



# Heartland Science

Ohio's Legacy of Discovery & Innovation



## Transportation

From the Soapbox Derby to the Jeep

### Nation's First Gasoline-Powered Automobile

John Lambert, of Ohio City, Ohio, invented America's first gasoline-powered automobile in 1891. The three-wheel motorized buggy made transportation history, but was not a commercial success. Lambert dropped the idea of a car and worked on gasoline engines. Later, however, he resumed automobile manufacture and produced commercially successful four-wheel cars at his Buckeye Manufacturing plant.



The Lambert (1908 model shown to the right) could travel at about 25-30 miles per hour and was powered by a 15-horsepower Buckeye engine. It featured brass lights, leather seats, and a wooden floorboard.

Gas powered cars took off because petroleum was so inexpensive, and also due to the size of batteries required for earlier electric cars. However, with gas-powered vehicles came lots of extra noise on the streets, as the new vehicles were much noisier than their battery powered predecessors.



1908 Lambert

### What is Octane?

Octane ratings are applied to gasoline based on how much the fuel can be compressed before it spontaneously ignites in a cylinder. If gas ignites by compression - rather than from a spark from the spark plug - it can cause knocking. Knocking damages an engine, so it is something to avoid. Low-octane gas -- 87-octane for example -- handles the least amount of compression before igniting, or knocking.

### Did You Know?

- Thomas Midgley, Jr., an Ohio chemist who worked at the Dayton Engineering Laboratories Company (Delco) in 1921 invented the tetraethyl lead gasoline additive that prevented engine knock.

### Find out more...

- [How Automobile Engines Work](http://auto.howstuffworks.com/engine.htm)  
(<http://auto.howstuffworks.com/engine.htm>)
- [How Gasoline Works](http://science.howstuffworks.com/gasoline.htm)  
(<http://science.howstuffworks.com/gasoline.htm>)