

THE SECOND INDUSTRIAL REVOLUTION

The Industrial Revolution took place in two main stages during the 18th, 19th, and early 20th centuries. The First Industrial Revolution took place between 1750 and 1850, and it focused mostly on steam power and textile manufacturing. The Second Industrial Revolution took place between 1850 and 1914 and focused on steel production, advances in electricity, and the automobile. This time period was also known as the Technological Revolution, because it was a time of increased scientific advances and discoveries, increased production, and industrialization.

Leading Up to the Revolution

During the First Industrial Revolution, there was an increase in the number of goods that manufacturers were able to produce. This meant that they were able to send their products further and to more people, but in order to do that, they needed a way to get them there. In the 1820s and 1830s, manufacturers looked to find quicker, cheaper, and easier ways to transport their products.

With this growth, the widespread distribution of products, and easier and quicker access to the goods, we saw a rise in inventions that used electricity and an increase in the production of petroleum and steam. In 1850, the United States officially found itself in the middle of the Second Industrial Revolution.

Inventions in the Second Industrial Revolution

There were many key inventions, discoveries, and innovations that occurred between the 1830s and the start of World War I that people still use today. These new inventions revolutionized the way people worked. For example, the invention of the light bulb allowed people to work longer hours, increasing the factory's production.

Date	Inventor	Process or Machine
1830s	Cyrus McCormick	McCormick Reaper (1831)
	Samuel F. B. Morse	Telegraph (1835) Morse Code (1838)
	John Deere	Steel Plow (1837)
1840s	Charles Goodyear	Vulcanized Rubber (1844)
	Elias Howe	Sewing Machine (1846)
1850s	Elisha Otis	Mechanized Passenger Elevator (1853) Safety Brake for Elevators (1853)

	Henry Bessemer William Kelly	Bessemer Process (1856)
1860s	Christopher Sholes	Typewriter (1867)
	George Westinghouse	Compressed-Air Brake (1869)
1870s	Alexander Graham Bell	Telephone (1876)
	Thomas Alva Edison	Phonograph (1877)
	Edison and Lewis Latimer	Light Bulb (1879)
1880s	Westinghouse and Nikola Tesla	High-Voltage Alternating Electric Current (AC) (1886)
1890s	Edwin Prescott	Vertical Loop Rollercoaster (1898)
1903	Wilbur and Orville Wright	First Powered Piloted Plane Flight (1903)
	Henry Ford	Model T (1908)

Major Contributing Factors

So, what factors contributed to this new wave of industrialization? Well, the United States has a large landmass that spans across several regions and climates. With the newly established railroad system, the regions were finally linked, allowing the coal, iron, lumber, furniture, and glass from the Midwest to be transported to the Northeast and South.

Similarly, this allowed the raw materials of the South and the textiles, shoes, and clocks of the Northeast to be shared with the other regions. This quick access to natural resources opened up many new opportunities, which allowed many industries to take advantage of these resources. With quicker access to these materials, factories were able to produce their goods and quickly get them back out to the market. This encouraged mass production.

In addition to the railroad system, a 620-mile national highway from Maryland to Illinois, the invention of the Western Steamboat, and the creation of the Erie Canal (a channel that cut across the state of New York, linking the Atlantic Ocean with the Great Lakes) attracted a large number of workers who immigrated to the United States. This new labor allowed businesses to grow quickly. Those who migrated to the United States in search of jobs were typically young workers who were not afraid to work hard. During this time of growth, there was not a lot of interference from the government. This allowed for businesses to grow quickly and

successfully. Unfortunately, this also allowed for poor working conditions and widespread environmental problems.

In addition to the major inventions, innovations were made in how people performed their jobs. One of the greatest innovations to occur during this time was the development of the assembly line. While the assembly line was not a new idea, the idea of using interchangeable parts was. Eli Whitney took a failed idea from a French gunsmith named Honoré Blanc and introduced it to the American workforce. He was able to take advantage of the large workforce and develop standardized equipment that could make a large number of parts at a low cost and in a short amount of time. With Whitney's interchangeable parts and the foundation of the assembly line, workers were able to focus on one step of the production process while the product traveled along a motorized line.

An effective example of the usage of the assembly line is Henry Ford's Model T. This car could be carried along the line as workers added their parts, and by the end of the line, it was a completely constructed vehicle. As such, the development of the assembly line method in the Industrial Revolution sped up production and simplified the manufacturing of goods.

Sources

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