



# Age of Steam Roundhouse Tour

Friday, September 20, 2019

Please register via [Eventbrite](https://www.eventbrite.com), or see <http://www.incose.org/cleveland>

2:00 PM – 4:00 PM EDT

Followed by a Dinner (for those interested)

Age of Steam Roundhouse

213 Smokey Lane Rd SW, Sugarcreek, OH 44681

## Description:

According to Wikipedia, the first recorded rudimentary steam engine was the aeolipile (also known as a Hero's engine), described by Hero of Alexandria in 1st-century Roman Egypt. Through

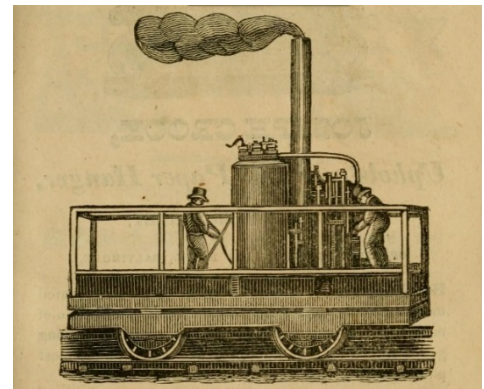


*An illustration of Hero's aeolipile*

the years, steam became a significant source of motive power and was a major part of the Industrial Revolution. The first successful steam locomotive was built in Britain by engineer George Stephenson, who later built the *Rocket*, that many are familiar with. The first steam locomotive to be built in America was the *Tom Thumb* by Peter Cooper. Steam locomotives and the railroad networks established in the U.S. enabled rapid westward expansion in the 19<sup>th</sup> Century.

Steam locomotives are an interesting system to be studied, and the railroad

network they enabled is a huge system of systems today. Locomotives take an energy source, typically wood, coal or oil, which is burned to create heat. That heat is then used to create steam, which in turn is converted to mechanical energy to drive the locomotive and operate other aspects of it, including pumps and whistles. And the human system integration was key to keep it operating, not only through maintenance, but ensuring the feed of fuel to maintain the right level of heat and the amount of water to maintain the proper pressure in the engine. A couple key interfaces had to be developed to enable the loading of fuel and water, to enable getting rid of combustion waste (ashes, cinders, etc.) and to provide a surface on which to operate, gaining traction and directional guidance. If there wasn't enough traction, the locomotives had to have the capability to increase the coefficient of friction, which was often accomplished by adding sand to the rail surface.



*1831 drawing of a locomotive (likely the Tom Thumb) in Baltimore.*

## The Tour:

Come join us for a tour of the Age of Steam Roundhouse, in Sugarcreek, OH, where you can see the largest private collection of steam locomotives in the world, and other railroad cars, tools and machinery of the glory days of railroading. The site consists of storage tracks, a store house, coal

dock, wood water tank, ash pit, back shop and the jewel of the site, a complete, working, 18-stall, brick roundhouse surrounding a 115-foot turntable and turntable pit.

See <http://www.ageofsteamroundhouse.org> for more information on the Roundhouse.

We have purchased a limited block of tickets for one of their scheduled tours, which will be made available on a first-come-first-serve basis. So if you are interested, register as soon as possible.

Tickets are:

\$15 for INCOSE Cleveland-Northern Ohio Chapter members

\$20 for non-members

After the tour, those interested, will reassemble at a local Amish restaurant to enjoy good food and stimulating conversations together.

We hope to see you there!