



## George Westinghouse, Jr.

Born October 6, 1846 - Died March 12, 1914

### Improvement in Steam-Power Brake Devices

Patent No. re. 5,504

Inducted 1989

George Westinghouse invented a system of air brakes that made travel by train safe and built one of the greatest electric manufacturing organizations in the United States. Born in Central Bridge, New York, Westinghouse worked in his father's shop until age 15, when he joined the Union Army and served throughout the Civil War. After briefly attending Union College he returned to his father's shop, where he developed and patented a rotary steam engine, a device for replacing derailed freight cars, and a railroad frog. He then worked to develop a system of railroad brakes that would centralize control in the hands of the engineer. He was awarded the first of many air brake patents in 1869 and at the age of 22 organized the Westinghouse Air Brake Company. In 1882 he organized the Union Switch and Signal Company, purchasing patents of others and combining them with his own for railroad signals and interlocking switches. In 1886 he founded the Westinghouse Electric Company, foreseeing the possibilities of alternating current as opposed to direct current, which was limited to a radius of two or three miles. Westinghouse enlisted the services of Nikola Tesla and other inventors in the development of alternating current motors and apparatus for the transmission of high-tension current, pioneering large-scale municipal lighting. His company became the outstanding competitor of General Electric, which in 1896 arranged to use his patents by a cross-licensing agreement. By the turn of the century, the various Westinghouse enterprises had grown to employ more than 50,000 workers. As a result of financial problems, Westinghouse lost control of his electric company in 1907 but remained in control of his other companies until he died.

