# Francis Hauksbee - Inventor

In the early 1700s, Francis Hauksbee (“Hawksbee”) designed an electrostatic generator. Although he was not the first to create such a device, Hauksbee and his work caused a bit of a stir in London.

Fascinated by science, this self-educated man who began his working life in a trade—he was the son of a draper and grew up in Colchester, England—was interested in electro-luminescence (among other things). He was inspired by Jean Picard, a Frenchman who discovered that if he shook a mercury-containing barometer, it would produce a glow.

An experimentalist (as people who conducted scientific experiments were known in the early 18th century), Hauksbee’s electrostatic generator allowed him to create "static electricity."

Static electricity—the phenomenon which can make a person’s hair "fly away"—is able to produce other amazing results when coupled with a device like Hauksbee's electrostatic generator. Demonstrating before a Royal-Society audience in London, at a time when Isaac Newton was the Society’s president, Hauksbee produced a light so bright that people could read by it.

How did he do it?

Placing the globe of his device on an axle which he attached to a large wheel, Hauksbee began to spin the large wheel. This caused the globe to rotate. While the globe was rotating very fast, Hauksbee placed his hand over the globe (from which he had previously evacuated all the air and added mercury).

Suddenly ... there was light. This was a sensational phenomenon at a time when people used candles, fireplaces and oil lamps to light their homes.

Hauksbee (1666-1713) wrote about his findings in a work entitled *Physico-Mechanical Experiments on Various Subjects*, published in 1709. His work paved the way for others to create even-better electrostatic generators capable of producing larger and larger voltages.

The *Oxford Dictionary of National Biography* provides us with more details about Francis Hauksbee’s relationship with the Royal Society. It’s not exactly what you might think.

Remember that Hauksbee lived during a time when a person’s social class made a huge difference and touched-on nearly every aspect of life. Francis had worked as a draper before he found fame as an inventor:

*Other fellows of the Royal Society did not treat Hauksbee as a natural philosopher. Although its curator of experiments de facto, he was never curator by office as had been Robert Hooke, his predecessor.*

*He was treated as a servant, employed part-time, ordered to experiment, occasionally chastised, and given no fixed salary. The society's council remunerated him retrospectively "as he deserves." His* [annual] *deserts ranged from £15 to a maximum in 1707 of £40 "for his last years waiting upon the Society and shewing and trying their experiments" (Royal Society, council minutes, 2 July 1707).*

*Hauksbee died in Hind Court, intestate* [without a Last Will and Testamen]*, aged fifty-two, and was buried on 29 April 1713 in the churchyard of St Dunstan-in-the-West. The* [Royal] *society acknowledged his death only by granting his widow £20 outstanding remuneration.*

*In 1714 Mary* [Hauksbee's wife] *was granted administration of a surely meager estate. She moved to a Tower Hill almshouse, returned to drapery (taking three apprentices, including her son Calvin), and was given charity by the Drapers' Company in 1716 and, grudgingly, by the Royal Society in 1731.* (See *Oxford Dictionary of National Biography's* entry on Francis Hauksbee by Stephen Pumfrey, first published in May of 2009.)

This image depicts how Francis Hauksbee appeared at about the time of his experiments in the first decade of the 18th century.

## Credits:

Image depicting Francis Hauksbee online, courtesy Future Energy Solutions.

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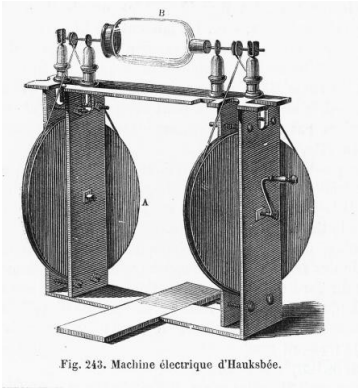


Hauksbee Electrostatic Generator and Neon Light
Image, from a French-langage work, depicting Hauksbee's modified electrostatic generator as it appeared, circa 1706.
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