

On This Day – 5 January 1769

James Watt patents the 'separate condenser', Patent no.913



*Portrait of Watt by von Breda, 1792.
Wikicommons.*

Watt was born in Greenock in 1736, where he was home-schooled and showed signs of a great engineering aptitude from an early age. After some time spent as a manufacturer and repairer of measuring and mathematical instruments in Glasgow, Watt began his most famous project, the steam engine. He moved into a cottage on Kinneil Estate (still partially standing behind Kinneil House), which was then owned by Carron Iron Works co-founder John Roebuck, and it here that Watt would develop his soon-to-be-revolutionary invention. The design would become more widely manufactured and marketable after Matthew Boulton, another English factory owner, inherited Roebuck's share of Watt's patent as a form of payment for one of the several debts that would drive the former out of business.

Watt's separate condenser steam engine more than doubled the efficiency of the previous type of steam engine, the Newcomen, in which heating and cooling both took place inside the piston cylinder. It saved time, effort and money, and the effect was enormous – it was credited with driving the Industrial Revolution, a period of manufacturing advances which altered the layout of society. Aldous Huxley, author of *Brave New World*, even went so far as to write:

To us, the moment 8:17 A.M. means something – something very important, if it happens to be the starting time of our daily train. To our ancestors, such an odd eccentric instant was without significance – did not even exist. In inventing the locomotive, Watt and Stephenson were part inventors of time.



Watt's cottage at Kinneil. Photo: R Trevis Smith

Factories and mines all around the country, and the world, utilised the new design, including at Kennetpans Distillery, which housed Scotland's first Boulton and Watt Steam Engine, hugely boosting spirit production on the site and at nearby Kilbagie. Later the Charlotte Dundas, the first steamboat to harness the Watt engine, was built in Grangemouth and trialed on the Forth and Carron Rivers, as well as the Forth and Clyde Canal.

More information:

[Visit Watt's cottage at the Kinneil Estate](#)

[Read the original patent filed for the steam engine](#)

[See a diagram of the first engine in action](#)

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[Kinneil Estate Woodland Wanders](#)

[A Wee Dram at Kennetpans](#)



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