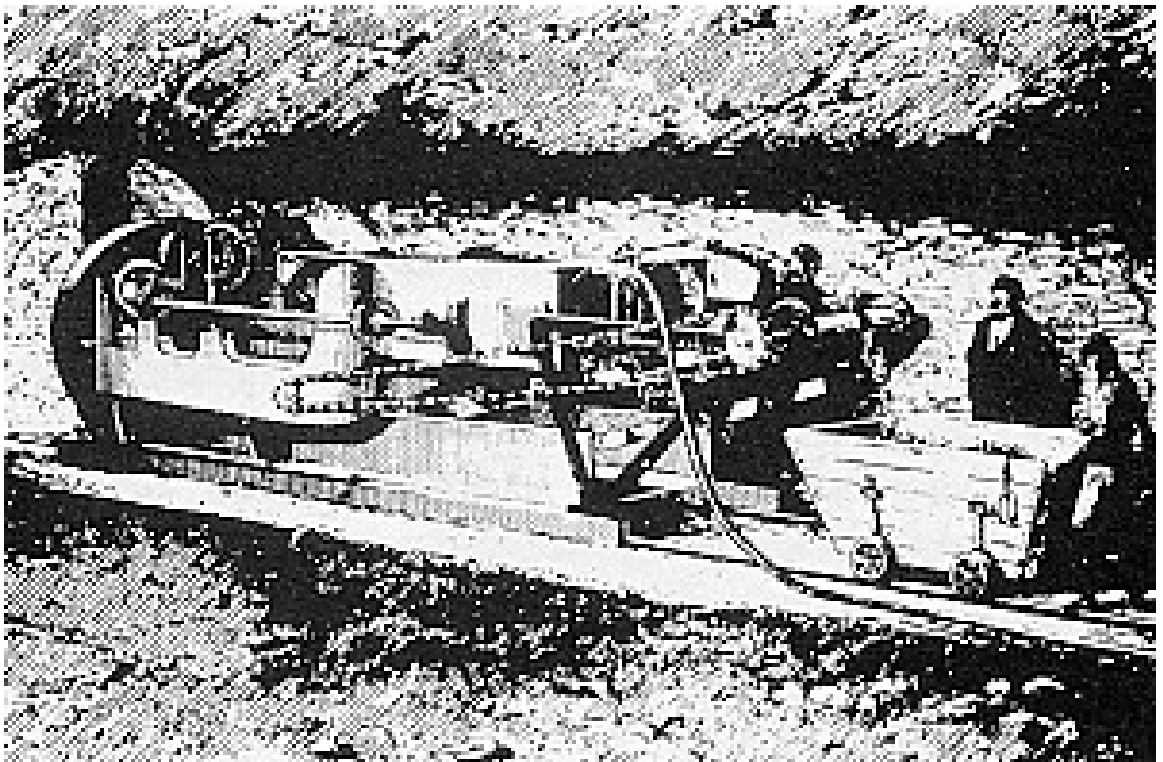
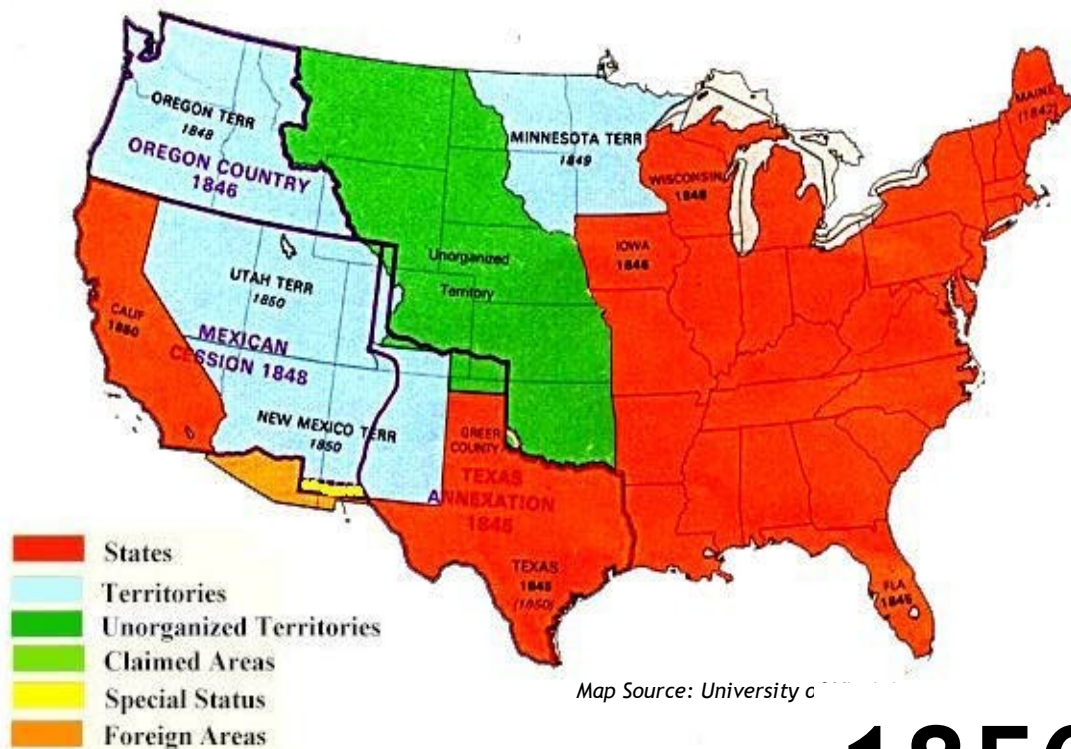


# Transportation

## 1860-1899



# U.S. States and Territories



## 1850

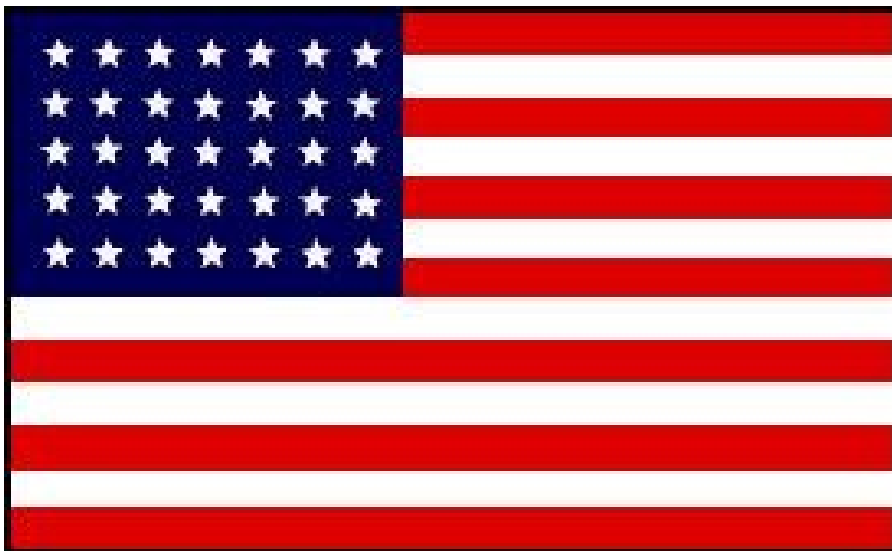
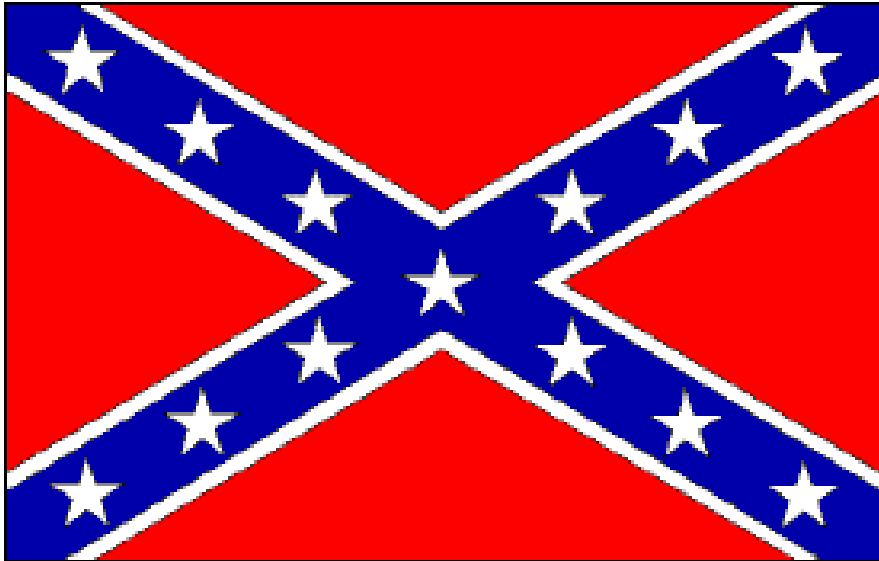
1845 Texas Territory Annexed

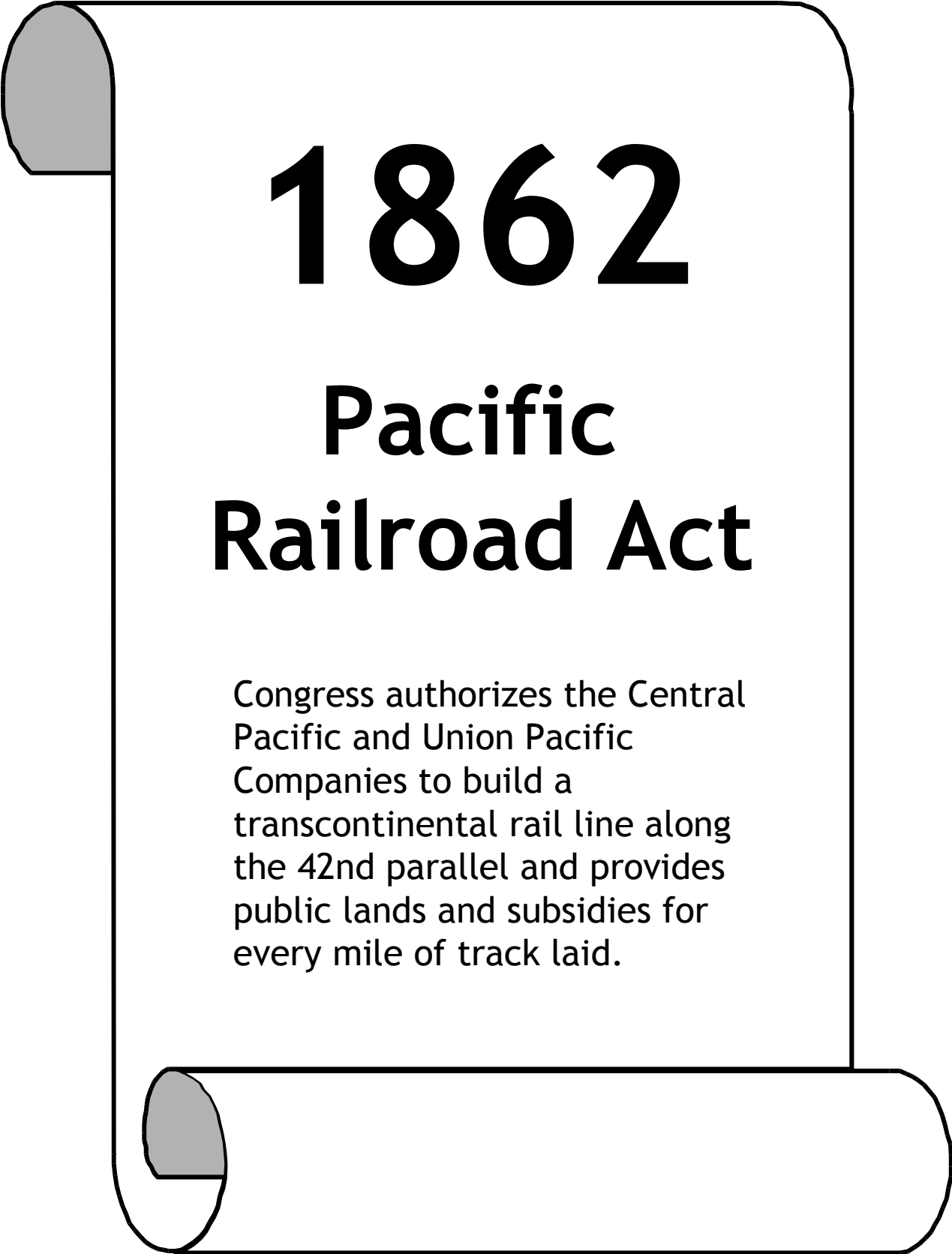
1846 Oregon Treaty (Oregon Territory)

1848 Treaty of Guadalupe Hidalgo (Mexican Territory)

# 1861-1865

## Civil War

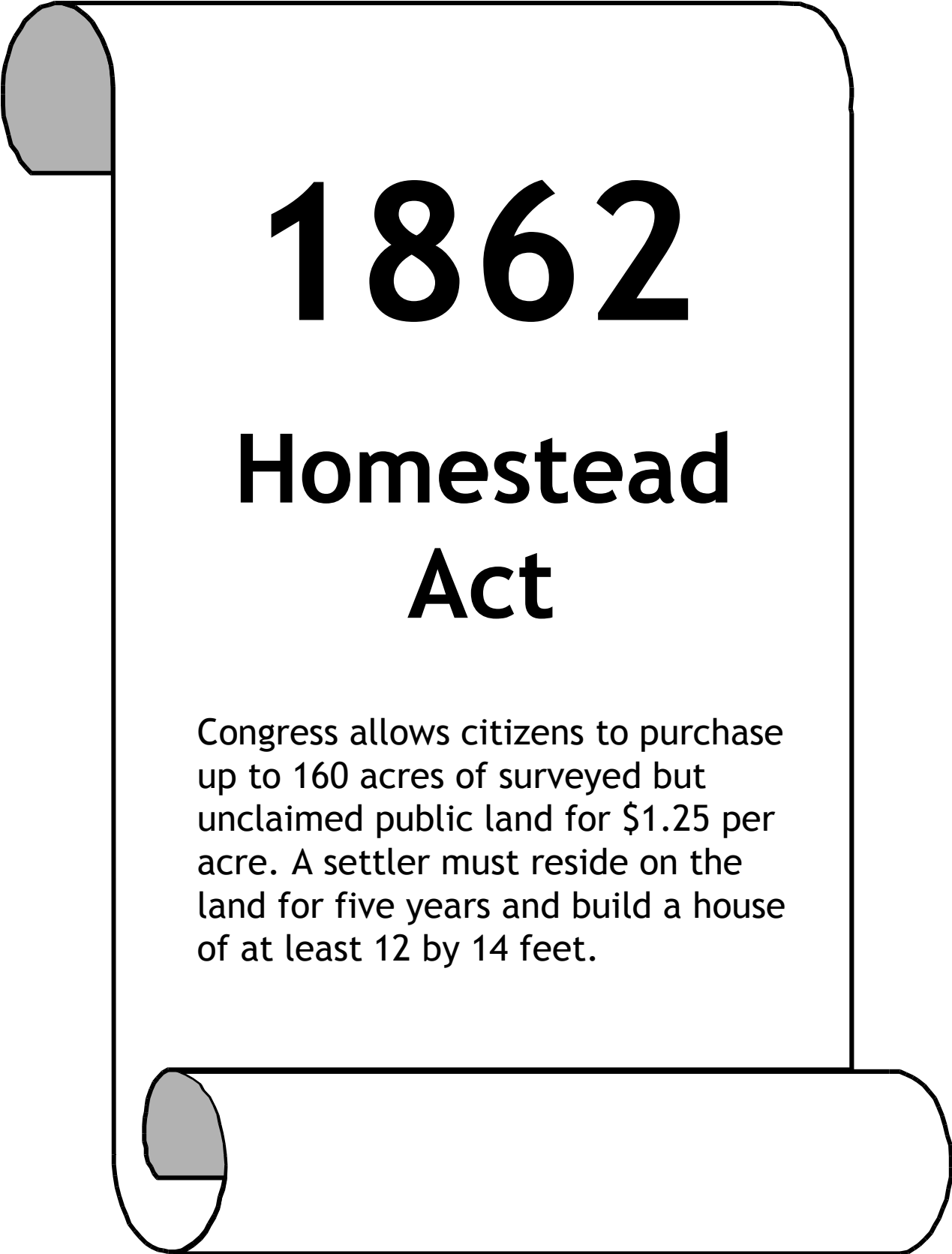




# 1862

## Pacific Railroad Act

Congress authorizes the Central Pacific and Union Pacific Companies to build a transcontinental rail line along the 42nd parallel and provides public lands and subsidies for every mile of track laid.



# 1862

## Homestead Act

Congress allows citizens to purchase up to 160 acres of surveyed but unclaimed public land for \$1.25 per acre. A settler must reside on the land for five years and build a house of at least 12 by 14 feet.

# 1867

## Dynamite

**Who:** Alfred Nobel  
(Inventor)

**Where:** Sweden

**Why:** Dynamite transforms the construction of roads, tunnels, bridges, etc

Alfred Nobel's work building bridges and buildings inspired him to research new methods of blasting rock. His invention, dynamite, would reduce production costs and increase profits for his and many other construction companies. Dynamite contains three parts nitroglycerin, one part diatomaceous earth and a small amount of sodium carbonate. This mixture is formed into short sticks and wrapped in paper that is more stable in storage than nitroglycerin.



*Image Source: Fotosearch.com*

It is also more powerful than black powder. The invention of dynamite in 1867 transformed construction, mining and demolition, making them faster and safer.

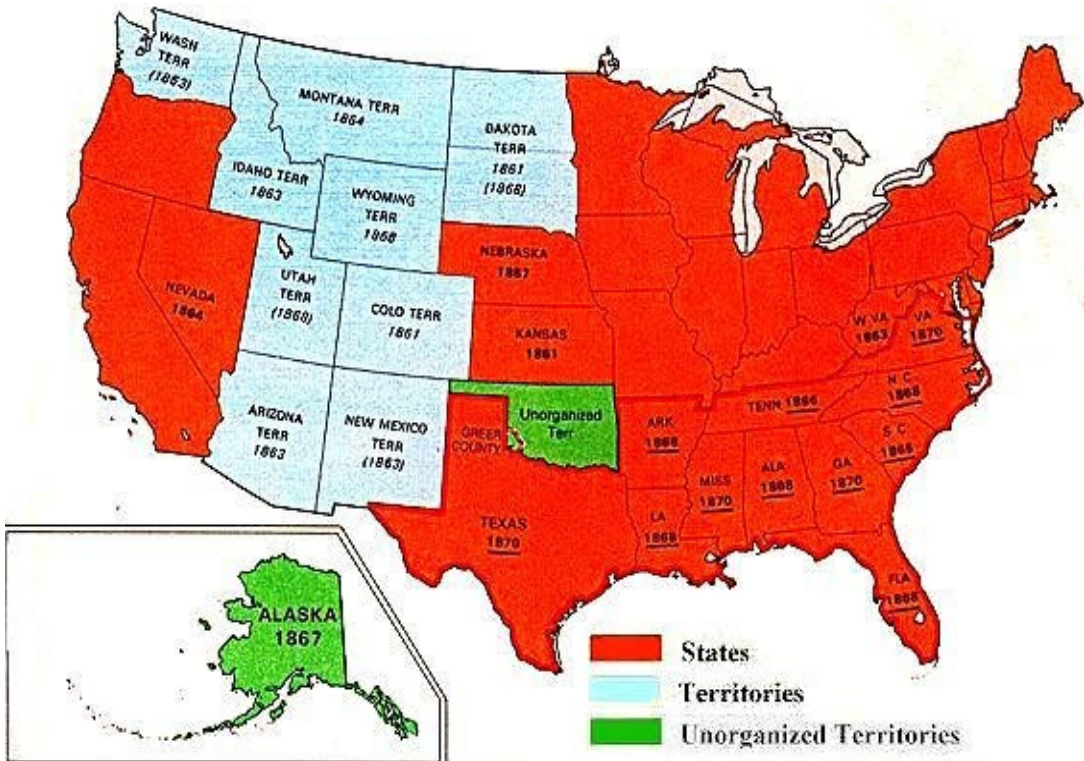
# 1869

## Suez Canal Opens



Links the Mediterranean Sea with the Indian Ocean, shortening travel between Europe and the Far East. Ships no longer have to travel around Africa.

# U.S. States and Territories



Map Source: University of Virginia

# 1870

## 1867 Alaska Purchase



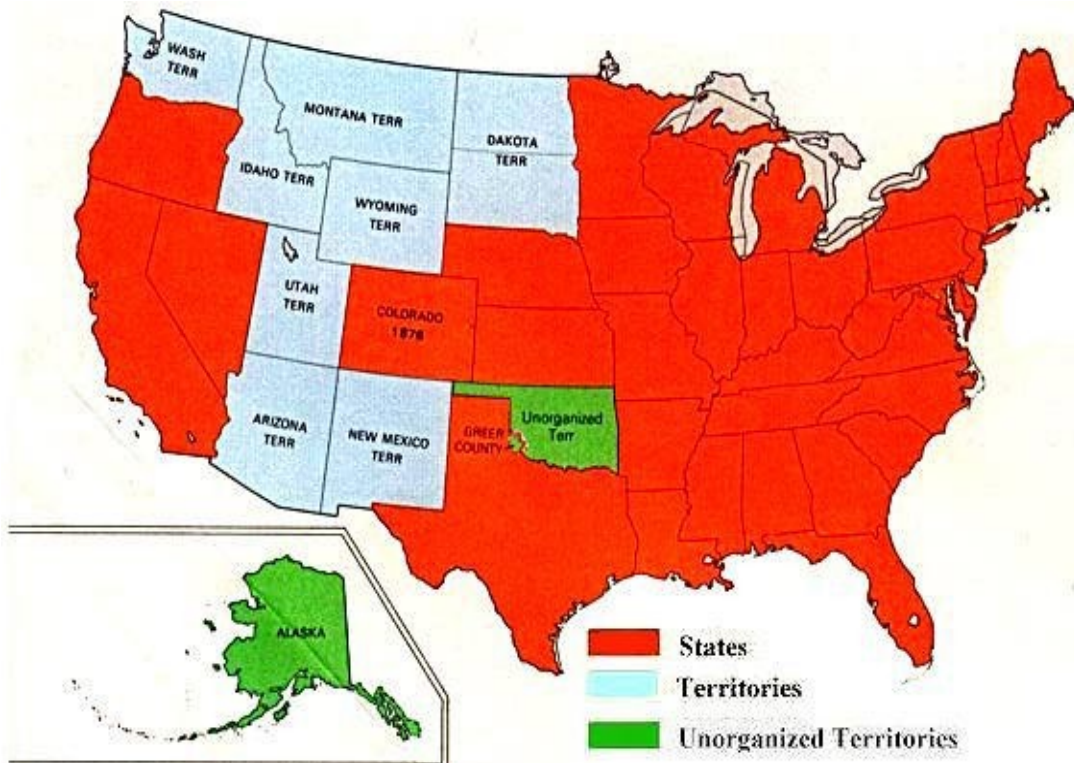


# 1877

## Desert Land Act

Congress permits settlers to purchase up to 640 acres of public land at 25¢ per acre in areas where the arid climate requires large-scale farming, provided they irrigate the land.

# U.S. States and Territories

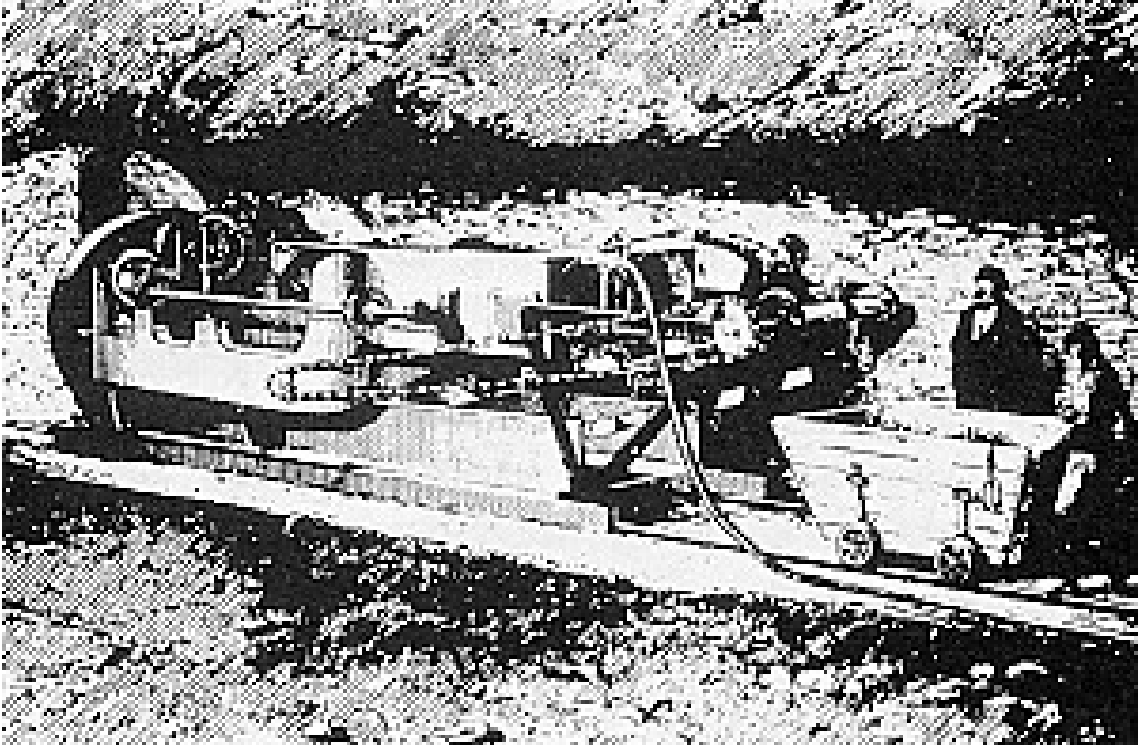


Map Source: University of Virginia

# 1880

# 1880

## Tunnel Boring Machine



*Image Source: Subterranea Britannica*

**Who:** Thomas English (Inventor)

**Where:** England

**Why:** Invention of the boring machine reduced the cost of building tunnels.

1880 is the year a patent was granted to Thomas English for the tunnel boring machine—an alternative to digging and blasting. Fredrick Beaumont, an employee of the Channel Tunnel Company, used this improved machine when work was begun on a tunnel between England and France but the project was soon stopped because the English feared the French might use the tunnel to invade. The machine's inventor, Thomas English, was motivated by a desire to reduce the costs of tunneling and potential profits from sale of the machine to builders such as Beaumont.

# 1893

## Diesel Engine

**Who:** Rudolf Diesel  
(Inventor)

**Where:** Germany

**Why:** Invention of the diesel engine increases the fuel options that can be used with the internal combustion engine.

Rudolf Diesel invented a type of internal combustion engine that can use a variety of fuels including coal dust and peanut oil. His engine will start replacing steam engines for rail locomotives in 1934. By 1950, the railroads decide to convert their entire locomotive fleets to diesel power. Diesel engines are also used today as an alternative fuel for trucks and some cars.



*Image Source: vegcar.net*