

# Rudolf Diesel – Man of Motion and Mystery

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**You have to admit, having an engine named after you is a singularly impressive achievement.** After all, the combustion engine isn't named for anyone. No one refers to the steam engine as "the Watt" engine.

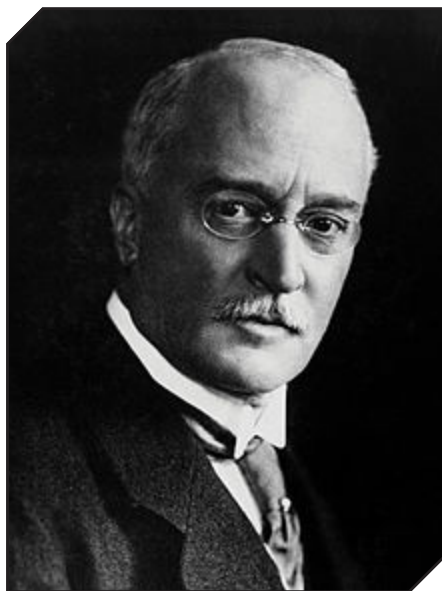
But then along came Rudolf Diesel (1858–1913), and with him — the Diesel engine, the engine that literally took the steam out of a wide range of engine applications. Born in Paris to Bavarian immigrants in somewhat humble circumstances — his father Theodor was a bookbinder and leather goods manufacturer — Rudolf was shortly after birth sent to live for nine months with a family of farmers in Vincennes, for reasons that remain

sketchy. Upon return to his parents, Rudolf was excelling in school while working for his father delivering leather goods from his workshop. With the Franco-Prussian War raging, his family — as did many other Germans — left Paris for London. Before the war's end, his mother sent him to Augsburg to live with an aunt and uncle to learn German and attend the Royal County Vocational College. At age 14, Diesel declared his intention to become an engineer. He then eventually attended on scholarship the Royal Bavarian Polytechnic of Munich, against his parents' wishes, who thought he should instead be looking for work.

A nurturing professor there was Carl von Linde, but Diesel's graduation was delayed by a bout with typhoid. But he soon began earning engineering experience at a machine works in Switzerland. He then graduated at the top of his class and moved back to Paris, where he was recruited by Linde for the design and construction of a then state-of-the-art refrigeration plant, of which he was named director a year later.

In 1890, a marriage and three children later, Diesel moved to Berlin and was managing Linde's corporate R&D department, where he also made the acquaintance of numerous influential business owners. While he developed a number of patents, he was not allowed to implement them while working for Linde, and so he decided to move on beyond the refrigeration industry. He pursued engine technology, researching thermal and fuel efficiency, working for instance with ammonia/vapor steam, which almost killed him during an explosion. Other close calls followed, including yet another explosion while researching high-compression cylinder pressures for iron and steel cylinder heads.

After a lengthy hospital stay, Diesel set out to design an internal combustion engine based on what is known as the Carnot cycle, a more thermally efficient technology. Several years later (1892), he received a German patent for his theory.



In 1893, he published his treatise, "Theory and Construction of a Rational Heat Engine to Replace the Steam Engine and the Combustion Engines Known Today." It was the foundation of his research that led to the Diesel engine. But later that year, it was back to the drawing board; Diesel came to realize that he wasn't there yet, and later that year filed another patent, correcting his mistake.

Central to Diesel's game-changing engine creation was his understanding of thermodynamics and fuel efficiency, and that "as much as 90%" of fuel energy "is wasted in a steam engine." Indeed, a signature accomplishment of Diesel's engine is its elevated efficiency ratios. After several years of further development with Heinrich von Buz of Augsburg's MAN SE, by 1897 the Diesel

engine was a reality.

Diesel's engine went on to replace the steam piston engine for many high-load applications. While because of its more robust weight and construction than the gasoline engine, the Diesel was never much of a candidate for aviation application, on the other hand, the engine soon became a mainstay for "stationary engines, agricultural and off-road machinery, submarines, shipping, locomotives and trucks." The engine was first run on peanut oil, and continues today to run on vegetable oil and biodiesel fuel refined from crude oil. It is a safer fuel source than gasoline, as its flash point is around 175 degrees F higher.

And now for the mystery.

In 1913, Diesel boarded the SS Dresden in Antwerp, headed for a Diesel corporate meeting. By all accounts, he had dinner onboard and retired to his cabin around 10 p.m., asking to be awakened by 6:15 a.m.

The following morning, Diesel's cabin was empty. His bed had not been slept in. His nightshirt was there, neatly folded. His watch was on a bedside table. He was never seen alive again. It was reported that his body was recovered a month later by a boatman, who then tossed it overboard "because of heavy weather."

Theories and rumors ensued. Some say it was suicide. Others believed he was murdered due to his refusal to grant the German armed forces exclusive rights to using his technology (remember this was on the eve of WWI). In fact, Diesel was scheduled to meet with British Royal Navy personnel "to discuss powering British submarines" with his engine.

None of this was ever proven and Diesel's death remains "unsolved." (Source: Wikipedia.) 