

History of Indian Railways

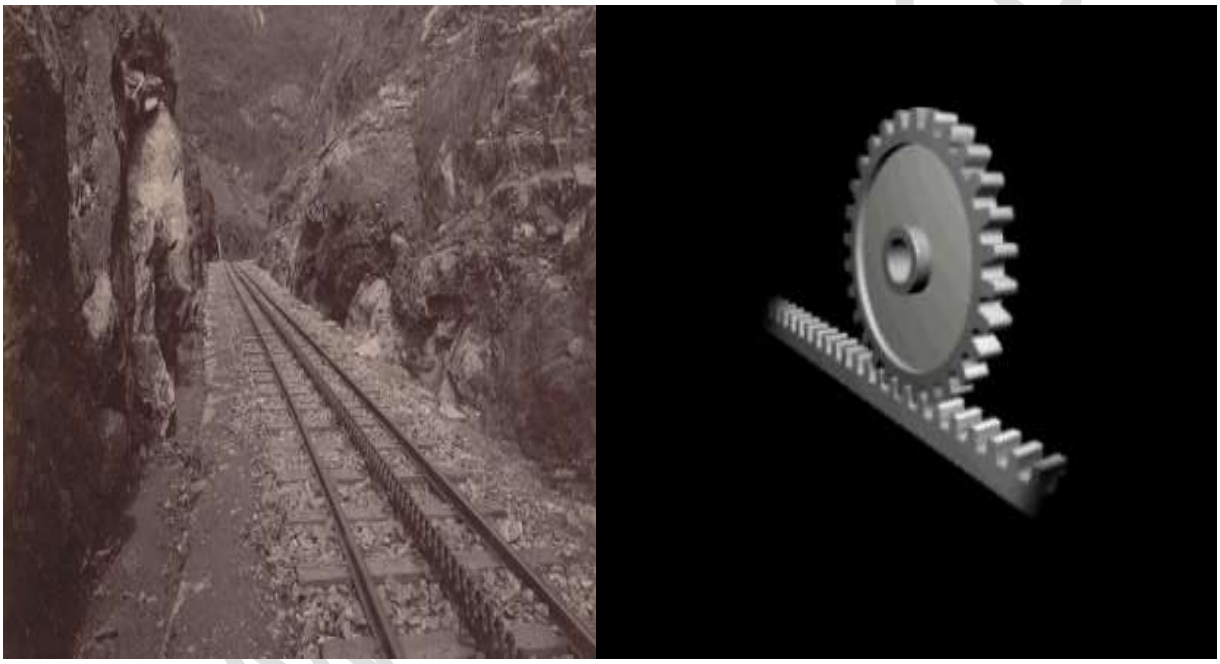
Nilgiri Mountain Railway

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- The Nilgiri Mountain Railway (NMR) is a 1,000 mm (3 ft 3+3⁄8 in) metre gauge railway in Nilgiris district, Tamil Nadu, India, built by the British in 1908. The railway is operated by the Southern Railway and is the only rack railway in India. Also known as Blue Mountain Railways,
- The railway relies on its fleet of steam locomotives. NMR switched to diesel locomotives on the section between Coonoor and Udhagamandalam/Ooty.
- In July 2005, UNESCO added the Nilgiri Mountain Railway as an extension to the World Heritage Site of Darjeeling Himalayan Railway. The site then became known as Mountain Railways of India.
- In 1854, plans were made to build a mountain railway from Mettupalayam to the Nilgiri Hills. However, it took the decision-makers 45 years to cut through the bureaucratic red tape and complete the construction. The line was completed and opened for traffic in June 1899. It was operated first by the Madras Railway under an agreement with the government.
- In 1907, the railway received four Double Fairlie locomotives to work the line. These were part of a batch built by the Avonside Engine Company in 1879 and 1880 for service in Afghanistan, but had been in store since 1887. The Fairlies continued in use until at least 1914.
- Major Morant of the Royal Engineers, who was the district engineer in the Nilgiris, when the proposal for the railway was mooted, was the moving spirit behind the venture.
- Major Morant R.E., the then district engineer of Nilgiris propounded the idea of Rigi pattern rack railway for the Nilgiris in a series of articles published in 'Professional Papers' from Roorkee, in 1870's.
- Major Morant even involved M. Riggenbach, the inventor of the Rigi system, who visited Nilgiris in 1882. However, the first portion of Nilgiri Mountain Railway from Mettupalayam to Coonoor was opened in June 1899 and extended upto Ootacamund in 1908 due to failure of first two companies.
- Initially, Coonoor was the final station on the line. In September 1908, the line was extended to Fernhill. By 15 October 1908, it was extended to Udagmandalam.

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- This Railway was managed by Madras Railway Company till it was purchased by South Indian Railway Company on 1st January 1908.
- The Nilgiri Mountain Railway affords this opportunity, it being the only one in the country (along with the Darjeeling Himalayan Railway) where steam engines still rule.
- Between Mettupalayam and Coonoor, the line uses the Abt rack and pinion system to climb the steep gradient. The Nilgiri is the only rack railway in India, and it uses an Abt rack system.
- For steeper gradients, one of the methods used to prevent slipping is to have an additional rail with teeth (a rack) against which a toothed wheel (pinion) on the engine meshes.



- Only specially fitted steam engines built by Swiss Engine and Machine Works, Winterthur, are able to operate on the rack railway.
- Even though most of the aging Swiss-built coal-fired steam engines in use on the line have been converted to oil-firing since early 2000, and four brand new oil-fired steam engines have been built from scratch at the Golden Rock workshop of the Railways at Tiruchirapalli..
- NMR uses 'X' Class steam rack locomotives, most manufactured by the Swiss Locomotive and Machine Works of Winterthur in Switzerland, on the rack and pinion section of its tracks.

- The X-class locomotives were bought in two batches from the Swiss Locomotive & Machine Works, Winterthur, Switzerland. The first batch of 12 was delivered between 1914 and 1925, and the second batch of five was delivered in 1952. Four more members of the class were built in India between 2011 and 2014. Two more were again built in India between 2021 and 2022



- The uphill journey takes around 290 minutes (4.8 hours), and the downhill journey takes 215 minutes (3.6 hours). It has the steepest track in Asia with a maximum gradient of 8.33%. During the Meter Gauge era in the 1990s, The Nilgiri Express used to run between Chennai(then Madras) & Udhagamandalam(then Ooty) directly.