

Famous Portraits Series

George Stephenson, Isambard Kingdom Brunel,
British civil and mechanical engineers

Alfred Krupp, German entrepreneur and inventor



Portrait of George Stephenson
as a young man in 1800
(aged 19)



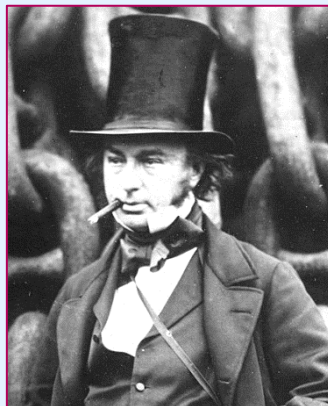
Portrait of Isambard Brunel as a
young man



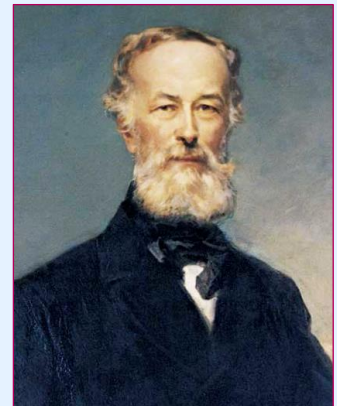
Alfred Krupp in about 1860
(aged 48)



Photograph of Stephenson in around
1845 (aged 64)



Brunel at the launch of the Great
Eastern Railway in 1858 (aged 51)



Alfred Krupp, portraited in the same
year of his death in 1887 (aged 75)

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Questions

1. Compare and contrast the education and training received by each of these three entrepreneurs.
2. Explain why Stephenson is described as a self-made engineer.
3. Identify TWO major projects or achievements completed by each entrepreneur.
4. Research pictures of ONE important invention attributed to each of these three entrepreneurs.
5. Explain the difference in the way Stephenson, Brunel and Krupp treated their employees.
6. Identify ONE adjective that best describes their character and personality and give reasons for your answer.
7. In what way were the Krupp factories advanced in their production and management?
8. How did Krupp's industry contribute towards Germany's military prowess after 1871?
9. What kind of relationship did the Krupp family have with the Nazis?

George Stephenson (9 June 1781–12 August 1848) was a self-made mechanical engineer who came from an illiterate working-class family from Northumberland. He devoted his evenings to learn how to read and write. At the age of 17, he started working in a coal mine. In 1811 he repaired a pumping engine with such success that he was placed in charge of repairing engines at the colliery. Through trial and error he became an expert in steam-driven machines. By 1818, through his eagerness to experiment, he developed a miners' safety lamp thus reducing explosions in coal mines.

Stephenson also experimented with steam powered locomotives and built his first engine in 1814. By 1820 he built the first railway that worked solely on steam and developed a locomotive which reached 39kmh, carried 8,000kg of coal and flour and had a carriage for passengers. He oversaw the building of the railway linking Manchester and Liverpool for the transport of cloth. By the time it was completed in 1830 he had invented a 48kmh locomotive called *The Rocket*.

Stephenson came to be considered as the *Father of Railways*. His inventions impacted on the Industrial Revolution. Since his reputation grew rapidly, he started receiving several requests for railway building. Eventually, he was eclipsed by other engineers such as Isambard Kingdom Brunel. Described as a generous man, he financially supported the wives and families of several employees who died during accidents.

Isambard Kingdom Brunel (9 April 1806–15 September 1859) was a civil and mechanical engineer born in Portsmouth in 1806 to a notable engineer. He was sent to France to be educated at the *Lycee Henri IV* in Paris and at the University of Caen, France. Brunel is probably one of the most ingenious and prolific figures in the history of engineering. He assisted his father in the building of the first under-water tunnel, built the first steamship to cross the Atlantic, built dockyards, the Great Western Railway linking London to Bristol, several iron bridges and prefabricated hospitals used in the Crimean War in 1854.

Brunel was a hard taskmaster, expecting of others his same non-stop work ethic. But it was his drive, vision and stubborn determination which got most projects completed. With supreme confidence in his own abilities, he left a profound legacy of design and engineering, which are still much in use today. Brunel, a heavy smoker, suffered a stroke and died at the age of 53.

Alfred Krupp (28 April 1812–14 July 1887) was a German industrialist and the head of the Krupp family, which owned the Krupp steelworks in Essen, Germany. Under Alfred's management, Krupp became one of the largest and most successful industrial enterprises in Europe, producing everything from locomotives and cannons to household appliances and ships.

Alfred was born into a family of steelmakers and inherited the family business in 1826, at the age of 14, upon the death of his father Friedrich Krupp. He expanded the business by investing heavily in new machines and technology, such as the Bessemer process for making steel, and by diversifying the company's products.

He was also known for his paternalistic approach in managing his workers, which included providing them with housing, education, and healthcare. However, he was also criticized for his harsh treatment of workers who tried to set up or join trade unions for better working conditions.

When he died, he left behind him a vast industrial empire that kept on expanding under the leadership of his descendants. The Krupp company played a significant role in the German war effort during the First and the Second World Wars. The family's association with the Nazi regime during the latter conflict led to the company's temporary dissolution after the war. Today, the company operates under the name *ThyssenKrupp* and is still one of the largest steel producers in the world.

Further Reading:

- https://en.wikipedia.org/wiki/George_Stephenson
- <https://www.biographyonline.net/scientists/george-stephenson.html>
- https://en.wikipedia.org/wiki/Isambard_Kingdom_Brunel
- <https://www.biographyonline.net/business/brunel.html>
- https://en.wikipedia.org/wiki/Alfred_Krupp
- <https://kids.britannica.com/students/article/Alfred-Krupp/328604>

Image credits:

1. <https://artuk.org/discover/artworks/george-stephenson-17811848-as-a-young-man-9780>
2. Robert Stephenson (1803–1859) - Network Rail
3. 19thC English School. Seated portrait of Isambard Kingdom Brunel (goldingyoung.com)
4. <https://www.historyhit.com/isambard-kingdom-brunel-a-trailblazer-for-british-engineering/>
5. Bidersuche: Fotografien aus dem Fotoarchiv des Ruhrmuseums
6. https://en.wikipedia.org/wiki/File:Alfred_Krupp_Gem%C3%A4lde.PNG