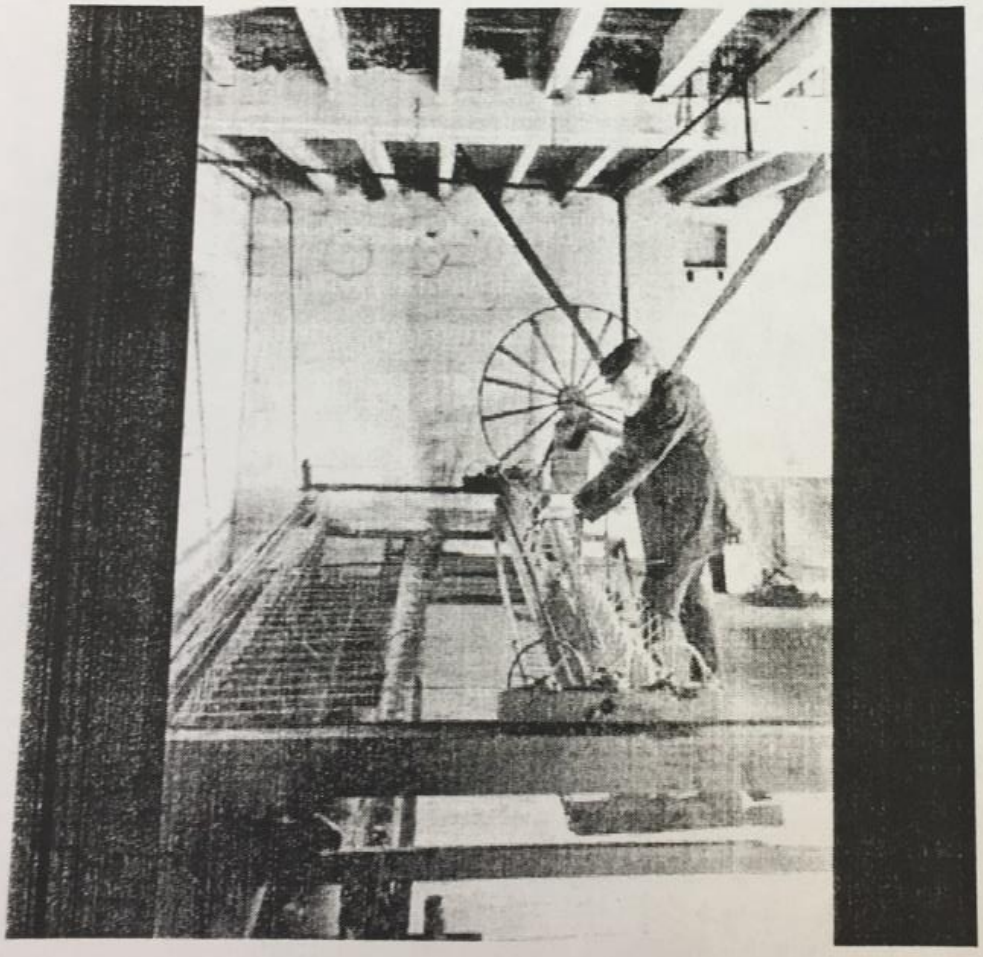
Biography

The Spinning Jenny (Patented 1770)

The spinning jenny, patented in 1770, is a multi-spool spinning wheel. An English weaver named James Hargreaves invented it in 1764. Earlier textile inventions, including the flying shuttle, which doubled weaving productivity, increased the demand for yarn, and Hargreaves decided to figure out a way to help keep up with the demand. Hargreaves's newly designed spinning machine, called the spinning jenny, held eight threads and could be operated by turning a single wheel. The machine produced relatively weak yarn, but the device dramatically reduced the amount of work needed to produce it. Hargreaves began selling his design to other weavers but did not apply for a patent until 1770. By then, the patent was declared invalid, and others had already begun to make improvements to the design.



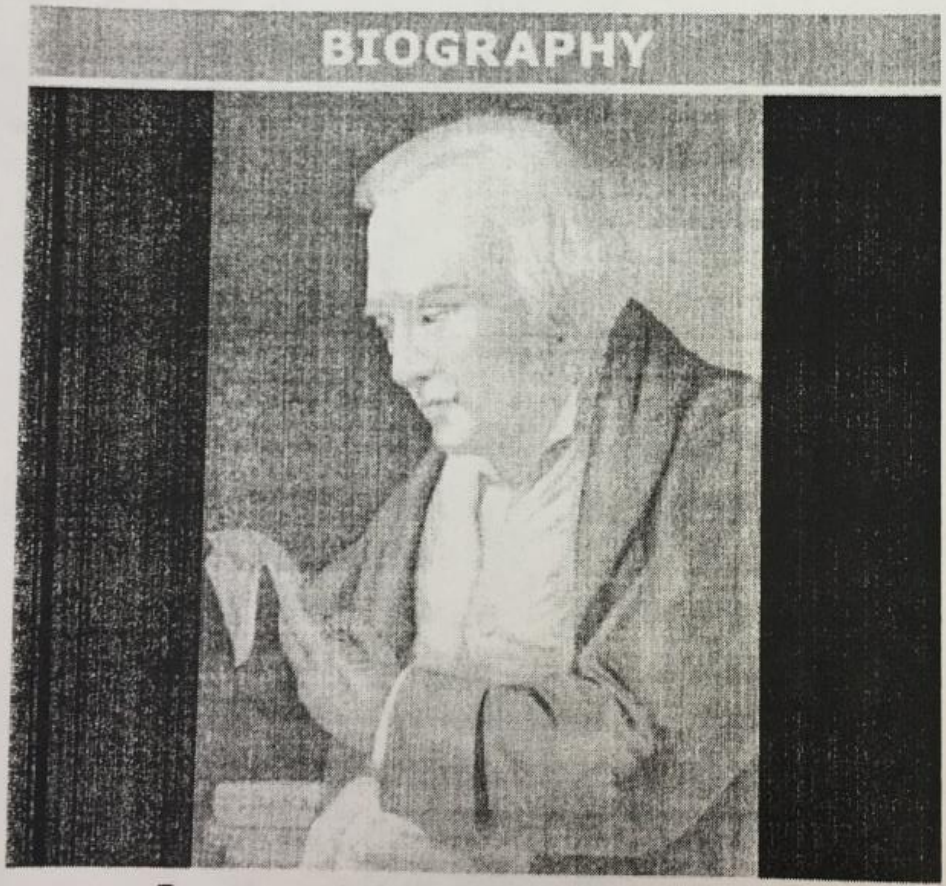
MORE ABOUT THE IMAGE: This photograph, taken in 1930 in the United Kingdom, shows a worker at Palmer Mackay Limited in Trowbridge using a spinny jenny.

Analyzing Information How did the spinning jenny revolutionize the textile industry?
Drawing Inferences Why might others have attempted to improve the design of the spinning jenny?

Biography

James Watt (1736–1819)

James Watt was a Scottish inventor and mechanical engineer. His improvements to the Newcomen steam engine helped advance the Industrial Revolution. In 1757, he became a mathematical instrument maker for the University of Glasgow, where he developed his lifelong interest in steam engines. Watt realized that a great deal of energy was wasted in contemporary steam engine designs. In 1765, Watt enhanced the design by introducing new innovations that dramatically improved the power and efficiency of steam engines. These improvements brought about increased demand for Watt's engines in coal mining, textile manufacturing, transportation, and several other industrial fields. The steam engine increased productivity in many industrial areas, such as paper mills, flour mills, cotton mills, iron mills, distilleries, and canals and waterworks.



MORE ABOUT THE IMAGE: An unknown artist painted this portrait of the Scottish inventor James Watt.

James Watt (1736–1819)

Drawing Conclusions How did Watt's improvements to the steam engine advance the Industrial Revolution?

Making Connections Why did the demand for his engines increase?