

**P268 Lecture on Alexander Bain
RECORDS' IDENTITY STATEMENT**

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Title: Lecture on Alexander Bain
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RECORDS' CONTEXT

Name of creators: Alexander Steuart

Administrative history: Alexander Bain (October 1811 – 2 January 1877) was a Scottish inventor and engineer who was first to invent and patent the electric clock. Bain installed the railway telegraph lines between Edinburgh and Glasgow.

Bain was born in Watten, Caithness, Scotland. Bain's father was a crofter. Bain had a twin sister, Margaret, and, in total, he had six sisters and six brothers. Bain did not excel in school and was apprenticed to a clockmaker in Wick.

Having learned the art of clockmaking, he went to Edinburgh, and in 1837 to London, where he obtained work as a journeyman in Clerkenwell. Bain frequented the lectures at the Polytechnic Institution and the Adelaide Gallery and later constructed his own workshop in Hanover Street.

In 1840, desperate for money to develop his inventions, Bain mentioned his financial problems to the editor of the *Mechanics Magazine*, who introduced him to Sir Charles Wheatstone. Bain demonstrated his models to Wheatstone, who, when asked for his opinion, said "Oh, I shouldn't bother to develop these things any further! There's no future in them." Three months later Wheatstone demonstrated an electric clock to the

Royal Society, claiming it was his own invention. However, Bain had already applied for a patent for it. Wheatstone tried to block Bain's patents, but failed. When Wheatstone organised an Act of Parliament to set up the Electric Telegraph Company, the House of Lords summoned Bain to give evidence, and eventually compelled the company to pay Bain £10,000 and give him a job as manager, causing Wheatstone to resign.

In December 1841, Bain in conjunction with Lieutenant Thomas Wright RN, patented a method for using electricity to control railway engines by turning off steam, marking time, giving signals, and printing information at different locations.

Bain worked on an experimental facsimile machine in 1843 to 1846. He used a clock to synchronise the movement of two pendulums for line-by-line scanning of a message.

On 12 December 1846, Bain, who was then living in Edinburgh, patented a chemical telegraph. He had seen that the Morse and other telegraphs then in use were comparatively slow, due to the mechanical inertia of their moving parts, and realized that the signal current could be used to make a readable mark on a moving paper tape soaked in a mixture of ammonium nitrate and potassium ferrocyanide, which gave a blue mark when a current was passed through it.

Bain's electric clocks come from two stages of development between the 1840s and the 1860s. Examples can be seen in the National Maritime Museum of London, the London Science Museum, the Royal Scottish Museum, and the Deutsches Uhrenmuseum. The most rare and interesting mantel clocks are in private hands. One featured in the "Electrifying Time" exhibition in 1977 at the London Science Museum. Bain sometimes found complex and ornate solutions to relatively simple, although not easy to solve problems.

Initially Bain made a considerable sum from his inventions but, due to poor investments, became poor, and in 1873,

Sir William Thomson, Sir William Siemens, Latimer Clark and others obtained a Civil List pension for Bain from Prime Minister William Ewart Gladstone of £80 per year.

Bain was buried in the Auld Aisle Cemetery, Kirkintilloch.

Custodial history:

RECORDS' CONTENT

Description: Printed booklet on Alexander Bain, taken from a lecture by A. Steuart

Appraisal:

Accruals:

RECORDS' CONDITION OF ACCESS AND USE

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Closed until:

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ALLIED MATERIALS

Related material:

Publication:

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P268/1	Printed booklet entitled Alexander Bain His Inventions and their Influence on Modern Time Distribution by Alexander Steuart from a lecture he gave [1 booklet]	1941