

same firm brought out a volume entitled "Specifications for Steel Bridges." Both have been very favorably received by the engineering profession.

A short paper on "Foundations for Important Buildings in the City of Mexico" and another on the "Flow Line Bridge at Kansas City" complete the list of technical papers.

Dr. Waddell's interest in engineering education has never flagged, and much of his time has been given to matters pertaining to it.

Early in 1882 McGill University conferred upon him the *ad eundem gradum* degree of Bachelor of Applied Science, and in June of the same year gave him the degree of Master of Engineering, after he had passed a very severe examination. The same institution recognized the high value of his scientific work by conferring upon him the degree of Doctor of Science in April, 1904; and in June of the same year Missouri State University honored him with the degree of Doctor of Laws.

In addition to the paper on Civil Engineering Education, previously mentioned, papers on Civil Engineering Education in Japan and on the Advisability of Instructing Engineering Students in the History of the Engineering Profession have been presented to the Society for the Promotion of Engineering Education. Numerous lectures have been prepared and delivered to the students of various educational institutions throughout America. Several of the most valuable of these are preserved in this volume.

A report recently made to the head of a prominent educational institution and an address on "Higher Education for Civil Engineers" contain Dr. Waddell's latest ideas on the subject of instruction in engineering.

At the invitation of the Directors he addressed The International Congress of Arts and Science at The Louisiana Purchase Exposition in September, 1904, upon The Relations of Civil Engineering to Other Branches of Science. The address is printed in the succeeding pages. His interest in the engineering societies has always been strong. He joined the Pi Eta Scientific Society, now the Rensselaer Society of Engineers, in 1872, and was elected a Member of the American Society of Civil Engineers in 1881; an Associate Member in 1883 and a Member of the Institution of Civil Engineers in 1899; a Member of La Société des Ingénieurs Civils in 1887; the Canadian Society of Civil Engineers in 1903; and an Honorary Member of the Kogaku Kyokai, the Japanese Engineering Society, in 1886. In 1893 he became a Charter Member of the Society for the Promotion of Engineering Education. He was a Charter Member of The American Society for Testing Materials and chairman of its committee on structural steel. He was a Member of the Engineers' Club of Kansas City, which is now defunct, and resigned his membership in the American Society of Mechanical Engineers, the Western Society of Engineers and the Engineers' Club of Philadelphia.