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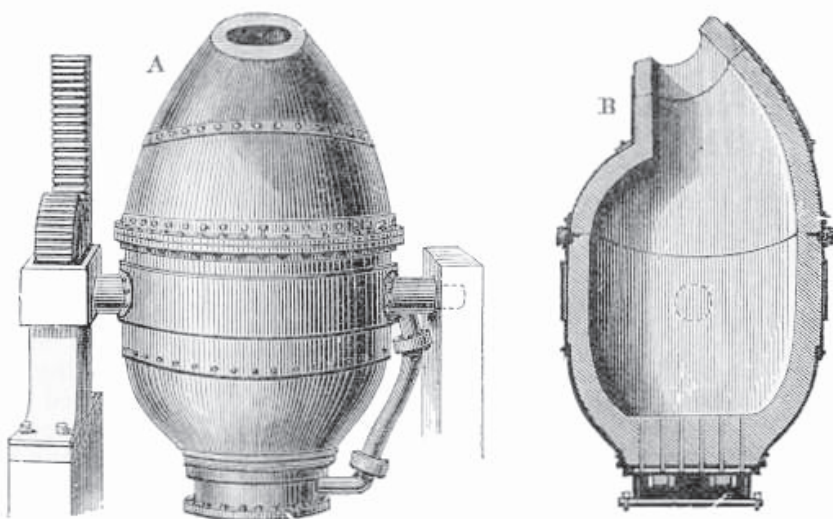
# Sidney Gilchrist Thomas

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Born April 16, 1850, London, United Kingdom  
Died February 1, 1885



**Sidney Gilchrist Thomas** was a British metallurgist and inventor. He studied applied chemistry and metallurgy at the Royal School of Mines and from about 1870, set about discovering a method of de-phosphorising the pig-iron used in the manufacture of steel. In 1875 he discovered a method for eliminating phosphorus in the Bessemer converter.



Thomas and his cousin, Percy Gilchrist, a chemist at an iron-works in Blaenavon, Wales, conducted further experiments, and in 1878 announced at a meeting of the Iron and Steel Institute of Great Britain “that he had successfully de-phosphorised iron in the Bessemer converter”. The method is now called the “Gilchrist-Thomas process” or the “basic process”.

Thomas became acquainted with Edward Windsor Richards, the manager of Bolckow, Vaughan and Co's works in Middlesbrough, whom he interested in the process and from this time the success of the invention was assured. The solution was immediately made use of both in Great Britain and abroad, leading to a large increase in steel production.



The 'basic process' invented by Thomas was especially valuable in Europe, where the proportion of phosphoric iron was much larger than in the UK. In Belgium and in Germany he became more widely known for his invention than in his own United Kingdom. In America, although non-phosphoric iron largely predominated, immense interest was taken in the invention.

The improved process resulted in much more slag forming in the converter. Thomas discovered this 'basic slag' could be useful as a phosphate fertiliser. Thomas became very rich as the result of his invention and the commercial use of the 'basic slag'. In poor health he spent the last few years of his life in the pursuit of health, but died in Paris, 1 February 1885.

In 1883 the Council of the Iron and Steel Institute recognised the value of the basic process by presenting Thomas with the Bessemer Gold Medal. In his absence, the medal was received on his behalf by Sir Henry Bessemer, at the Middlesbrough meeting of the Institute. The Institute of Materials, Minerals and Mining awards the Thomas Medal and Prize annually, in recognition of scientific or technological contribution to the production or secondary processing of any ferrous alloy.