

Edmund Wragge

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Edmund Wragge CE (1837 - 26 November 1929) was a [British](#)-born and trained [engineer](#) who constructed the first common-carrier [narrow gauge railways](#) in [North America](#). He was invited back to Britain in 1897 to engineer the difficult approaches of the [Great Central Railway](#) to a new terminus at [London \(Marylebone\)](#).

Origins[\[edit\]](#)

Edmund Wragge was the second son of seven children born to Charles John and Frances Anne Wragge of Red Hill House, [Old Swinford](#), near [Stourbridge](#), [Worcestershire](#).^[1] Wragge's parents were cousins, married at [Oakamoor](#), [Cheadle](#), [Staffordshire](#). Their families were prosperous [lawyers](#) and [bankers](#) in the [English Midlands](#), although with [engineering](#) and [manufacturing](#) connections. Ingleby & Wragge, Solicitors of [New Street, Birmingham](#), handled some of the legal business of [Boulton and Watt](#). The Worcestershire Wragges were lawyers and bankers. Charles John Wragge was an attorney^[2] who in 1835 became a partner in Rufford's Bank, Stourbridge with [Francis Rufford](#), a railway financier, [Member of Parliament](#), and [speculator](#). In 1851 the bank suffered a [liquidity](#) crisis as a result of Rufford's speculations, and failed. All the assets were sold in 1852, including Red Hill House.^[3] Edmund Wragge was 15 years of age at the time and the impact of these events must have been considerable.

Wragge was educated at [Rossall School](#) on the [Lancashire](#) coast. When he was seventeen, in about 1853, he commenced his engineering career as a pupil with Messrs. Fox, Henderson and Company, London Works, [Smethwick](#). John Henderson, the Scottish-born [ironmaster](#), is said to have been a friend of Wragge's father. After the partnership between Fox and Henderson was wound up in the mid-1850s Wragge completed his pupilage in London with Sir [Charles Fox](#) and Son, until he was about twenty-two years of age in 1858. A position with Fox, the celebrated engineer of the [Crystal Palace](#) housing the [Great Exhibition](#) of 1851, would have required payment of a substantial premium.^{[4][5]}

Career[\[edit\]](#)

South Africa[\[edit\]](#)

In 1859 Wragge went to [South Africa](#) where he remained for three and a half years as a district engineer on the construction of the Cape Town and Wellington Railway. The consultant engineer of the proposed line was Sir Charles Fox, who had submitted an estimated cost of £500,000 in 1851.^[6] The line was built by the Cape Town Railway and Dock Company, which was incorporated in London in 1853, with a concession to build a line from [Cape Town](#) to [Wellington](#).^[7] Wragge was responsible, under a resident engineer, for work on 14 miles of the line. It is likely that it was a part of the line near Stellenbosch, where the railway arrived in 1862,

for he married Lucy Eliza Carlyon, the sixteen and a half year old daughter of a Cornish Anglican clergyman there in November 1861. The railway was completed to Wellington in 1863.

England[[edit](#)]

Wragge then returned to England with his wife, and for a year (1862–63) he was an assistant engineer on the [London, Chatham and Dover Railway](#). Then for the three years between 1863 and 1866, he became resident engineer in charge of the reconstruction of the approaches from [Battersea](#) to [Victoria Station](#), for the London Chatham & Dover, the [London Brighton & South Coast](#), and the [London & South Western Railways](#). Sir Charles Fox & Sons engineered this complex scheme of high level lines at Battersea, and the widening of the [railway bridge](#) over the [Thames](#).^[8]

During this period he prepared a proposal (one of several between 1850 and 1900), for a [light railway](#) in the [Rother Valley](#) of [Sussex](#). Plans and documents developed by Sir Charles Fox and Edmund Wragge were deposited on 30 November 1865.^[9] The line was not built until 1900 when it was constructed by Colonel Fred Stephens as the [Rother Valley Railway](#), the first of the notoriously uneconomic light railway projects that Stephens engineered. Later it became the [Kent and East Sussex Railway](#), parts of which are now a preserved [steam railway](#) line.

In 1866 Wragge went into practice on his own account for three years, during which time he was resident engineer on the works of the [Waterloo & Whitehall Railway](#). This was to have been a short [pneumatic tube](#) railway in a 12 ft 9 in diameter cast iron tube under the River Thames, driven by an [atmospheric engine](#). The line obtained an enabling act in 1865.^[10] Some tube was laid in a trench on the bed of the river, but the project was abandoned in 1868, due to the financial crisis following the failure of the [Overend and Gurney railway investment bank](#). Part of the route is now incorporated in the [Bakerloo line](#) of the [London Underground](#).

Costa Rica[[edit](#)]

His relationship with Sir Charles continued when Fox asked him to go to [Costa Rica](#) in December 1868, to make a survey for a narrow gauge railway across the country from the Atlantic to the Pacific Coast.^[11] On the basis of the survey, Sir Charles Fox and Sons were to submit a bid to construct the line. Wragge took along his brother in law, Leonard Carlyon, as his assistant. After a long and difficult journey by [steamer](#) to [Panama](#), by rail across the [Isthmus](#), another steamer to the Pacific coast of Costa Rica, followed by several days in a [mule train](#) to the capital, San José, he was devastated to find that American contractors had beaten him by two weeks, and scooped up the contract. After fruitless negotiations to try to upset the provisional contract, Wragge and Carlyon set off back to England, but both contracted fever in Panama, from which Carlyon died on board ship and was buried in [Jamaica](#).

Membership of the Institution of Civil Engineers[[edit](#)]

In 1869 Wragge applied for membership of the [Institution of Civil Engineers](#), which was granted in January 1870. He was sponsored by Sir Charles Fox, and his candidate circular provides not only details of his career, but also an insight into Wragge's lengthy list of seconders from the

railway industry, including some distinguished proponents of the narrow gauge such as Sir [Henry Whatley Tyler](#), HM's chief inspector of railways.^[12]

Canada[[edit](#)]

On his return from Costa Rica, Wragge's letters indicate that he worked on a project in the [English Midlands](#) for some months until Sir Charles Fox secured for him the position of chief engineer of the [Toronto, Grey and Bruce Railway](#) (TG&BR), and the [Toronto and Nipissing Railway](#) (T&NR) in July 1869.^[13] This placement must have been settled by [telegram](#), because [Douglas Fox](#) left [Toronto](#) on 27 July 1869, promising to have an engineer sent out, and Edmund Wragge departed for [Norway](#) to see Pihl's narrow gauge railways on 1 August 1869. Wragge arrived in Toronto in September 1869 and between that time and late 1874 he engineered and constructed over 280 route miles of the 3 ft 6 in gauge railways, at a total cost of £900,000. The railways were built economically as a practical means of opening up the interior of the [Province of Ontario](#) to settlement.

When the T&NR commenced operation to [Uxbridge](#) in June 1871, it was the first public passenger carrying narrow gauge railway in North America, and attracted several visits from American engineers who were interested in constructing similar railways.

At the first National Narrow Gauge Convention, in [St. Louis](#), in June 1872, Wragge was asked to speak on his experiences, and was appointed to the central executive committee.^[14] Wragge's railways were technically innovative in their [motive power](#), using large 'Fairlie' articulated types for freight haulage; and purchasing numbers of powerful and successful British 4-6-0 types, 24 years before such [locomotives](#) were first accepted in Britain (on the [Highland Railway](#) in 1894). Wragge described the railways in two technical papers, written for the Institution of Civil Engineers.^{[15][16]}

In 1875, he gave up his position with the T&NR in order to become the general manager of the TG&BR, and the respect he had earned is reflected publicly in the minutes of the T&NR [Annual General Meeting](#) of that year.^[17] Wragge was appointed Toronto area manager for the [Grand Trunk Railway](#) (GTR) on 8 October 1883, by the general manager, [Joseph Hickson](#). Wragge was well known to Sir Henry Tyler, by now president of the GTR. By the 1880s the [2nd Union Station](#) at Toronto, completed in 1873, was becoming inadequate, and more tracks and a larger station building were needed. Wragge was the chief engineer and head of construction for this expansion, which was completed in 1895.

Wragge returned occasionally to Britain during this period and a letter in his 1883 correspondence indicates that he was working there with Sir Charles Fox and Sons on negotiations for the building of the [Quebec North Shore Railway](#). Sir [William Cornelius Van Horne](#), the president of the [Canadian Pacific Railway](#) (CPR) asked Wragge in 1888 to act as an arbitrator in compensation negotiations between the CPR and the Canadian government.^[18]

Return to England[[edit](#)]

His work on the rebuilding of Union Station and continued association with Douglas Fox led to his return to Britain, at the age of 60, in 1896, to participate in the building of the last main line into [Central London](#), that of the [Great Central Railway](#). Construction of this heavily engineered connection commenced in late 1894, of which the most difficult part was to drive a mainline railway through the London suburbs to a terminus at [Marylebone](#). This was the section for which Sir Charles Fox and Sons were the consultants. Edmund Wragge was the resident engineer from 1897 to 1899 and lived in the [St Marylebone](#) district, close to the construction works.^[19] The completion of the line in March 1899, was marked by the presentation of several technical papers to the Institution of Civil Engineers. G. A. Hobson and Edmund Wragge gave a lengthy and detailed paper in November 1900, describing the engineering and construction of the approaches to Marylebone Station.^[20] The Institution Of Civil Engineers awarded Wragge and Hobson the [Telford Medal](#) and premiums for this work.^[21] Hobson is credited with the design of the great railway bridge of 1905 over the [Zambezi River](#) at [Victoria Falls](#).

Death[[edit](#)]

Edmund Wragge returned to [Canada](#) in 1904, and was in private practice until he retired in 1914. He died in [Toronto](#), on 26 November 1929, aged 93.