

## 18-1 – The Second Industrial Revolution- Pages 574-578

**Essential Question:** *How did the Second Industrial Revolution lead to new sources of power and advances in transportation and communication?*

### **Main Idea 1:**

**Breakthroughs in steel processing led to a boom in railroad construction.**

- Technological **advances** important to **Second Industrial Revolution**: period of **rapid** growth in U.S. **manufacturing** in late 1800s
  - **Henry Bessemer** developed a way to make **steel** quickly and **cheaply**.
  - Called the **Bessemer** process, **invented** mid-1850s
  - Helped **increase** steel **production** from **77,000** tons in 1870 to more than **1 million** tons in 1879
- As steel **dropped** in **price**, so did the **cost** of **building** railroads, generating a **boom** in railroad **construction**.
- The **railroad** industry had **increased** productivity **due** to new **steel** technologies.
  - Growth of **railroads** helped **country** expand and **prosper**



### **Main Idea 2:**

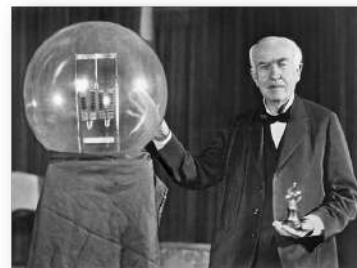
**Advances in the use of oil and electricity improved communications and transportation.**

- Chemists **invented** a way to **convert** crude **oil** into **fuel** called **kerosene** in the 1850s.
- Kerosene, which could be used for **cooking**, heating, and **lighting**, created a **demand** for **oil**.
- A huge **oil** industry **developed** after a way to **pump** oil from the **ground** was **developed** in 1859.
- The **discovery** of a **reliable** source of **oil** led to the **development** of the **oil industry**.

## **Development of Electricity**

### **Invention**

- Inventor **Thomas Edison**, who held more than **1,000** patents, worked to **invent** an electric **light**.
- Thomas Edison is **attributed** with the **invention** of the **light bulb**.
- Edison and his **team** introduced the first **practical** electric **light bulb** in **1879**.



### **Spread**

- Edison created a **power** company to distribute **electricity**, but could not **send** it over **long** distances.
- George Westinghouse built a **power** system that could send **electricity** many **miles** across the **country**.

### Main Idea 3:

#### A rush of inventions changed the lives of Americans.

- New **telegraph** technology **connected** the United States with **Britain** by **cable** in 1866.
- **Alexander Graham Bell** patented the **telephone** in 1876.
- **Telephones** were rapidly **adopted**, the number **rising** from **55,000** in 1880 to almost **1.5 million** in 1900.
- George Westinghouse improved **air** brakes for **trains**, which helped to **increase** the **safety** of **railroad** travel.
- **Henry Ford** introduced the **Model T** in 1908.
  - Was the **first** to use the moving **assembly** line.
  - Reduced the **cost** to **build** a car
  - Cars **became** more **affordable**.
- **Wilbur and Orville Wright** invented the **airplane**, which revolutionized **travel** in the United States and caused further **improvements** to be made in the **travel** industry.

