



## Summary

# TELESCOPING THE TIMES *A New Industrial Age*

**CHAPTER OVERVIEW** Technological innovations and the growth of the railroad industry help fuel an industrial boom. Some business leaders follow corrupt practices, and workers, suffering harsh working conditions, try to organize.

## ⑥ The Expansion of Industry

**MAIN IDEA** At the end of the 19th century, natural resources, creative ideas, and growing markets fueled an industrial boom.

As settlement continued in the West, the nation was being transformed by vast changes in technology. Fuel—in the form of kerosene refined from oil or coal—helped spur growth. So did plentiful supplies of iron. Iron became even more useful when the Bessemer process, developed about 1850, allowed workers to efficiently turn it into steel. With the open-hearth method, devised in 1886, even more steel was produced.

Steel came to be used in railroads, in farm tools such as the plow and reaper, and to make cans for preserving food. Engineers also used steel to make the new bridge connecting New York City and Brooklyn and to build skyscrapers.

Thomas Alva Edison established a research laboratory in 1876 in order to develop new inventions. He devised an incandescent light and began to organize power plants to generate electricity. Cities built electric railways, and businesses built factories powered by electricity.

The typewriter (1867) and the telephone (1876) appeared for the first time. These and other inventions changed daily life. More women began to work in offices; by 1910, women were about 40 percent of the clerical work force. The average work week decreased by about ten hours, and people enjoyed more leisure time.

## ⑥ The Age of the Railroads

**MAIN IDEA** The growth and consolidation of railroads benefited the nation but also led to corruption and required government regulation.

By 1890, rail lines totaled more than 200,000 miles. But building and running the railroads was difficult and dangerous work for thousands of workers. By 1888, more than 2,000 railroad workers had died and another 20,000 had been injured. Workers earned very little—and Asians and African Americans less than white workers.

The railroads helped link the nation. Schedules were difficult to maintain, however, as each community set its own time standard. So, in 1883, the railroads and many towns began using four standard time zones.

Railroads stimulated growth of the iron, steel, coal, lumber, and glass industries. They also helped towns and cities grow. George Pullman built a factory to make railroad sleeping cars. As demand for his cars rose, he built a large town south of Chicago to house the workers he needed. While the housing was of good quality, Pullman tried to control his workers' lives. They conducted a violent strike in 1894.

Some business practices led to corruption. In the Crédit Mobilier scandal of 1868, some officers of the Union Pacific used trickery to earn millions for themselves. They also gave stock to some government officials to buy silence.

These scandals helped fuel the anger of the Grangers, farmers who wanted to limit rail companies' power. They persuaded some states to pass laws regulating railroad rates. In 1877, the Supreme Court said government could regulate industry for the public good. Congress passed the Interstate Commerce Act in 1887, but the commission it created was not strong enough to control the railroads.

The depression of 1893 and 1894 changed the industry. Many railroads failed, and a few survivors seized many of the rest. By 1900, seven companies owned most of the nation's railways.

## ⑥ Big Business and Labor

**MAIN IDEA** The expansion of industry resulted in the growth of big business and prompted laborers to form unions to better their lives.

Consolidation occurred in other industries as well. Andrew Carnegie built a giant steel-producing firm. Carnegie used cost-saving technology, strict accounting, and effective managers. He bought out competitors and companies that provided raw materials or transportation of his goods.