John Frederic Daniell Biography

John Frederic Daniell

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Biography

John Frederic Daniell was a scientist and inventor whose widespread interests reflected the relatively unified nature of the science of his day.

His contributions to technology started with the introduction of improvements to the sugar refining industry when he was a young man. Later, he brought improvements in the lighting industry to Europe and America by producing a new gas from a distillate of resin in turpentine.

In 1820, he made a contribution to meteorology by inventing the dew-point hygrometer, an instrument designed to measure relative humidity. It consisted of two thin glass bulbs suspended from a base and connected with a glass tube. One bulb contained liquid ether and a thermometer. As the other bulb was slowly cooled and reheated, dew would appear and disappear at the end with the thermometer The mean temperature of this action was taken as the dew point. A description of this was published in 1820.

He was rewarded by horticulturalists with a medal for his suggestion that the humidity and temperature in hothouses should be regulated. In 1836 he invented a new battery, the Daniell cell. Unlike the recently invented zinc-copper voltaic battery, its current did not decline rapidly. By introducing a barrier between the zinc and copper, he was able to stop the formation of hydrogen, which was impairing battery function.

Daniell was active as a teacher, writer and illustrator, and made himself known as a social philosopher. His early death occurred while attending a Royal Society meeting in London in 1845.