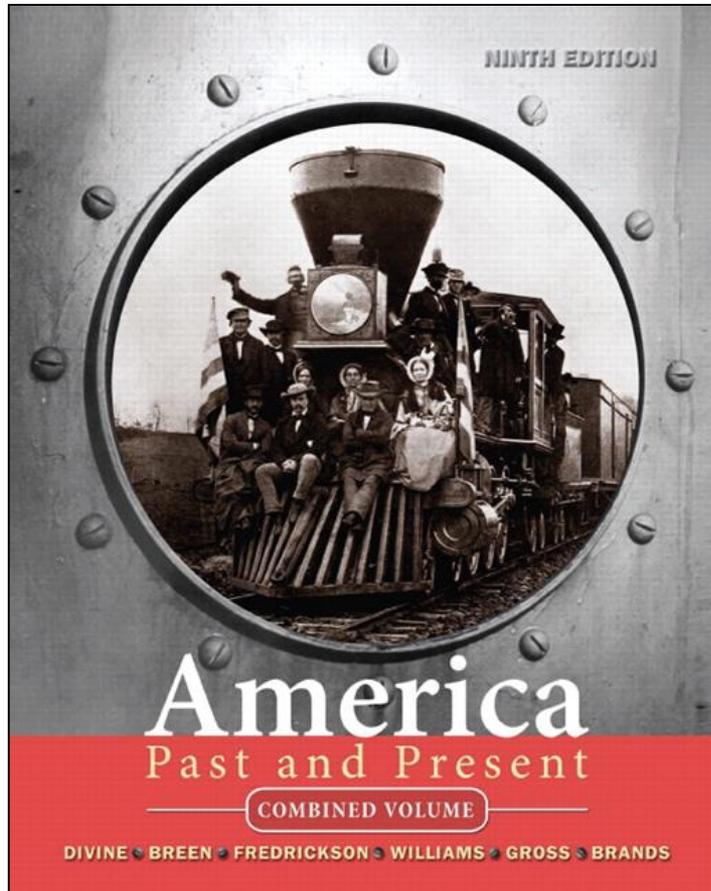


America: Past and Present

Ninth Edition



Chapter 18

The Industrial Society

Industrial Development

- Late nineteenth-century U.S. offers ideal conditions for rapid industrial growth
- Abundance of cheap natural resources
- Large pools of labor
- Largest free trade market in the world
- Capital, government support without regulation
- Rapid growth 1865–1914

An Empire on Rails

- U.S. industrial economy based on expansion of the railroads
- Steamships made Atlantic crossings twice as fast
- The telegraph and telephone transformed communications

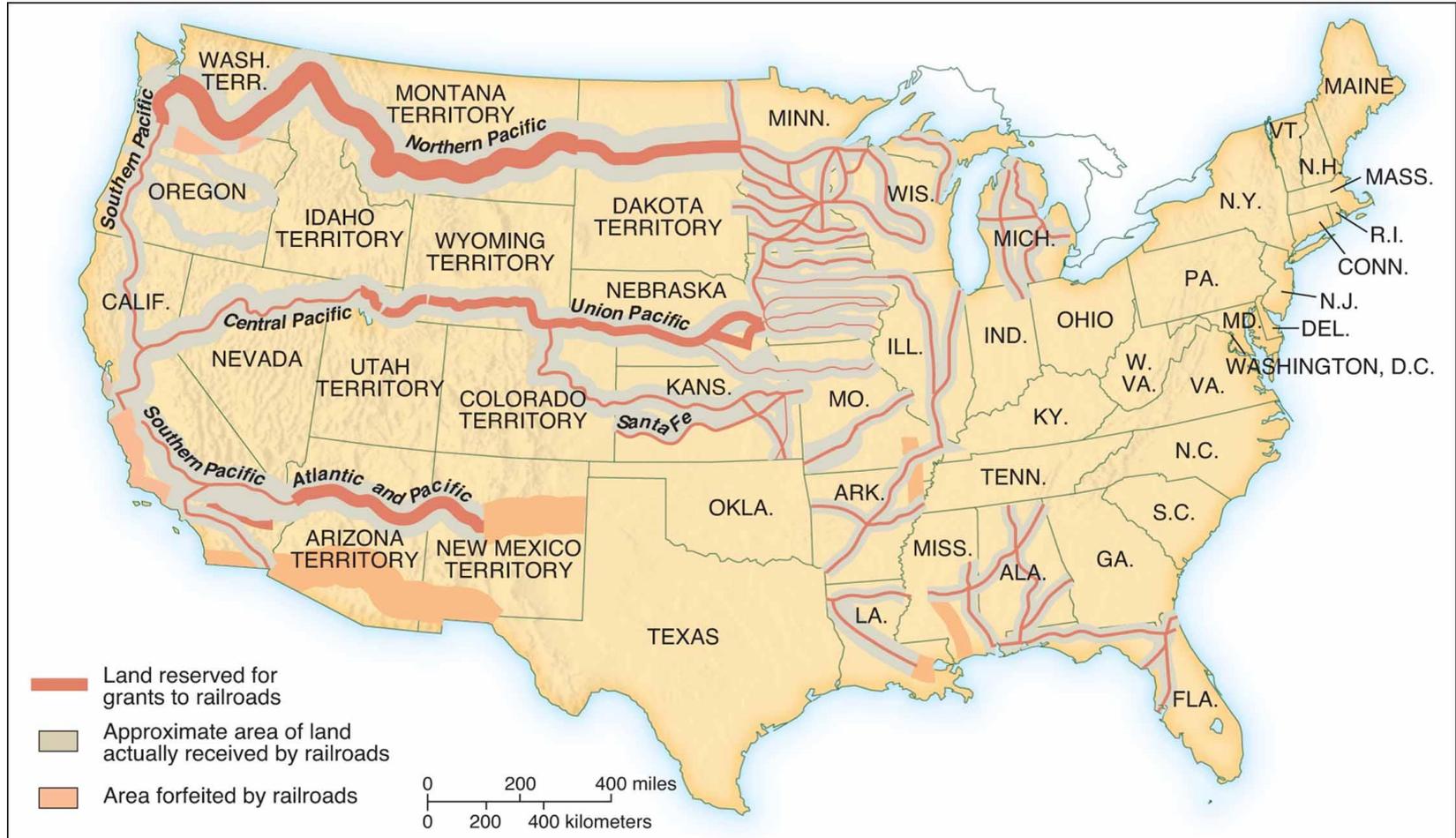
“Emblem of Motion and Power”

- Railroads transform American life
 - End rural isolation
 - Allow regional economic specialization
 - Make mass production, consumption possible
 - Lead to organization of modern corporation
 - Stimulate other industries
- Railroads capture the imagination of the American people

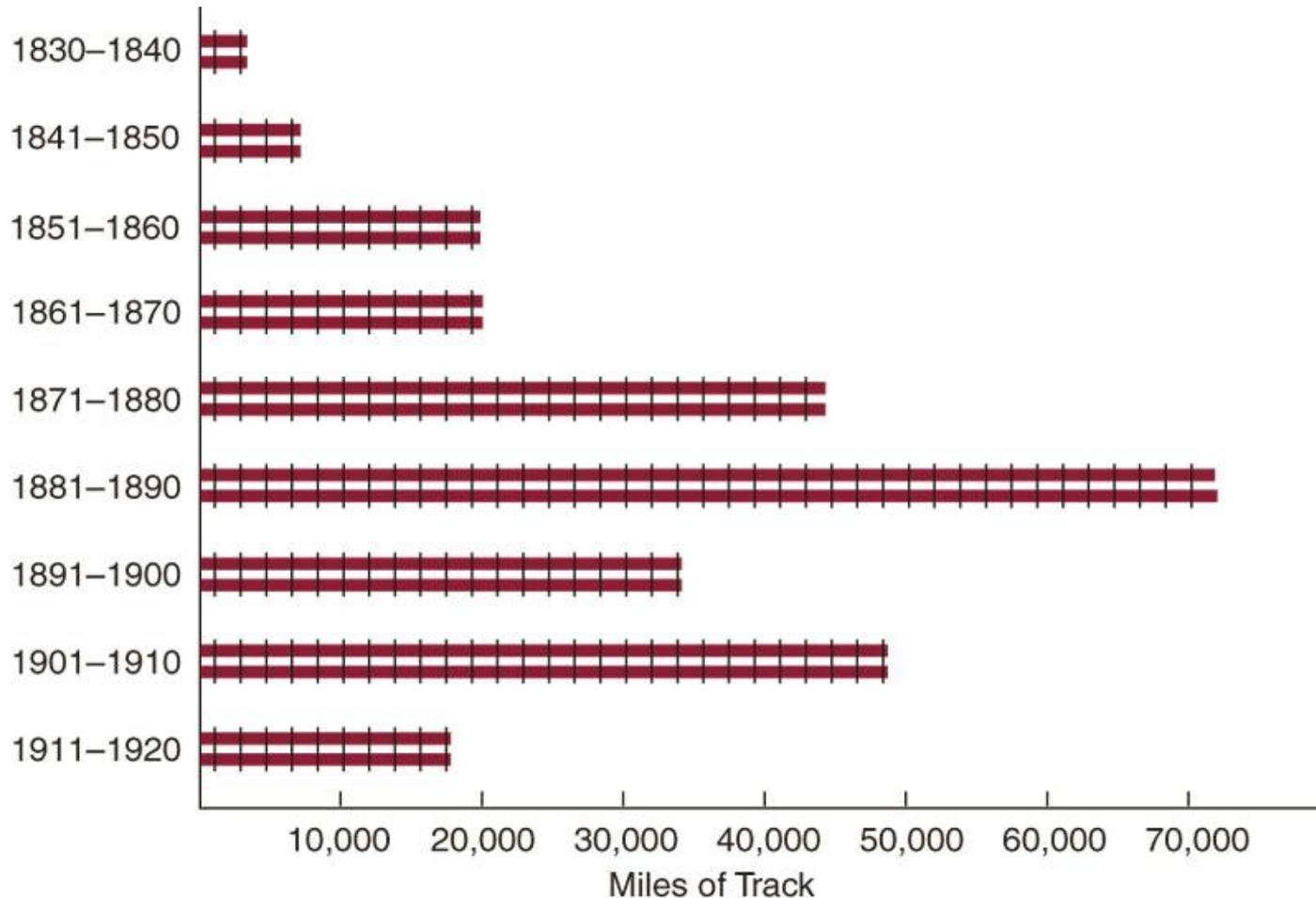
Building the Empire

- 1865–1916: U.S. lays over 200,000 miles of track costing billions of dollars
- Expenses met by government at all levels
- Federal railroad grants prompt corruption
- 1850–1945: Railroads save government \$1 billion in freight costs

Federal Land Grants to Railroads as of 1871



Railroad Construction, 1830–1920



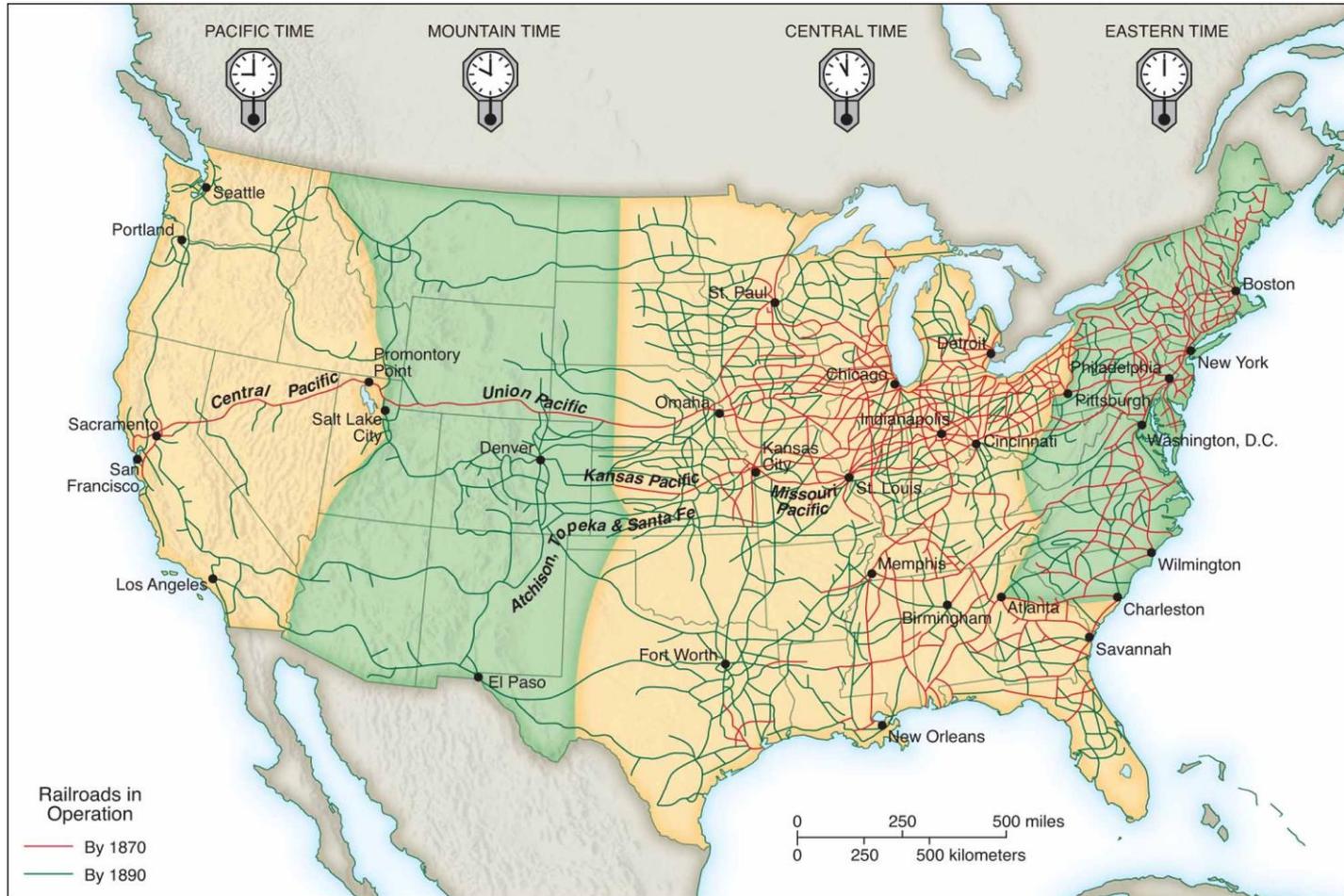
Linking the Nation via Trunk Lines

- No integrated rail system before Civil War
- After 1860 construction and consolidation of trunk lines proceeds rapidly
- East linked directly with Great Lakes, West
- Southern railroad system integrated in 1880s
- Rail transportation becomes safe, fast, reliable

Rails Across the Continent

- 1862: Congress authorizes the transcontinental railroad
- Union Pacific works westward from Nebraska using Irish laborers
- Central Pacific works eastward using Chinese immigrants
- May 10, 1869: Tracks meet in Utah
- By 1900, four more lines to Pacific

Railroads, 1870 and 1890



Problems of Growth

- Intense competition among railroads
- Efforts to share freight in an orderly way fail
- After Panic of 1893, bankers gain control of railroad corporations
- Bankers impose order by consolidating to eliminate competition, increase efficiency
- In 1900, seven giant rail systems dominate

An Industrial Empire

- Bessemer process of refining steel permits mass production
- Use of steel changes agriculture, manufacturing, transportation, architecture

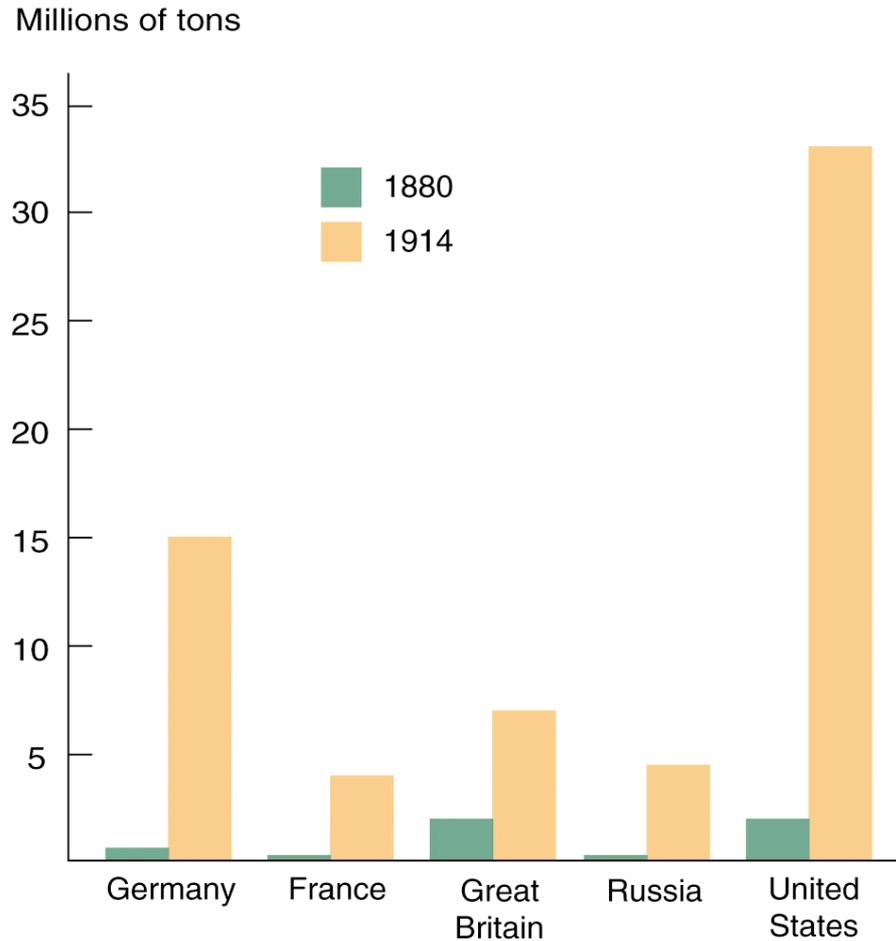
Carnegie and Steel

- Large-scale steel production requires
 - Access to iron ore deposits in Minnesota
 - Extensive transportation network
- Requirements lead to “vertical integration”
 - Definition: A type of organization in which a single company owns and controls the entire process from obtaining raw materials to manufacture and sale of the finished product

Carnegie and Steel

- 1872: Andrew Carnegie enters steel business
- By 1901, Carnegie employs 20,000 and produces more steel than Great Britain
- Sells out to J. P. Morgan
- Morgan heads incorporation of the United States Steel Company

International Steel Production, 1880–1914



Rockefeller and Oil

- Petroleum profitable as kerosene for lighting
- 1859: First oil well drilled in Pennsylvania
- 1863: John D. Rockefeller organizes Standard Oil Company of Ohio

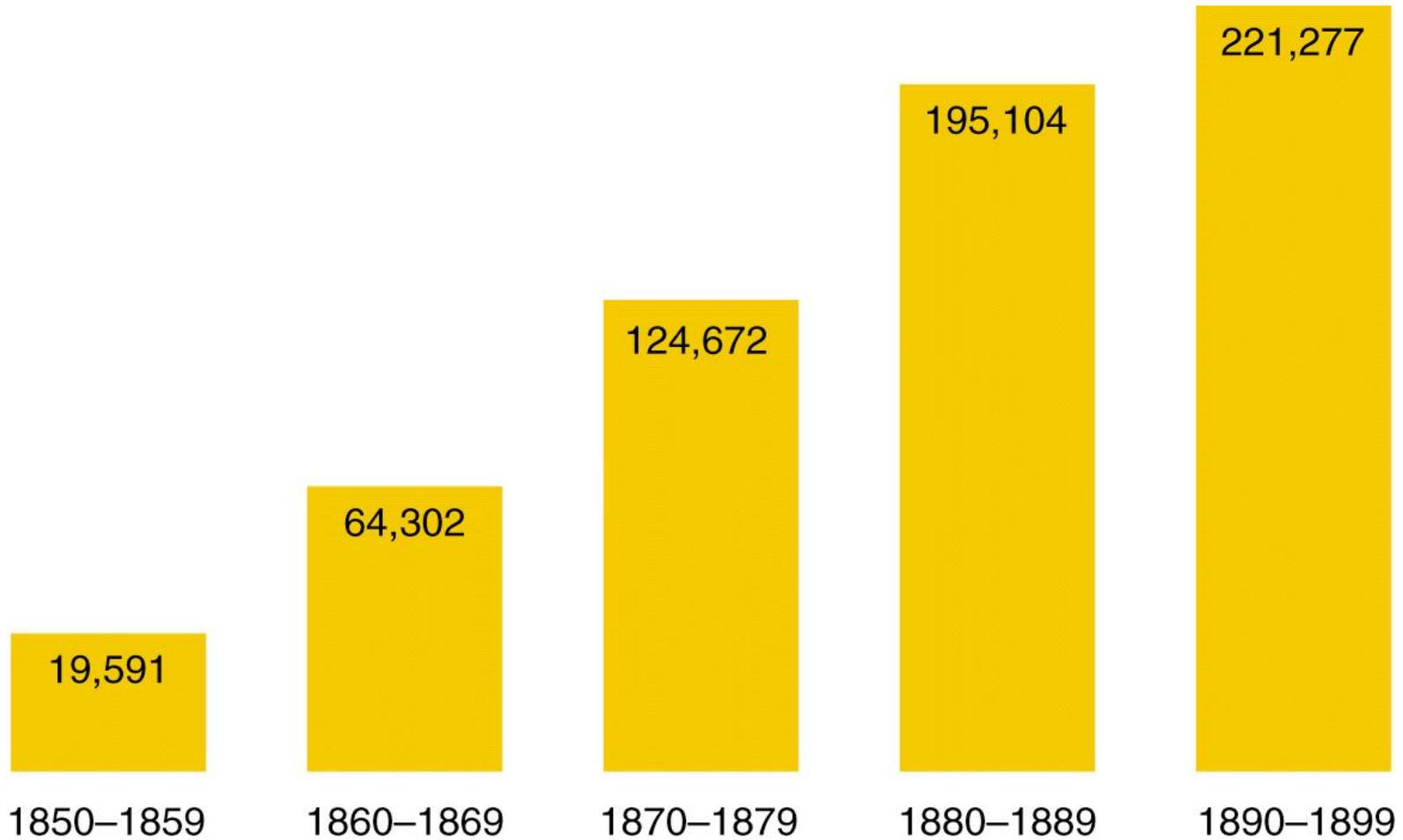
Rockefeller and Oil

- Rockefeller lowers costs, improves quality, establishes efficient marketing operation
- Standard Oil Trust centralizes Rockefeller control of member companies outside Ohio

The Business of Invention

- Late nineteenth-century industry leads to new American technology
- An Age of Invention
 - Telegraph, camera, processed foods, telephone, phonograph, incandescent lamp
- Electricity in growing use by 1900

Patents Issued, by Decade, 1850–1899



The Sellers

- Marketing becomes a science in late 1800s
- Advertising becomes common
- New ways of selling include chain store, department store, brand name, mail-order
- Americans become a community of consumers

The Wage Earners

- The labor of millions of men and women built the new industrial society
- 1875–1900 real wages rose, working conditions improved, and workers' national influence increased
- Health and educational services expanded benefiting workers

Working Men, Working Women, Working Children

- Chronically low wages
 - Average wages: \$400–500 per year
 - Salary required for decent living: \$600 per year
- Dangerous working conditions
 - Railroad injury rate: 1 in 26, death rate 1 in 399
 - Factory workers suffer chronic illness from pollutants

Working Men, Working Women, Working Children

- Composition of the labor force by 1900:
 - 20% women
 - Women represented in 296 of 303 occupations
 - 10% of girls employed, 20% of boys
- Working children
 - “Child labor” means under 14
 - All children poorly paid
 - Girls receive much lower wage than boys

Working Men, Working Women, Working Children

- Working women's characteristics:
 - Most young and single
 - 25% of married African American women work in 1900
- Working women's jobs
 - Many move into clerical positions
 - A few occupy professional positions
- Working women's earnings unequal to men's

Working Men, Working Women, Working Children

- Discriminatory wage structure
 - Adults earn more than children
 - Men earn nearly twice as much as women
 - Whites earn more than blacks or Asians
 - Protestants earn more than Catholics or Jews
 - Black workers earn less at every level and skill

Working Men, Working Women, Working Children

- Chinese suffer periodic discrimination
 - 1879: California constitution forbids corporations to hire Chinese
 - 1882: Federal Chinese Exclusion Act prohibits Chinese immigration for 10 years

Culture of Work

- Factory work habits demand adjustments for immigrants, rural folk
- Many adjust well enough to advance
- Many more see children advance to better jobs

Labor Unions

- Early labor unions like fraternal orders
- 1886: Samuel Gompers founds American Federation of Labor
- A.F.L. seeks practical improvements for wages, working conditions
 - Focus on skilled workers
 - Ignores women, African Americans

Labor Unrest

- Crossed purposes
 - Employees seek to humanize the factory
 - Employers try to apply strict laws of the market
- Courts come down on side of owners with injunctions against strikes

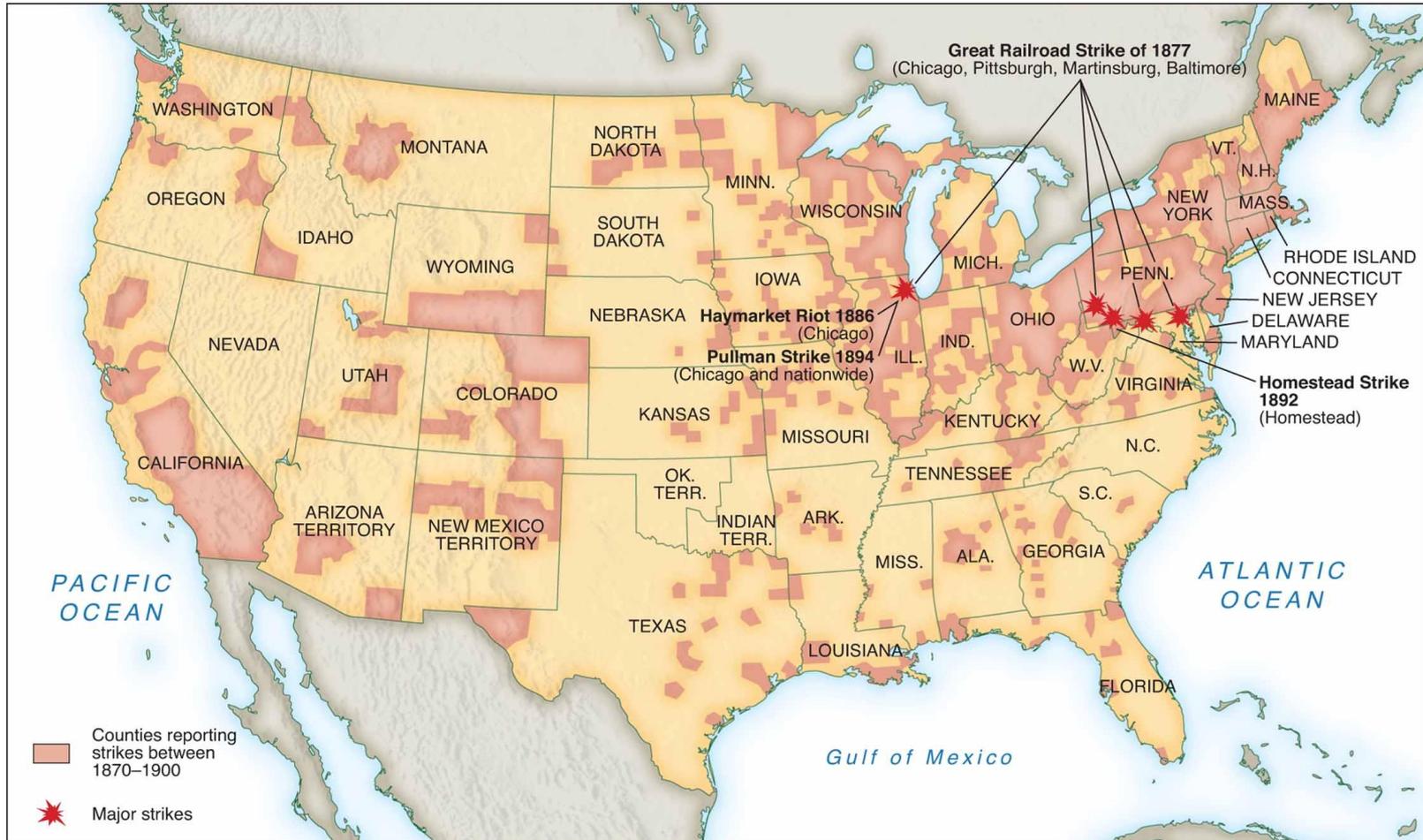
Labor Unrest

- An era of strikes
 - 1877: Rail strikes nearly shut down system, over 100 workers killed in suppressing it
 - 1880–1900: 23,000 strikes
- 1886: Chicago Haymarket incident prompts fears of anarchist uprising
- 1892: Coeur d'Alene silver strike crushed by federal troops

Labor Unrest

- 1892: Homestead steel strike
 - Pinkerton detectives as strike-breaking army
 - Pinkertons in gun battle with strikers
 - State militia called in to restore order
 - Attempted assassination of Carnegie partner Henry Clay Frick

Labor Strikes, 1870–1890



Industrialization's Benefits and Costs

- Benefits of rapid industrialization
 - Rise in national power and wealth
 - Improving standard of living
- Human cost of industrialization
 - Exploitation
 - Social unrest
 - Growing disparity between rich and poor
 - Increasing power of giant corporations