



Heartland Science

Ohio's Legacy of Discovery & Innovation

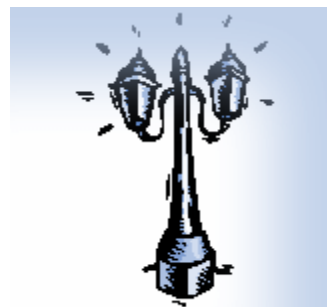


Energy

From Amps to Air Conditioning

Electrifying America's Cities

In 1875, Charles F. Brush (1849-1929) invented the electric arc lamp and the dynamo, devices which brought electric lights to the streets of American cities, years before electric lights were available for homes. Brush was born on a farm near Cleveland, Ohio. Throughout his childhood he had a love of anything scientific -- and he especially loved working with electricity. He built an electrostatic generator when he was only 12.



Brush attended Cleveland's Central High School, well recognized as an excellent school that would support his interests. At school Brush constructed an arc light that produced light by passing current across two carbon electrodes. He graduated in 1867 as an honor student and went on to study at the University of Michigan. After graduating, Brush worked as a consulting chemist, but then, after reestablishing a friendship with a boyhood friend, George Stockly, he began to refocus on his love of electricity and lighting. Stockly -- then vice president and general manager of the Telegraph Supply Company of Cleveland -- decided to financially back Brush. With funding, Brush began work on a dynamo, which would become U.S. Patent No. 189 997, "Improvement in Magneto-Electric Machines", issued April 24, 1877. The dynamo served as a low cost and reasonably efficient source of electricity for the arc light, and helped make lighting a commercial industry.

Next, Brush focused on the arc light, which was not a new concept but at the time was impractical due to lack of consistent regulation. Brush's solution was a reliable electromechanical regulator. It was first installed in Cleveland in 1878, and within a few years Brush arc light systems could be found brightening city streets all across the U.S. and Canada.



Stock Certificate from
Brush Electric Light and Power Company

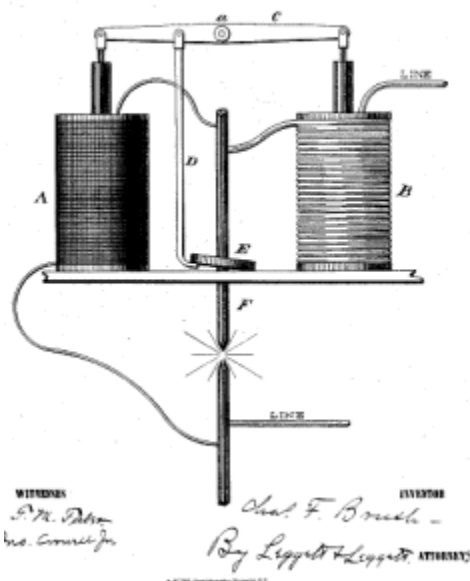
Over the next decade the Telegraph Supply Company of Cleveland restructured, becoming the Brush Electric Company in 1880. Next, it merged with the Thompson-Houston Electric Company, and then merged again with the Edison General Electric Company, now known as the General Electric Company. Brush eventually sold his interest in his inventions and went on to other ventures, but is known for the arc lighting revolution he helped start.

(No Model.)

C. F. BRUSH.
ELECTRIC ARC LAMP.

No. 312,184.

Patented Feb. 10, 1885.



Find out more...

- [The Brush Arc Lamp](http://www.lafavre.us/brush/lamparc.htm)
(<http://www.lafavre.us/brush/lamparc.htm>)
- [Arc Lamps, by Charles Brush \(grandson\)](http://www.voltnet.com/arclamps/)
(<http://www.voltnet.com/arclamps/>)