

THOMAS, SIDNEY GILCHRIST (1850 - 1885), metallurgist and inventor

Name: Sidney Gilchrist Thomas

Date of birth: 1850

Date of death: 1885

Parent: Melicent Thomas (née Gilchrist)

Parent: William Thomas

Gender: Male

Occupation: metallurgist and inventor

Area of activity: Business and Industry; Engineering, Construction, Naval Architecture and Surveying; Science and Mathematics

Author: William Llewelyn Davies

Born 16 April 1850 at Canonbury, London, son of William Thomas (1808 - 1867), a Welshman in the solicitors' department of the Inland Revenue office, London, and his wife Melicent (Gilchrist); for the connection of William Thomas with the parish of Llanafan, Cardiganshire (and other parts of Wales), see the biography by the inventor's sister, Lilian Gilchrist Thompson, and the *Cambrian News* article cited in the bibliography below. Educated at Dulwich College which, however, he had to leave at the age of 17 because of the death of his father, he began to earn his livelihood as teacher in an Essex school and afterwards (from 1867) as clerk at Marlborough Street (London) Police Court; a little later he was transferred to the Thames Police Court. This clerkship he continued to hold for many years, devoting his evenings and most of his other leisure to attending science classes and to experimentation in an endeavour, from about 1870, to discover a method of de-phosphorising the pig-iron which was used in the manufacture of steel in the Bessemer 'converter.' In both the Bessemer and Siemens-Martin processes, owing to the lack of a method of de-phosphorising the pig-iron which was used, the resultant steel was brittle; Sir Henry Bessemer and other experimentalists spent years in an attempt to overcome the difficulty. Towards the end of 1875 Thomas succeeded in reaching a provisional solution (details in *D.N.B.*). He communicated the details to his cousin Percy Gilchrist, then chemist to a large iron-works at Blaenavon, Monmouth, and both men conducted further experiments. In 1878 Thomas announced at a meeting of the Iron and Steel Institute of Great Britain 'that he had successfully dephosphorised iron in the Bessemer converter.' He took out his first patent in May of that year, and others subsequently. The solution was immediately made use of both in Great Britain and abroad with the result that there was a large increase in steel production. There was, however, a large increase in the production of the 'slag' that was formed in the 'converter' during the process of steel making and Thomas discovered, after experimentation, that this 'slag' which, because his process came to be known as 'basic,' came itself to be known as 'basic slag,' was a most useful soil fertiliser. The inventor who, in 1879, had resigned his clerkship and had, as the result of his invention and the commercial use of the 'basic slag,' become very rich, found, however, that his health had been undermined and the remaining few years of his short life were spent largely in the pursuit of health. He died at Paris, 1 February 1885, and was buried at Passy. He was unmarried. The large fortune which he had accumulated was left by him on trust to his sister to be devoted, as to the greater part of it, for philanthropic purposes.

Author

Sir William Llewelyn Davies, (1887 - 1952)

Sources

Oxford Dictionary of National Biography

R. W. Burnie, *Memoir and Letters of Sidney Gilchrist Thomas, inventor* (London 1891), 1891

Lilian Gilchrist Thompson (née Thomas), *Sidney Gilchrist Thomas An Invention and its Consequences* (London 1940)

The Times, 15 April 1950

R. Osborne Jones, 'Noted Inventor ... Cardiganshire man's remarkable career,' in *The Cambrian News and Merionethshire Standard*, 12 May 1950

Further Reading

Wikipedia Article: [Sidney Gilchrist Thomas](#)

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