



Image: **The Burden Water Wheel**, c. 1899, gelatin silver photographic print, courtesy of the Hudson Mohawk Industrial Gateway



Object: **Patent Model for an Improved Machine for Making Horseshoes**, patented by Henry Burden, c. 1859, cast iron, paint, gift of Cliff Petersen, 1992.40



The Capital Region in 50 Objects

Burden Iron

A native of Scotland, Henry Burden (1791–1871) arrived in the Albany area in 1819. By 1822, he was the superintendent of the Troy Iron and Nail Factory. Over the next few decades, Burden invented many different kinds of machines. On September 14, 1843, he was granted his first patent for a horseshoe-making machine. In 1851, Burden designed and built a waterwheel that was 62 feet in diameter and 22 feet wide to power his factory. The wheel was powered by the Wynantskill Creek and generated a forceful combination of power and speed. Local residents frequently stopped by to have their photos taken with the “Niagara of Water Wheels.” Burden continued to tinker with his first invention and submitted this model to the United States Patent Office for his next patent for “New and Useful Improvements in Machinery for Making Shoes for Horses and Mules.” Patent number 17,665 was granted to him on June 30, 1859. The Burden Iron Works of Troy manufactured nearly all of the horseshoes used by the Union Army during the Civil War. Each of Burden’s nine horseshoe machines produced sixty horseshoes per minute or about fifty-one million horseshoes per year.

Burden’s sons continued the business after his death in 1871, and in 1881 incorporated it as the Burden Iron Company. This photograph was taken soon after the dismantling of Burden’s water-powered plant in 1899. The wheel was left upright and intact as a memorial to the ingenuity of Henry Burden. It remained standing until 1914, when it collapsed onto its side. It was blown up for scrap value in 1932. The company was purchased by Republic Steel around 1940.

Vocabulary

Dismantling - take (a machine or structure) to pieces

Incorporated - formed into a legal company, or corporation

Ingenuity - the quality of being clever, original, and inventive

Patent - government authority or license awarding a right or title for a set period, especially the sole right to exclude others from making, using, or selling an invention

Superintendent - a person who manages or supervises an organization

Tinker - attempt to repair or improve something

Waterwheel - a large wheel driven by flowing water, used to work machinery

Burden Iron

Name _____ Date _____

Directions

Use the depiction of the object, image, and corresponding text to answer the following questions.

1. What is the name of the object? _____

2. Who made the object? _____

3. What improvement did this machine create? _____

4. What industry was the object used in? _____

5. What is the name of the image? _____

6. How was the depicted image used? _____

7. Identify two key features of the image:

a. _____ b. _____

8. How was the Burden Iron Works linked to the Civil War? _____

9. What is the name of the water source that supplied power for the Burden Water Wheel? _____

Connected Pieces: Working with multiple objects and images

Write a comparing/contrasting paragraph explaining how the objects, images, and texts of

a. Burden Iron Works, Textile Industry, and Cast Iron Stoves

- OR -

b. Erie Canal, Steamships, and Railroads

are historically linked. Provide information on how pieces connect to one another, improve upon one another, or differ.