

## George Stephenson

### **Early Life.**

On the 9<sup>th</sup> June 1781 in a small stone labourer's cottage in Wylam, a few miles west of Newcastle upon Tyne, George Stephenson was born. The cottage was called High Street House, its location being on the old road between Wylam and Newburn. Although it had four rooms the Stephenson family occupied a single ground floor room. The colliery waggonway ran past the front of the house so it must have been a noisy location. George was the second son and he was followed by a further two brothers and a sister, all born within a few years of each other.

Their father Robert was a Scotsman and he was employed as engine fireman at the nearby Wylam Colliery. He earned 12 shillings (60p) a week so the family were not exactly well-off. His mother Mabel was born into a family who came from the nearby village of Ovingham where her father George Carr was a dyer.

In his younger years George would be familiar with the comings and goings along the nearby waggonway and it is likely that he came to recognise the men and horses which pulled the coal chaldrons (wagons). He would also have visited the colliery on a number of occasions even if it was only to take his father's lunch bait (sandwiches). On the way to the colliery he would have passed another small cottage, the home of the Hackworth family, near to the colliery workshops. It was here that John Hackworth the foreman colliery blacksmith worked. It was in this small cottage that his son Timothy was born in December 1786 and it is remarkable how the lives of both George and Timothy would in later years become intertwined in the construction of locomotives. It is unlikely that Timothy and George would have known each other as children since at the age of eight George and his family moved away while Timothy was just a toddler of three.

George Stephenson once he moved to the area around Throckley never had any formal education, since it is known that he never went to school. He was in employment at the local collieries of Throckley and Walbottle before he was fourteen years of age and in 1798 at the age of 17 he was put in charge of a new pumping engine which had just been built at Water Row Colliery at Newburn. This position must have given him some stimulus since his enthusiasm and abilities were soon noticed by Robert Hawthorn, the engineer at Walbottle Colliery. Hawthorn was already an able enginewright and his two sons Robert and William later formed a engineering company R. and W. Hawthorn which became a competitor of the company established by Stephenson.

### **His Adult Years**

George was married on the 28<sup>th</sup> November 1802 in Newburn Parish Church to Frances Henderson 12 years his senior and the daughter of a farmer from Black Callerton in rural Northumberland. Just prior to his marriage George was working as brakesman of the Dolly engine at Black Callerton and had met Frances who was working as a servant at George's lodgings. Within a year George had moved to a position as brakesman at the Ballast Hill engine at Willington Quay near to North Shields, an engine which had been built by Robert Hawthorn. In October 1803 George and Frances became parents for the one and only time when their son Robert was born. By 1804 George was working a short distance away, again as brakesman of the winding engine at West Moor pit and by this time

the family were living in a small cottage at Killingworth. Within a year tragedy struck the family with the death of a daughter at birth and this was followed shortly by the death of his wife Frances. George did not remarry until fifteen years later and during his early life his son Robert was brought up by George's younger sister Eleanor who lived with them. It is interesting to note that the Killingworth cottage exists today.

### **Working Years**

During the early years of the nineteenth century locomotive design and construction began to flourish in the vicinity of Wylam centring around Timothy Hackworth who was the foreman blacksmith at the colliery. He was joined in 1809 by Johnathan Foster who came to Wylam Colliery as the enginewright. He was an established craftsman whose earlier life is not known. They were also ably assisted by William Hedley the colliery viewer (manager) and the owner of the colliery Christopher Blackett who had come to the colliery in 1800 and showed an enthusiastic interest in locomotives.

In 1811 George Stephenson was appointed to the post of enginewright at Killingworth High Pit and it was here that Nicholas Wood had come to work as an apprentice engineer. The two men became good friends, their friendship lasting throughout their adult lives.

The impetus for suitable locomotives increased around this time because of two principal reasons, namely, a) the cost of animal feed for the horses pulling the coal wagons had appreciably increased due to the demand for feed brought about by the Napoleonic wars in Europe and b) the demand for coal increased remarkably in the early years of the century principally to drive steam engines which were now widely being used in industry and agriculture.

A major step in locomotive design and activity now took place in the west Yorkshire coalfield in 1811, led by the viewer of Middleton Colliery, John Blenkinsop. This was the development of a locomotive which relied upon an engine which engaged a rack on the side of a rail and gave a satisfactory level of horizontal traction.

This was followed up by further experiments back at Wylam Colliery under the guidance of William Hedley. A locomotive running on plate rails was able to pull a load of 50 tons of coal at a speed of five miles per hour. Initially both Hedley and Hackworth worked together at the colliery but after a falling out over Sunday working, Hackworth who had become more religious decided to leave and took a job at the nearby Walbottle Colliery.

Stephenson and Wood, the two Wylam born engineers at Killingworth, took an increasing interest in the developments taking place at Wylam during the period 1813-1815. The owners of Killingworth Colliery were all too keen for Stephenson to develop his own locomotive and by July 1814 Stephenson's first locomotive was built in the West Moor Colliery workshops. Nicholas Wood at this time assisted his friend and carried out experiments for Stephenson on his locomotive "Blucher". There was an element of success for this locomotive and it continued in service on the Killingworth waggonway for a number of years.

The period from 1814 to 1822 was for Stephenson regarded as his period of invention and it is believed that he built up to 16 locomotives during this time as well as a number of stationary

engines. Not only did he look at locomotives but also railway systems including types of rails and safety features. This period also gave him the credibility among coal owners that he was the person with the necessary expertise to build a commercial railway system of some engineering importance. Thus in 1820 he was appointed to construct the Hetton Railway which ran from Hetton colliery a distance of eight miles to the River Wear at Sunderland. This important development was completed within two years and five locomotives pulled the coal wagons along flat stretches of railway where the waggons were lifted uphill by the use of a series of stationary engines and incline planes down to the staithes at Sunderland. George made his son Robert principal engineer for the line during its construction and he lived for a number of months in a cottage close to Hetton Pit.

It was at this point that his engineering career took off. In previous years he had concentrated his efforts on railway construction and the development of a miner's safety lamp which was adopted by many collieries in the Durham and Northumberland coalfield. The knowledge and expertise he had gained allowed him to open a locomotive works of his own at Newcastle in 1823 where new locomotive design and construction methods flourished. Within a few years and most certainly around 1825 he was acting as a consultant for railway construction as more and more railways opened. In 1822 he was engaged by the Quaker families of Darlington to survey and construct a railway which ran from the collieries in west Durham to Darlington then on to the River Tees at Stockton. This resulted in the opening of the Stockton and Darlington railway in 1825, the first public and commercial railway in the country. By 1825 his son Robert was a full partner in his father's locomotive construction business and he regularly assisted his father when a number of consultations about railway systems.

In 1824 he started negotiations with the Liverpool and Manchester Railway Company and he was soon engaged as engineer for the 36 mile railway line which he completed in 1829 and this was followed up by a series of locomotive trials culminating in the Rainhill Trials where his locomotive "The Rocket" was given approval to work on that line. These trials were significant in that they settled the argument that locomotives were better fitted than stationary engines as the way forward, while at the same time ensured that Stephenson became internationally famous.

He was soon building railways in both Britain and abroad as railways as a mode of transport began to catch on. He built the Bolton and Leigh Railway in 1830, the Sheffield and Rotherham Railway, the Grand Junction Railway, The North Midland Line, the Derby to Leeds railway and many others. Towards the end of his life he had started on the Newcastle and Darlington Railway's attempt to link the Thames to the Tyne which was started with a lavish banquet for 500 guests at the Assembly Rooms in Newcastle in 1844.

Through his vision and drive he had become a rich man owning or having interests in coal mines, engineering works, bridge building and other industrial ventures. After 1844 he went into virtual full retirement and went to live at Tapton House Chesterfield where he died in August 1848. He left most of his estate of £140,000 to his only son and heir Robert. His far-sighted approach to railway construction is responsible for the legacy of country-wide railways that we have today and one can safely say that he made a significant contribution to world development.

