELL.

He then entered Cornell as a graduate student and also as Instructor in the department of Civil Engineering.

In 1905, he was secured by Professor Swain to fill a vacant instructorship at the Institute and in 1907 received promotion to the grade of Assistant Professor.

Professor Russell was connected with the Charles River Basin Commission in 1906, the Boston Transit Commission in 1907, when he conducted (with Professor W. E. Mott) an investigation of the congestion of traffic in Boston's streets, and in 1908 with the Metropolitan Improvements Commission as investigator of passenger transportation.

Professor L. E. Moore graduated from the University of Wisconsin in the Mechanical Engineering Course in 1900 and subsequently spent the year 1901-1902, studying in the Civil Engineering Department at the M. I. T. He was given the degree of Civil Engineer by the University of Wisconsin in 1906, for certain professional and experi-



PROF. LEWIS E. MOORE.

mental work done after graduation. The positions he has held in educational work were: instructor in mechanics and structural engineering in the University of Wisconsin for one year and instructor in theoretical and applied mechanics, in the University of Illinois for three years. From October, 1907 to date he has been Assistant Professor of Civil Engineering in the Massachusetts Institute of Technology, teaching bridge design, foundations and third year structures.

The following is a brief outline of the practical work he has done. He was employed as Master Mechanic for the Champion Iron Mining Company

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