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# TRANSACTIONS

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1922

**FREDERICK WILLIAM CAPPELEN, M. Am. Soc. C. E.\***

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DIED OCTOBER 16TH, 1921.

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Frederick William Cappelen was born at Drammen, Norway, on October 21st, 1857. He received his high school education at Frederickstad, Norway, and was graduated from the Technical School of Oerebro, Sweden. He afterward attended the Polytechnicum at Dresden, Germany, from which he was graduated as a Civil Engineer with the highest honors ever won at that time by a foreign student at the school.

In 1880, Mr. Cappelen, came to the United States and was employed in the Engineering Offices of the Northern Pacific Railroad Company in New York City and at Brainerd, Minn. From 1881 to 1884, he served as Assistant Engineer on location and construction of the Missoula Division of the Northern Pacific Railroad, in Montana, and from 1884 to 1886, he was engaged, as Assistant Engineer, on bridge work with the St. Paul and Northern Pacific Railway Company.

He then entered the employ of the City of Minneapolis, Minn., as Bridge Engineer, remaining in that position until 1892. During this time, among other work, he designed and built three highway bridges across the Mississippi River.

On January 2d, 1893, Mr. Cappelen was elected City Engineer of Minneapolis and held that office until 1898. In 1913, he again became City Engineer, remaining in office until his death. During this latter term, he built the St. Anthony Bridge, which crosses the Mississippi at St. Anthony Falls. This bridge is a fine example of reinforced concrete construction, 2 223 ft. long and 80 ft. wide, and is conceded to be a noble and enduring structure.

The Franklin Avenue Bridge across the Mississippi, another reinforced concrete highway bridge, 1 030 ft. long with five spans, the central one of which is 400 ft.—one of the longest concrete spans in the world—was designed by Mr. Cappelen, and was in the process of erection under his direction at the time of his death.

In 1895, he designed the Minneapolis Reservoir System which was the first step toward the purification of the water supply of that city. His interest in and designs for the improvement of the city water-works, caused him often to be referred to as the "Father" of the present system.

From 1898 to 1913, Mr. Cappelen maintained an office as a Consulting Engineer on bridge and municipal work. During this time, he had a large part in the bridging and lowering of the steam railroad tracks through Minneapolis, and also acted as Consulting Engineer for the Great Northern Railway Company.

In 1904, he served on a commission with Mr. Andrew Rinker, then City Engineer, and Allen Hazen, M. Am. Soc. C. E., of New York City, for the investigation of a pure water supply for Minneapolis, and their report recom-

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\* Memoir prepared by George L. Willson, M. Am. Soc. C. E.

mended the purification of the present supply from the Mississippi River. In 1913, the operation of the filtration plant was begun under his direction, and in 1921, its capacity had been increased to 90 000 000 gal. per day. During the thirteen years in which Mr. Cappelen served Minneapolis as City Engineer, the water-works system was rapidly extended and improved, keeping pace with the growth of the city.

From 1907 to 1911, he was also connected with the Decaries Incinerator Company, working out, during this time, many improvements in its garbage reduction process.

Extensive studies and investigations were made by Mr. Cappelen on the subject of grade separation at street and railroad crossings and a part of this work has already been brought to a successful completion; general plans for much more were completed by him shortly before his death.

His standing and reputation as a Sanitary Engineer was recognized by the Governor of Minnesota, who, in 1918, appointed him as one of the first two engineer members of the State Board of Health, and in January, 1921, he was again appointed to this position.

He was married in 1883 to Miss Felicitas Wessel, of Dresden, Germany, who, with two sons, Arthur S., of New York City, and Felix G., of Akron, Ohio, survives him.

Mr. Cappelen was a member and Trustee of the American Water Works Association, a member of the American Society of Municipal Improvements and of the Minneapolis Engineers' Club. He was also a member of the Odin Club, of the Masonic Order, the Elks, and many civic organizations.

His place in the estimation of the public was well stated in a leading city paper on the day following his death:

"For a quarter of a century this man had given his best in public service to Minneapolis. He used his engineering genius, not merely to facilitate communication, but to preserve public health, to promote safety and to enhance the attractions of the city. His devotion to the duties of his office and to the upbuilding of Minneapolis was not without its personal sacrifices. His passing is a loss that will not easily be retrieved."

Mr. Cappelen was elected a Member of the American Society of Civil Engineers on April 3d, 1895.