

George William Maynard

George William Maynard was born 12 June 1839 in Brooklyn, Kings, New York. He was the son of George Washington Maynard and Caroline Augusta Eaton.¹ He graduated from Columbia College in New York in 1859. He spent a year in the chemical laboratory at Columbia and received a \$100 prize in recognition of his work. He was the oldest mining engineer to graduate from Columbia University, but passed through the college before the School of Mines was established.²

He applied for a passport in 1860, and at age 21 was described as five feet 7.5 inches tall, with hazel eyes and black hair.³ He proceeded to Gottingen, Germany, to study physics, mineralogy, and chemistry at the University of Gottingen. He spent the next year at the Clausthal School, a mining academy in Germany.⁴ He returned to New York and received a Master of Arts degree from Columbia in 1862. He began his career at the Connoree mines in County Wicklow, Ireland.⁵

In 1864, he returned to New York where he established an engineering office and a chemical laboratory under the name of Maynard and Tiemann. He was asked to make a professional examination of a gold mining property in Colorado. He returned to Colorado again, eight months later, to establish an engineering office and assay laboratory.⁶

George married Frances "Fannie" Atkin in 1865⁷, probably in Colorado. They had three children.⁸ In 1866, George was instrumental in arranging a collection of Colorado minerals for the state exposition, including assays and maps, with descriptions in English, French and German. The collection won the gold medal and went on to the world's fair in Paris.⁹

In 1867, George returned to New York to take charge of the sulphuric-acid works on Staten Island. He became a professor of metallurgy and practical mining at Rensselaer Polytechnic Institute in Troy, New York, from 1868 to 1872, when the department was discontinued.¹⁰ On the 1870 census, George was a teacher, living with his wife and daughter in Troy, Rensselaer, New York.¹¹ He was a fellow with the American Geographical Society of New York.¹²

George took an office in London in 1873, where he was a consultant for several iron and steel works in England and Wales. He also spent six months Eastern Russia, where he erected a copper reduction plant for a British company. He did the first large-scale test on the basic process of steel manufacture, the Gilchrist-Thomas process. He subsequently became an agent for Thomas in New York.¹³

¹ Massachusetts Town Clerk Vital and Town Records, 1626-2001; US Passport Applications, 1795-1925.

² *Engineering and Mining Journal*, 1913, Vol 95, p. 431.

³ US Passport Applications, 1795-1925.

⁴ 1913 Iron and Steel Institute: Obituaries.

⁵ *Engineering and Mining Journal*, 1913, Vol 95, p. 431.

⁶ *Ibid*; 1913 Iron and Steel Institute: Obituaries.

⁷ *Engineering and Mining Journal*, 1913, Vol 95, p. 431.

⁸ *Familysearch.org*

⁹ *Mining and Scientific Press*, 1909, Vol 98, p. 792; Colorado and the Paris Universal Exposition, 1867, in *The Colorado Magazine*, 46:1, pp. 3-5.

¹⁰ *Engineering and Mining Journal*, 1913, Vol 95, p. 431.

¹¹ United States Census, 1870.

¹² *Journal of the American Geographical Society of New York*, 1874, Vol 6, p. 25.

¹³ *Engineering and Mining Journal*, 1913, Vol 95, p. 431; 1913 Iron and Steel Institute: Obituaries; *Salt Lake Herald*, 14 February 1913.

In 1879, George sailed from London to New York with his wife and three children on the ship *Alsatia*.¹⁴ He succeeded in selling the Thomas-Gilchrist patents, thus introducing the most important improvement in the American iron industry. He continued to practice as a consulting engineer and maintained his offices at 24 Cliff Street in New York City although his work forced him to travel all over the western hemisphere.¹⁵ When the boom started in Tombstone, Arizona, in 1879, he was sent to examine the outcrop that would become the United Verde mine at Jerome.¹⁶ On the 1880 census, he was a mining engineer, living in a hotel with his wife and three children in Brooklyn, Kings, New York.¹⁷

That year, George stayed in Silver Reef, Washington, Utah Territory, for three weeks to complete a thorough examination of the Barbee & Walker mine and mill. He noticed several faults and wave-like formations, and his favorable report went to NY investors and resulted in a later change of ownership.¹⁸ He wrote a letter to the editor of the *Engineering and Mining Journal*, with updates on the mines in Silver Reef. He noted that the completion of the Utah Southern Railroad made the journey from Salt Lake easier: only 48 hours long, with 24 hours on the “wretched mud-wagons” [a stage] of Gilmer and Salisbury – with sacks of grain and mail placed under your feet.¹⁹

George agreed with Charles M. Rolker’s summary of the geology of the district but questioned how the silver got into the sandstone. He compared the Silver Reef situation with that of the Russia Copper company in Eastern Russia, where sandstone was impregnated with copper. There were also concretions formed around carbonized plant stems and silicified wood. He continued to describe similar instances at Silver Reef: silicified wood and twigs encased in copper [he notes that farther south on the White Reef, copper entirely takes the place of silver],²⁰ as well as silicified tree trunks.²¹ He suggested that the Silver Reef sandstones might be Permian, because of their striking resemblance to the Russian deposits.²²

In 1883, George published an article on the Bower-Barff rustless iron process in the American Society of Mechanical Engineers journal. This process uses a coating of magnetic iron oxide to minimize atmospheric corrosion. In 1886, he applied for a passport to travel to South America. At age 47, he was described as five feet 8.5 inches tall, with hazel eyes and black with grey hair.²³ He returned to his office in New York in 1887. The *New York Times* described him as a “well preserved, active man, about 45 years of age, exceedingly reserved and self-contained, and would be called in mining parlance a ‘cold-nosed bear.’ His words, while few, are to the point.”²⁴

In 1891, a presentation of rifles fitted with the Maynard system of priming were placed in the Smithsonian Institute.²⁵ By 1893, George was living in Morristown, New York. He published in multiple technical journals and was a member of the New York Academy of Sciences, the American

¹⁴ New York Passenger Lists, 1820-1891.

¹⁵ 1913 Iron and Steel Institute: Obituaries.

¹⁶ Mineralogy of Arizona, by Anthony, Williams, Bideaux, and Grant, 2016, p. 34.

¹⁷ United States Census, 1880.

¹⁸ Statistics and Technology of the Precious Metals, Vol 880, p. 480; Silver, Sinners and Saints, by Proctor and Shirts, 1991, p. 164.

¹⁹ *Engineering & Mining Journal*, 12 June 1880, p. 405.

²⁰ Ibid.

²¹ Transactions of the American Institute of Mining, Metallurgical, and Petroleum Engineers, Inc., 1956, p. 118.

²² *Engineering and Mining Journal*, 1884, Vol 38, p. 294.

²³ US Passport Applications, 1795-1925.

²⁴ *New York Times*, 19 February 1887.

²⁵ Annual Report of the Board of Regents of the Smithsonian Institution, 1891, p. 9.

Institute of Mining Engineers, and the Iron and Steel Institute of Great Britain.²⁶ On the 1900 census, he was a mining engineer, living with his wife and two children in Morristown, Morris, New Jersey.²⁷ By 1905, he was living with his wife and daughter in Manhattan, New York,²⁸ and by 1910, he was living with wife and daughter in Elizabeth Ward, Union, New Jersey.²⁹

George had been in poor health for several years, became suddenly sick fall of 1912 while engaged in professional work in the southwest, and was taken to a hospital in Denver, Colorado. After a partial recovery, he was brought to New York for an operation, and stayed with his daughter in Boston, Massachusetts, until his death there on 12 February 1913.³⁰ He was considered a leader among American mining engineers.³¹



GEORGE WILLIAM MAYNARD

(Image from the Engineering and Mining Journal, 1913, Vol 95, p. 431)

A handwritten signature in cursive script that reads "Geo. W. Maynard". The signature is written in dark ink on a light-colored background.

(Image from *Familysearch.org*)

Research by Elaine Young, Silver Reef Foundation historian, 2016
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²⁶ Authors and Writers Associated with Morristown, by Julia Keese Colles, 1893.

²⁷ United States Census, 1900.

²⁸ New York State Census, 1905.

²⁹ United States Census, 1910.

³⁰ Engineering and Mining Journal, 1913, Vol 95, p. 431.

³¹ Colorado and the Paris Universal Exposition, 1867, in *The Colorado Magazine*, 46:1, pp. 3-5