

The background of the slide features a repeating green geometric pattern on a white background. The pattern consists of a grid of diamonds, with each diamond containing a central solid green circle and a surrounding ring of smaller green dots. The diamonds are formed by double parallel lines.

# **THE RISE OF INDUSTRY**

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**Chapter 3 Section 1**  
**USH Honors**



## LESSON OBJECTIVES:

### **Students will be able to**

- Explain how the abundance of natural resources, new recovery and refining methods, and new uses for them led to intensive industrialization.
- Identify inventions that changed the way people lived and worked.



# ESSENTIAL QUESTION:

What impact did scientific discoveries and manufacturing processes have on the nature of work, the American labor movement, and American businesses?

# THE UNITED STATES INDUSTRIALIZES

**Where did most Americans live in 1860?**

- On farms! We were a rural nation!

**When does this concept change?**

- After the Civil War!
- This period (1865 to 1898) is the Second Industrial Revolution
- Millions of people began working in mines and factories!

**What causes this change?**

- Technology advances – especially ELECTRICITY!
- By early 1900 – America will become the leading industrial nation.

**What is the gross national product (GNP): the total value of all goods and services a country produces during a year!**

- By 1900, America's GNP will be 3 times what it had been in 1860!

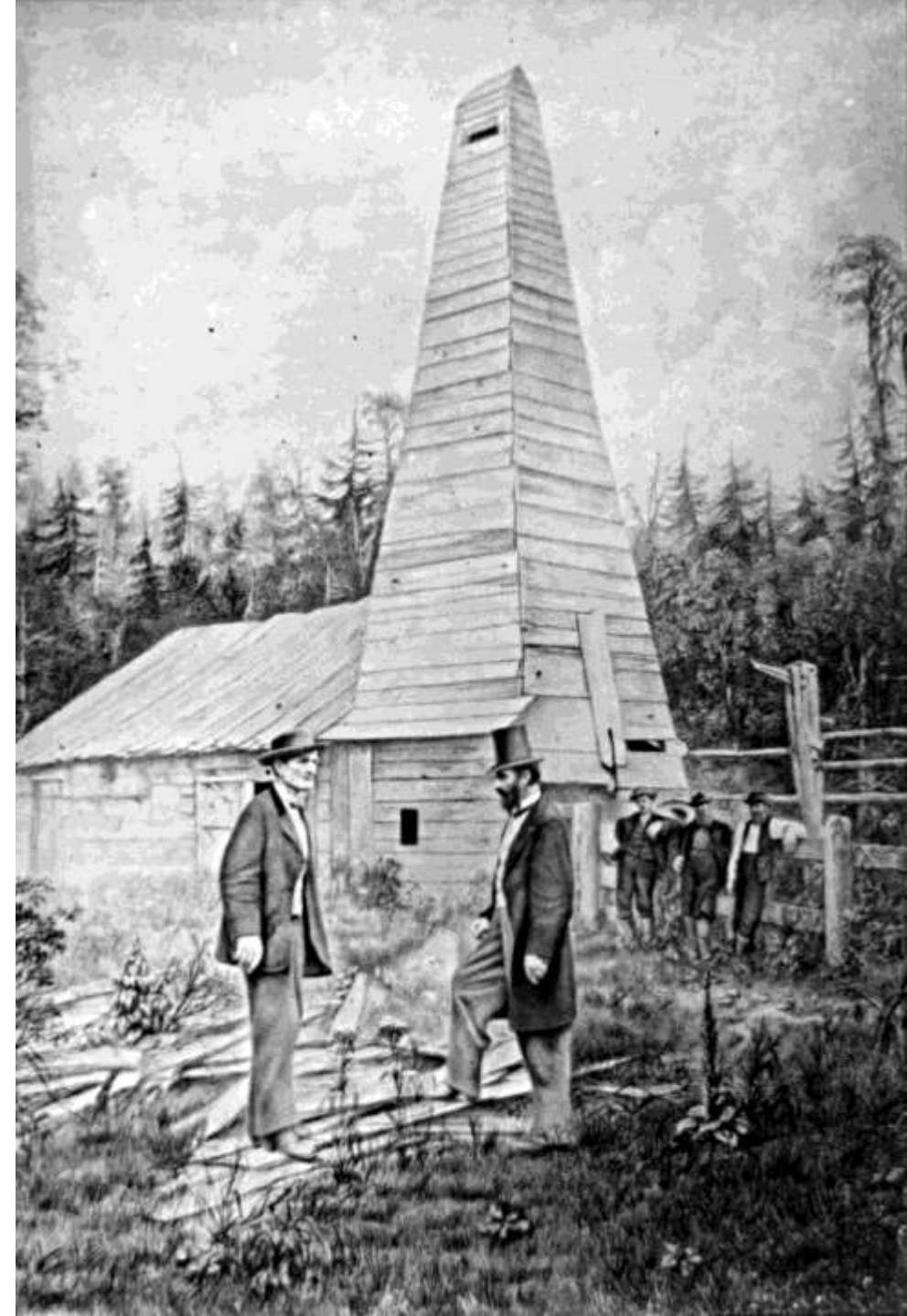
# NATURAL RESOURCES

## Why was America the world's leading industrial power?

- Wealth of natural resources: timber, coal, iron, and copper
  - America DID NOT have to import any raw materials from other nations!
  - Most of these resources were in the American West – which spurred the westward migration
  - Western settlement helped to accelerate industrialization!
  - Railroad!!! Carried miners and settlers west and resources east.
- Government support for businesses
- Growing urban population

## Black Gold!

- Pre-European arrival, Native Americans used oil for fuel and medicine.
- 1859: Edwin L. Drake successfully used steam power to drill for oil
- Petroleum: refining industry first made kerosene and then gasoline
- This new fuel source was in high demand!







# A LARGE WORKFORCE

## What will allow this industrial growth?

- Human resources! This is EQUAL in importance to natural resources

## How much did the US population grow between 1860 and 1910?

- Our population TRIPLED!
- This provides industry with a significant workforce.
- This also creates a demand for finished products.

## What caused this massive population growth?

- Large families & massive immigration
- Better living conditions mean that more children surviving to adulthood
- The social and economic struggles in Europe and China forced people to seek another place to live.
- Between 1870 and 1910: 17 million immigrants arrive in America

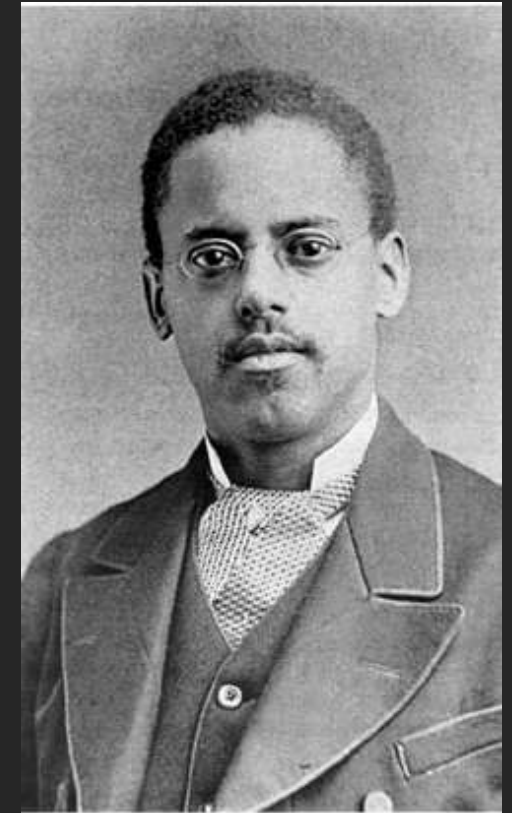
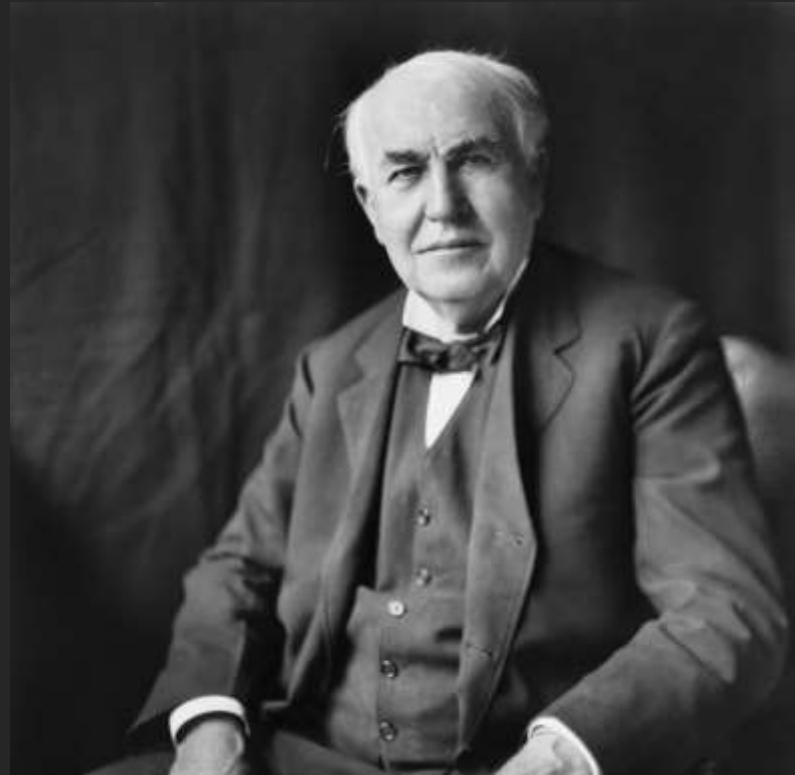
# NEW INVENTIONS

**New inventions are important to the industrialization process:**

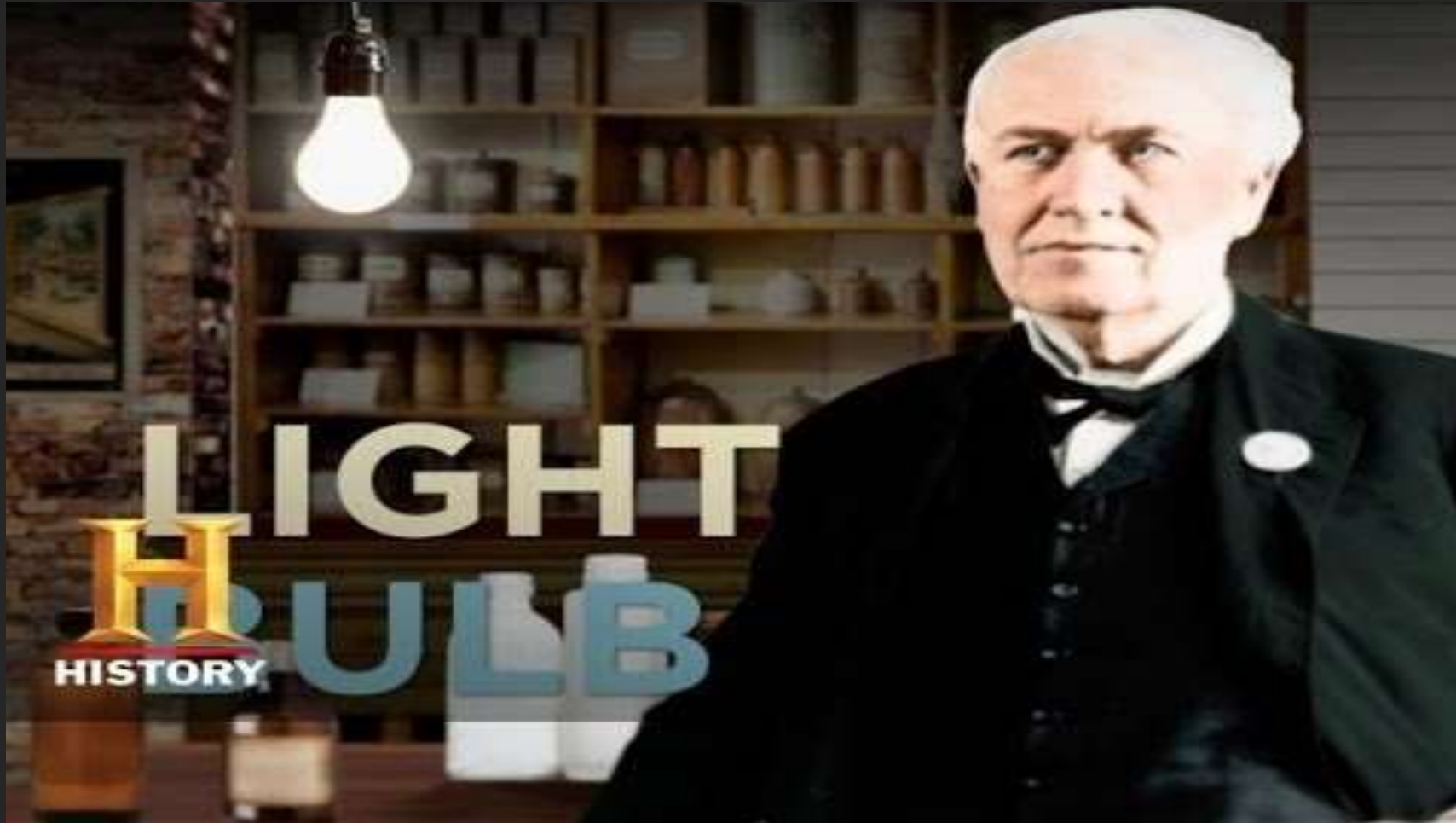
- Technology encouraged new industries being formed
- Technology increases the wealth of the people
- Technology increases the numbers of jobs in America!

**Electrical Power:**

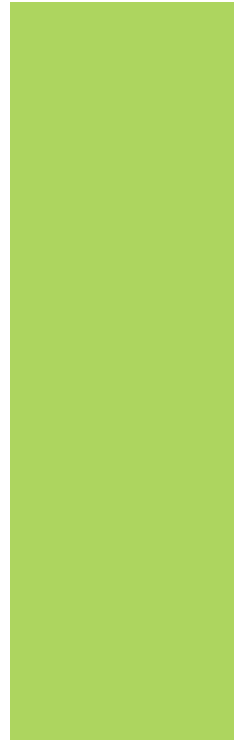
- Thomas Alva Edison: pioneer and innovator.
- 1877: invented the phonograph
- 1879: perfected the electric generator & the lightbulb
- His workshop also invented the battery and the motion picture.
- Lewis Latimer (1882 Edison employee): invented a process to make a cheap, long-lasting filament for lightbulbs



# THOMAS EDISON AND THE LIGHT BULB





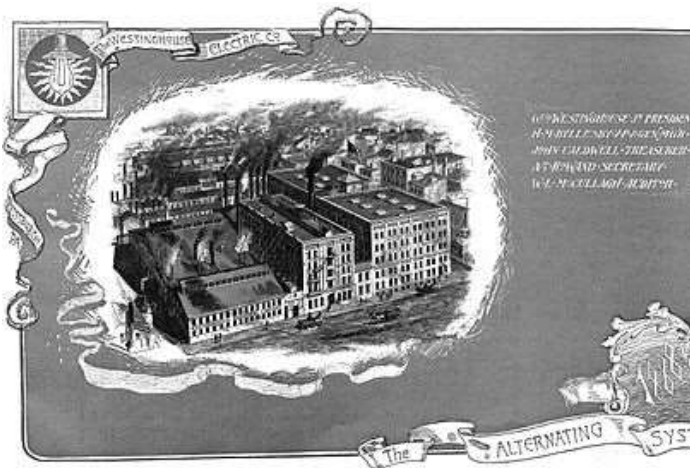


## How did electricity change further?

- George Westinghouse: developed alternate current (AC) systems
- AC distributes electricity over long distances using transformers

## How did AC change lives?

- More people are able to have electricity
- Improves their standard of living
- City streets become safer as streetlights were installed
- Electric trolleys supported the movement of many people
- Increased productivity in home chores





# INVENTIONS CHANGE LIVES

**Cyrus Field:** transatlantic telegraph cable connecting Europe and America (1874)

**Alexander Graham Bell:** succeeded in creating the telephone

- 1876: transmitted sound across electrical wires
- 1877: founded Bell Telephone Company (eventually AT&T)
- The telephone transformed communication & increased our standard of living







**Thaddeus Lowe:** invented the ice making machine

**Gustavus Swift:** invested in refrigerated railroad cars

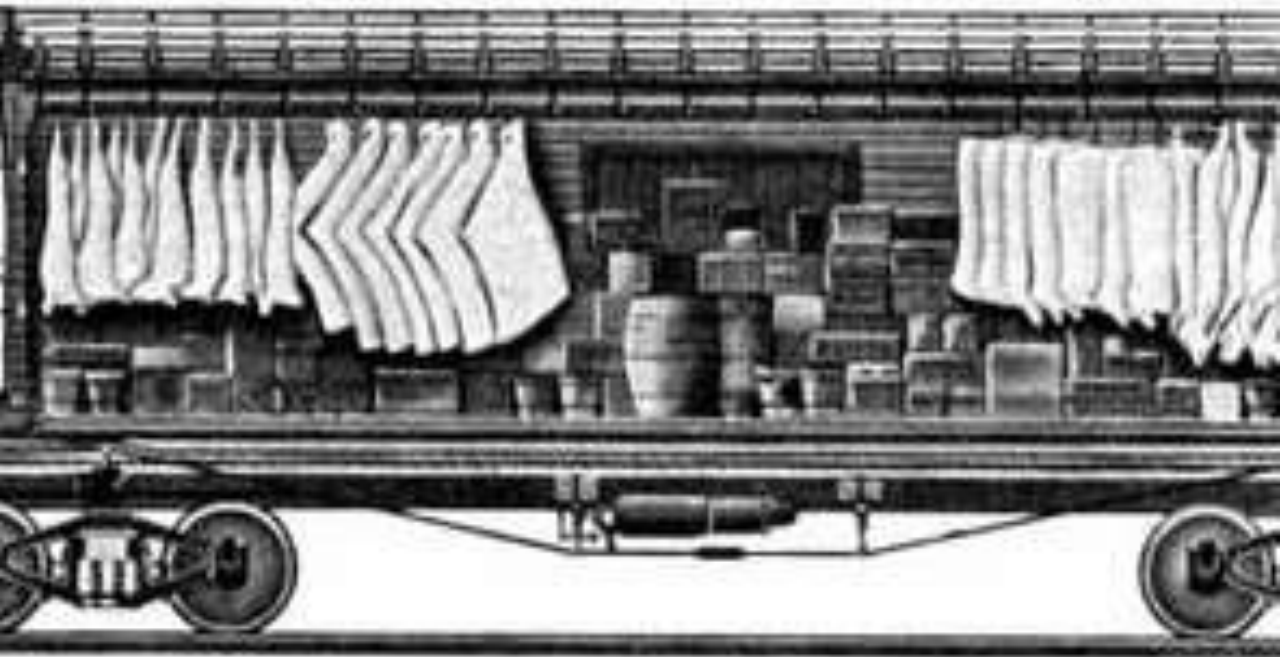
- Because fresh food can be shipped safely (especially meat) the price of food DROPS!
- Food quality also rapidly increases

**Christopher Sholes:** invented the typewriter!

**Josephine Cochrane:** developed the automatic dishwasher

**George Eastman:** patented the handheld camera

**Frank & Charles Duryea:** gasoline powered carriage



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# **THE MEN WHO BUILD AMERICA: TRAITS OF A TITAN**

