

Forging the National Economy

1790 – 1860

Rise of a Market Economy

- People on the move
 - Westward
 - Immigrants from Europe to cities
- New inventions
 - Cultivation of crops
 - Manufacturing of goods
- Workers labored under more demanding conditions
- Roads, steamboats, canals, railroads

The Westward Movement

- West was most “American” part of America
 - “Europe stretches to the Alleghenies; America lies beyond.” – Emerson
- Young population
 - 1/2 of Americans under 30
 - Restless, energetic, on the move
- Move westward
 - 1840 – demographic center of US crossed Alleghenies

The Westward Movement

- Very difficult existence for pioneers
 - Poorly fed, clothed
 - Housed in shanties that they could quickly build
 - Loneliness
 - People might spend weeks at a time cut off from other people, even their neighbors
 - Especially hit women hard; some had breakdowns and even went crazy

The Westward Movement

- Pioneer life
 - Entertainment for men
 - No-rules wrestling (biting off nose, eye gouging)
 - Ill-informed, superstitious
 - Individualistic
 - “Self-Reliance” by Emerson
 - Literature celebrated isolated figures against wilderness (James Fenimore Cooper; Herman Melville)
 - Community
 - Worked together (barn raising)
 - Called on government for internal improvements

Shaping the Western Landscape

- “ecological imperialism”
 - Aggressive and careless exploitation of natural resources in West
- Changes to land
 - Pioneers exhausted soil (especially with tobacco) and then moved on
 - In Kentucky, pastureland (Kentucky bluegrass) created by burning native cane

Shaping the Western Landscape

- The fur trade
 - “rendezvous system” used for beaver pelts
 - Traders brought manufactured goods from St. Louis to Rocky Mountains
 - Trappers brought pelts to traders in exchange for manufactured goods
 - Beaver virtually wiped out in 20 years
 - Buffalo (bison)
 - Hunted for pelts to be used as robes
 - Almost total annihilation of buffalo

Shaping the Western Landscape

- Americans also respected and loved nature
 - Spirit of nationalism from uniqueness of American wilderness
 - Eventually led to powerful conservation movement
 - 1832 – painter George Catlin saw Indians killing buffalo for tongues (to trade for whiskey) and called for preservation on national park
 - First park eventually created at Yellowstone in 1872

The March of the Millions

- Rapid population growth
 - Doubling every 25 years (continued from colonial times)
 - By 1860 – 33 states in US

The March of the Millions

- Urban growth
 - 1860 – 43 cities over 20,000 people (had been only 2 in 1790)
 - New York, Chicago, and New Orleans major cities
 - Problems with quick urbanization
 - Slums; lack of street lighting, police, clean water, garbage disposal; sewage; rates; loose animals (hogs) in streets
 - 1823 – Boston first to use sewer system
 - 1842 – New York used piped-in water

The March of the Millions

- New immigration
 - Before 1840s – immigration at about 60,000 per year
 - 1840s – immigration suddenly tripled
 - 1850s – immigration quadrupled (from pre-1840s)
 - 1840s – 1850s – 1.5 million Irish and 1.5 million Germans came to US

The March of the Millions

- Changes in Europe
 - Many people came to US because of population boom in Europe led to lack of land and opportunities there
 - Many moved around Europe before coming to US
 - About 1/2 of 60 million people who left Europe went to places other than US

The March of the Millions

- The appeal of the US
 - Freedom from aristocracy and class (caste) system
 - No state church
 - Opportunity for land
 - Lower taxes
 - No required service in military
 - Abundant food

The March of the Millions

- The journey
 - Steamships meant that journey was only 10 – 12 days (instead of 10 – 12 weeks)
 - Still crowded into unsanitary living quarters
 - More bearable because of shorter journey

Westward Movement of Center of Population, 1790-1990



The Emerald Isle Moves West

- 1845 – 1849 – Irish Potato Famine
 - A fungus attacked potatoes (primary food source for Irish)
 - 1/4 of Irish (2 million people) died of starvation
 - Led to huge numbers leaving for US in 1840s and 1850s

The Emerald Isle Moves West

- Irish in America
 - Too poor to move west or buy land and equipment needed in West
 - Crowded into Eastern cities (especially Boston and New York)
 - Crammed into slums; worked as kitchen help (women) or manual labor on railroads and canals (men)

The Emerald Isle Moves West

- Americans and Irish
 - Native whites did not like Irish
 - Depressed wages
 - “No Irish Need Apply” signs
 - Blamed for slums and alcoholism
 - Irish hated blacks
 - Irish hated blacks for same reasons as native whites hated blacks
 - Race riots between blacks and Irish
 - Irish did not support abolitionism

The Emerald Isle Moves West

- Irish forced to fend for themselves
 - Ancient Order of Hibernians
 - Irish organization that fought landlords in Ireland; evolved into benevolent society in US
 - Irish worked in low-skill jobs, but worked up
 - Children worked with parents to save money
 - Property ownership became very important

The Emerald Isle Moves West

- Irish and US politics
 - Came to control city political machines (like Tammany Hall in New York)
 - Patronage from machines led to Irish dominating some professions (like police departments)
 - Politicians worked for Irish vote
 - Attacked British to appeal to Irish (“twisting the British lion’s tail”)

The German Forty-Eighters

- 1830 – 1860 – 1.5 million Germans came to US
 - Most were farmers who had to leave land because of crop failures
 - Some were political refugees who had to leave Germany after failure of democratic revolutions of 1848

The German Forty-Eighters

- Germans moved to Middle West (especially Wisconsin)
 - Had more money than Irish (who settled in big cities in East)
 - Not as politically strong as Irish because they were more spread out

The German Forty-Eighters

- Impact of Germans in US
 - Conestoga wagon, Kentucky rifle, Christmas tree
 - Isolationist feelings because they had fled from militaristic and warlike Europe
 - Better educated; supported public schools (Kindergarten)
 - Stimulated art and music
 - Relentless enemies of slavery

The German Forty-Eighters

- Germans and Americans
 - Settled together in “colonies”, separate from other Americans
 - Drank bier (beer) on Sunday to celebrate
 - Irish and German drinking led to stronger temperance movement in US

Flare-ups of Antiforeignism

- Nativists feared Irish and Germans would overwhelm whites already there
 - Taking jobs
 - Outbreeding
 - Outvoting
 - Irish Roman Catholicism feared

Flare-ups of Antiforeignism

- Roman Catholicism
 - Most Irish and some Germans were Catholics
 - Catholics established their own schools to prevent Protestant indoctrination
 - Became largest church in US by 1850 (many more Protestants, but divided by sects)
 - Nativists (unrealistically) feared establishment of Catholic church (making it the official US church)

Flare-ups of Antiforeignism

- Nativist political action
 - 1849 – Order of the Star-Spangled Banner established
 - Evolved into powerful American (Know-Nothing) party
 - “Know-Nothing” came from the party’s secrecy – members were supposed to claim they knew nothing when questioned
 - Called for restrictions on immigration and naturalization and laws for deportation of poor aliens
 - Wrote descriptive fiction about supposed sins hidden in convents
 - Nuns sexually exploited; babies from these sins killed and buried in churches

Flare-ups of Antiforeignism

- Nativist mass violence
 - Infrequent and generally in larger cities
 - 1834 – Catholic convent burned in Boston
 - 1844 – Irish Catholics fought back against native mob in Philadelphia
 - Violence lasted for several days
 - 13 killed; over 50 wounded; 2 Catholic churches burned

Flare-ups of Antiforeignism

- As US became the most ethnically diverse country in history, why were incidents of violence not more frequent?
 - Strength of US economy meant immigrants could do well without jeopardizing those already here
 - Immigrants helped US economy expand even more
 - US might have missed out on industrialism without large numbers of immigrants

Creeping Mechanization

- 1750 – Industrial Revolution began in Britain
 - Inventors used steam machines to mass produce textiles (cloth); led to modern factory system
 - Accompanied by transformations in agricultural production, transportation, and communication

Creeping Mechanization

- In about 1 generation, the factory system spread from Britain to the European Continent and the US
 - US did not industrialize until mid 1800s

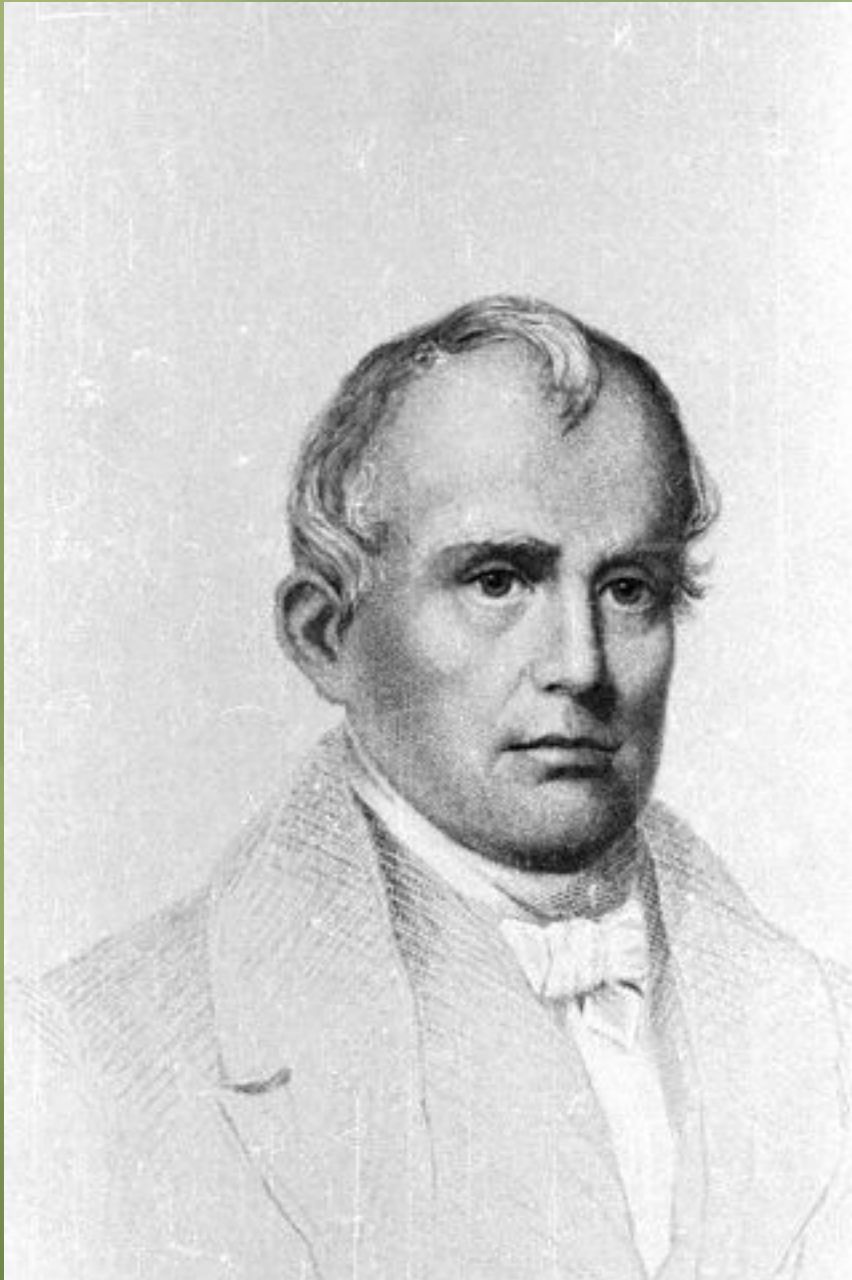
Creeping Mechanization

- Why the US was relatively slow to adopt industrialization
 - Land was cheap
 - Workers wanted to work outdoors instead of in factories
 - Labor scarce until immigrants arrived in 1840s
 - Money for capital investment scarce
 - Raw materials undiscovered or undeveloped
 - US-produced goods of lesser quality and higher price than British goods
 - British had monopoly on textile production (with secrets protected by law)

Whitney Ends the Fiber Famine

- Samuel Slater
 - “Father of the Factory System” in America
 - Skilled British mechanic who was attracted to US by bonuses paid to British workers familiar with textile machinery
 - Memorized plans for British textile machinery and emigrated to US
 - 1791 – with financial backing of Moses Brown (Quaker capitalist), built first American machine for spinning thread

Samuel Slater



Whitney Ends the Fiber Famine

- Need for cotton fiber created
 - Expensive and very labor intensive to separate cotton from seeds

Whitney Ends the Fiber Famine

- Eli Whitney
 - Born in Massachusetts; traveled to Georgia as private tutor
 - 1793 – in 10 days, invented cotton gin (engine)
 - Separated seed from short-staple cotton
 - 50 times more fast than doing it by hand

Eli Whitney

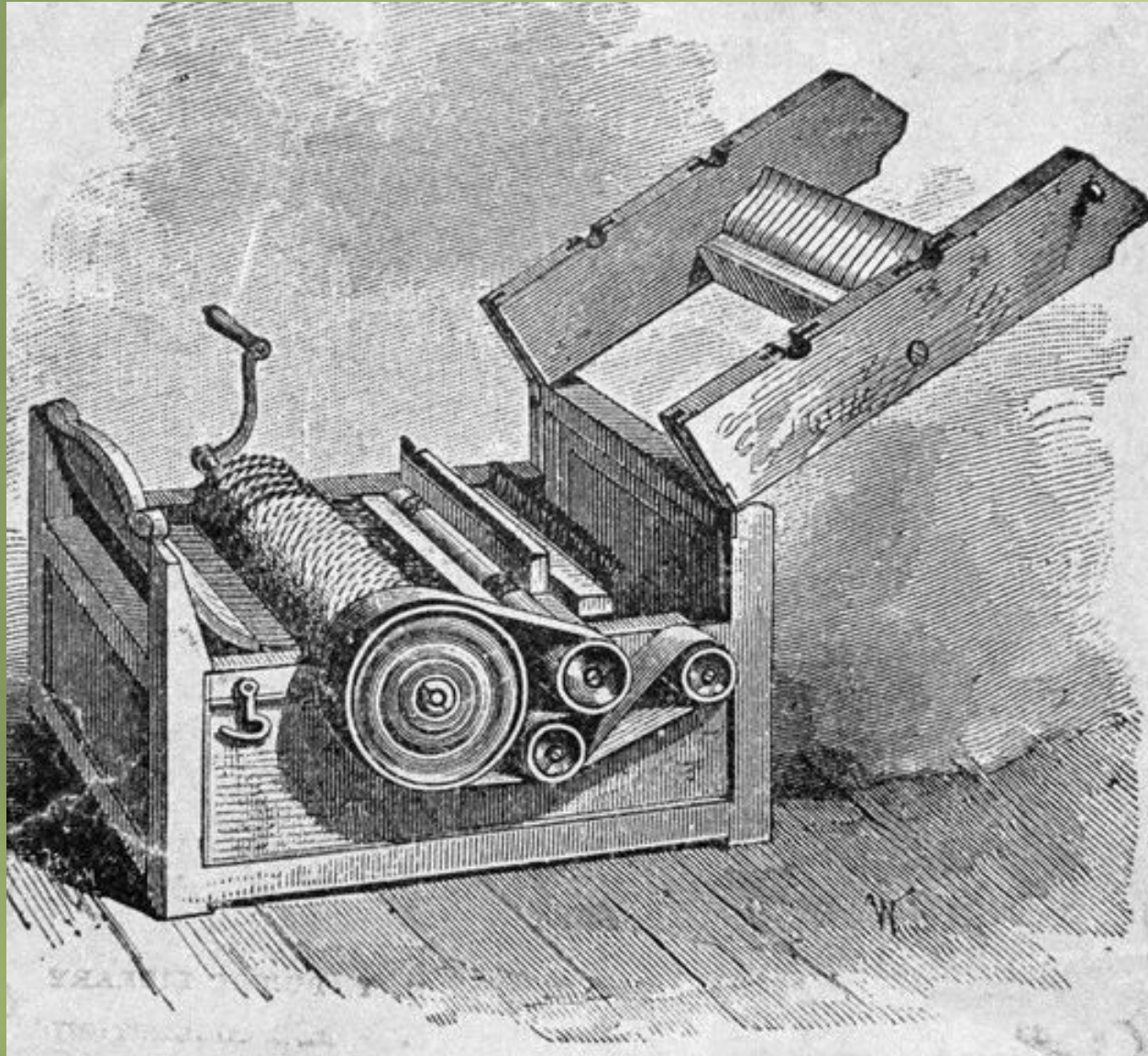


Eli Whitney

Whitney Ends the Fiber Famine

- Effect of the cotton gin
 - Raising of cotton became highly profitable, tying South to cotton
 - Slavery had been dying out; now cotton revived need for slaves to raise cotton and run cotton gin

The Cotton Gin



Whitney Ends the Fiber Famine

- North and South benefit from cotton gin
 - South expanded cotton-growing areas
 - Pushed off coastal areas (tidewater), across piedmont (between coastal areas and Appalachians) to inland Alabama and Mississippi
 - North (and Britain) bought South's cotton for use in factories
 - At first in New England; expanded to New York, New Jersey, Pennsylvania
 - South relied on cotton and slaves; very little manufacturing there

Slaves Operating a Cotton Gin



Whitney Ends the Fiber Famine

- Why New England developed as industrial center first
 - Farming difficult in rocky soil
 - Dense population (for labor and markets)
 - Seaports brought in capital and raw materials and export of finish products
 - Rapid rivers (like Merrimack in Massachusetts) provided water power for early factories

Marvels in Manufacturing

- Few US factories until 1807
 - Embargo, nonintercourse, War of 1812 led to citizens looking for substitutes for British goods
 - Hurt New England shipping; capital usually invested in shipping and sailors normally working on ships diverted to factories

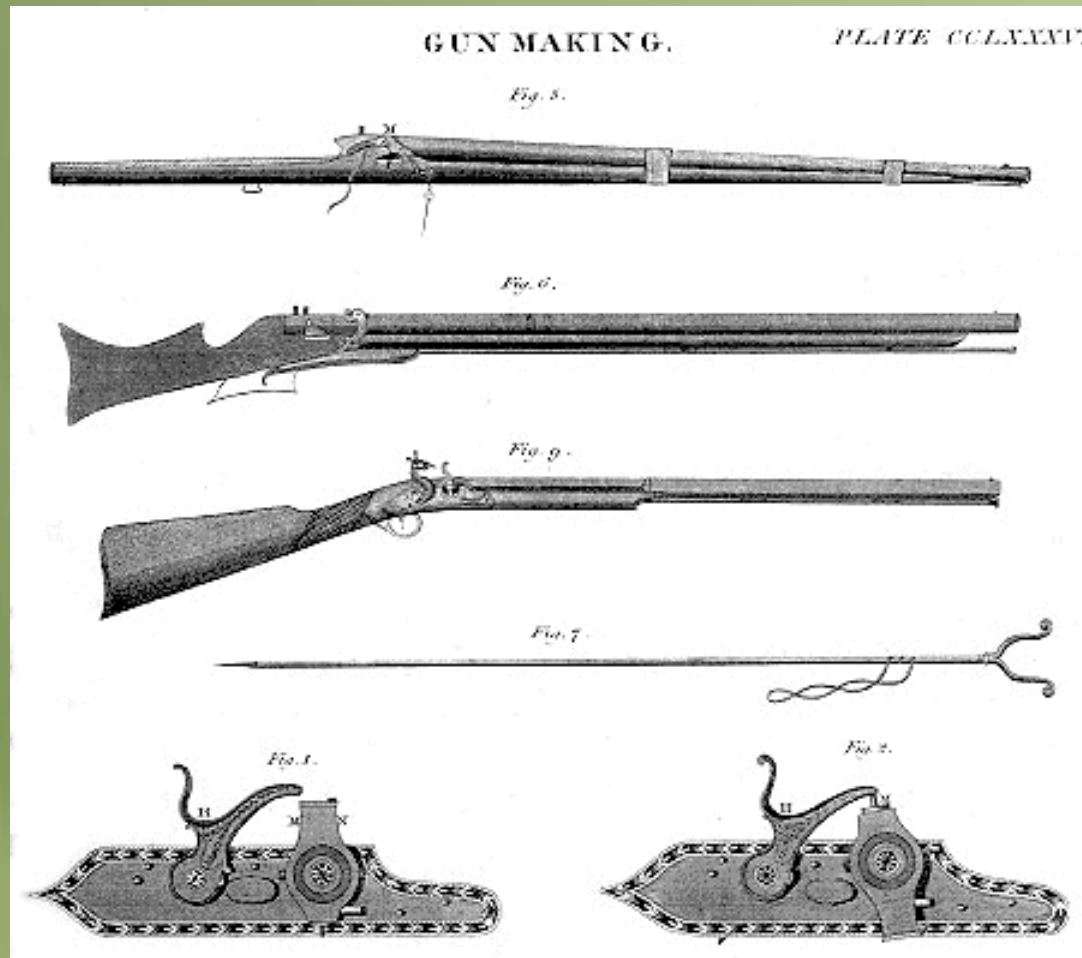
Marvels in Manufacturing

- 1815 – Treaty of Ghent ended War of 1812
 - British dumped excess inventory in America
 - Many US factories forced to close
- Tariff of 1816 passed
 - Mildly protective tariff to help US manufacturers

Marvels in Manufacturing

- Interchangeable parts
 - Before, each part of gun hand-tooled; if a part broke, it would have to be custom-made
 - Eli Whitney came up with idea of having a machine make each part
 - All parts would be exactly the same
 - 1798 – traveled to Washington to convince US officials
 - With 10 new muskets in a box, took them all apart, scrambled the parts, and reassembled them

Interchangeable Parts



Marvels in Manufacturing

- Effect of interchangeable parts
 - Widely adopted by 1850
 - Helped industrial North defeat agricultural South in Civil War

Marvels in Manufacturing

- 1846 – sewing machine invented by Elias Howe
 - Perfected by Isaac Singer
 - Boosted ready-made clothing industry
 - Moved seamstresses (women sewers) from home-production to factories

A Singer Sewing Machine



SINGER I. F. MACHINE.

(OSCILLATING MECHANISM.)

Mounted on Seven-Drawer Oak Table with Drop Leaf.

Marvels in Manufacturing

- New inventions stimulated new inventions
 - 1800 – 306 patents issued
 - 1860 – 28,000 patents issued

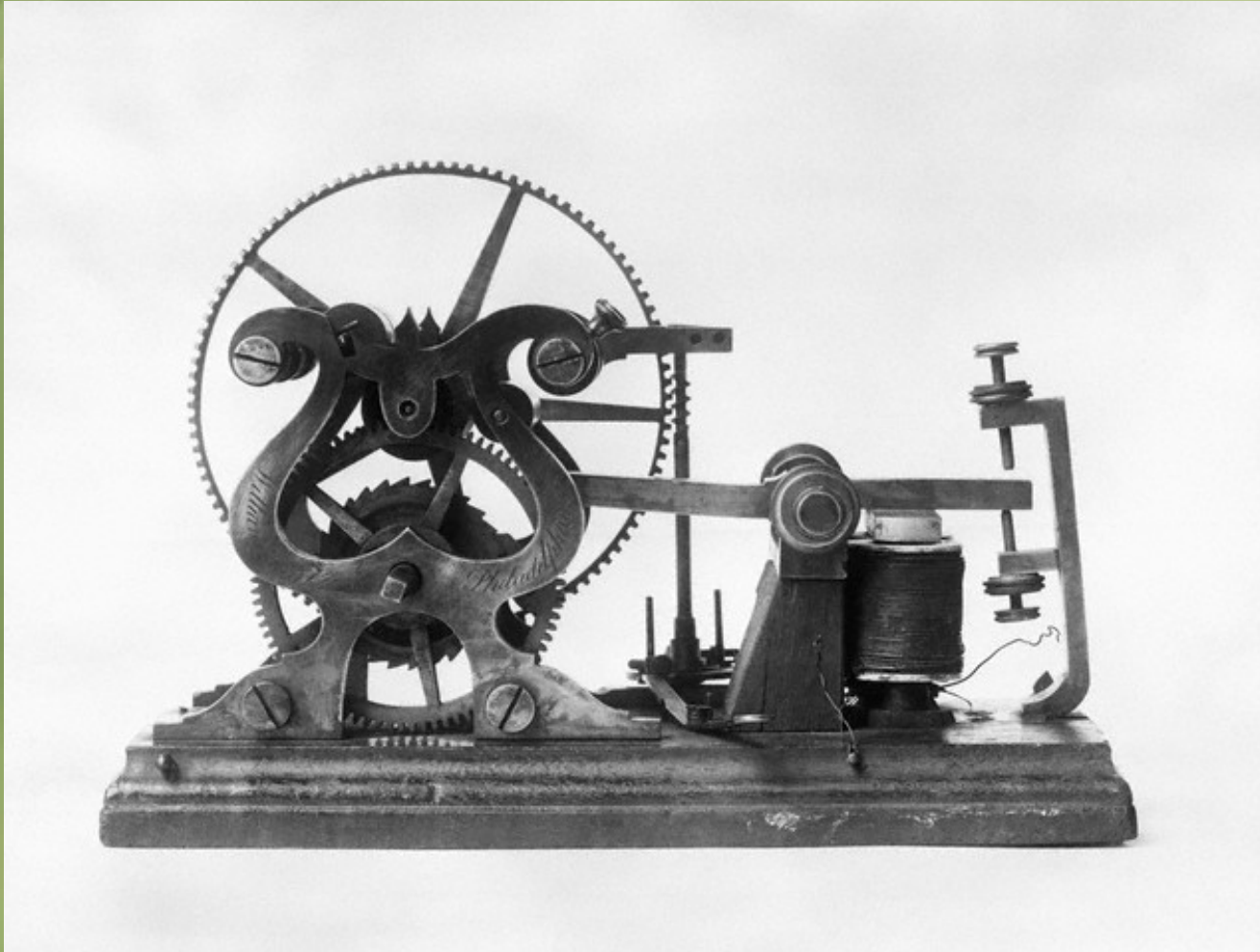
Marvels in Manufacturing

- Changes in form and legal status of business organizations
 - Limited liability – allowed shareholder to only be liable for his share of stock in case company went bankrupt
 - Investment capital companies created to allow people to invest in businesses
 - Laws of “free incorporation”
 - First passed in New York in 1848
 - Businessmen could create corporations without applying for individual charters from legislature

Marvels in Manufacturing

- The telegraph
 - 1844 – invented by Samuel F. B. Morse
 - Wires strung from Washington, DC to Baltimore (about 40 miles)
 - Morse tapped out “What hath God wrought?”
 - By 1860 – wired stretched across US
 - Revolutionized news, diplomacy, finance

Samuel Morse's Telegraph



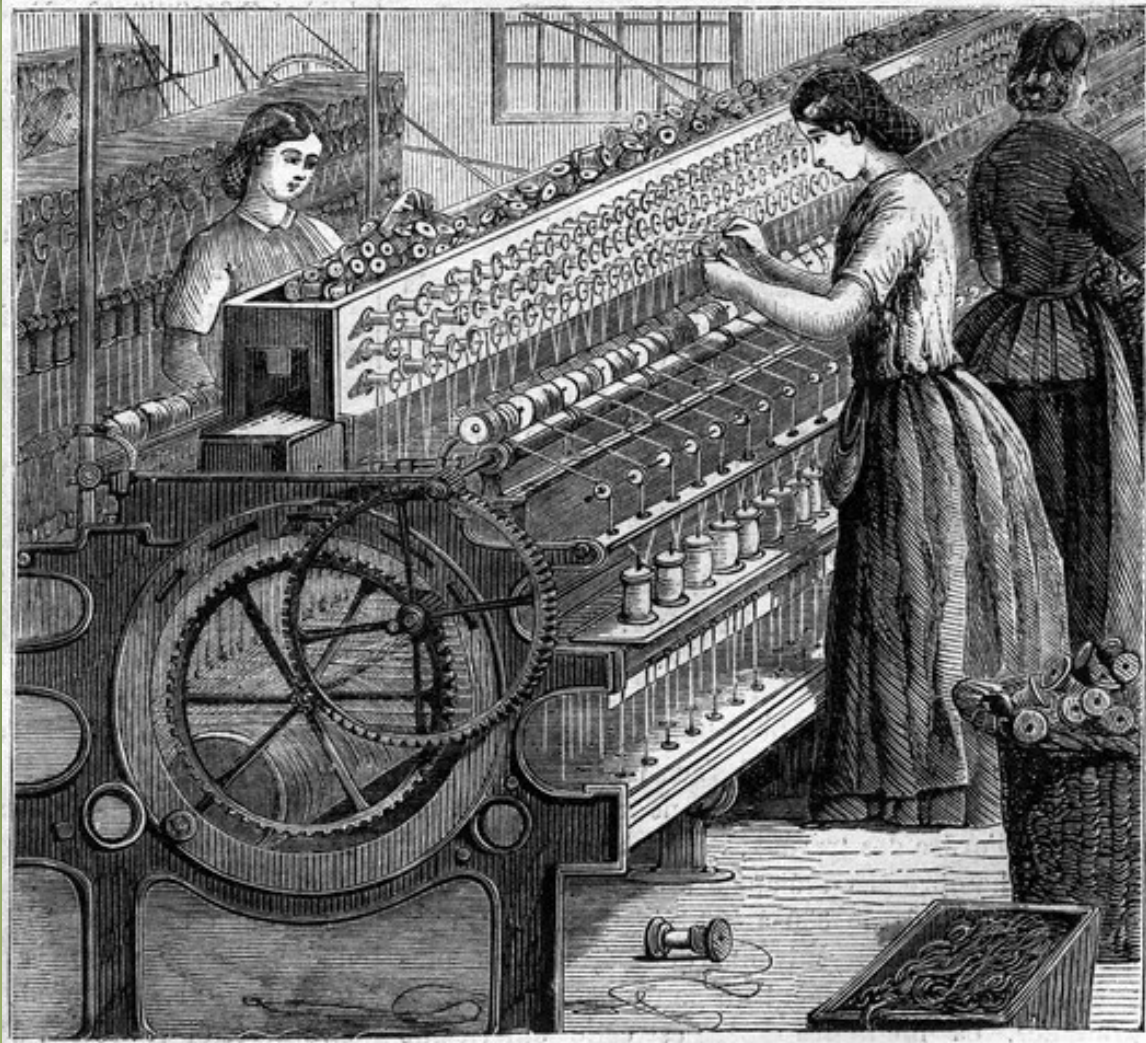
Workers and “Wage Slaves”

- Before – work had been performed in homes or small shops
 - Master and apprentice worked closely in friendly relationship
- Industrial Revolution ended the relationship for impersonal owner/worker system

Workers and “Wage Slaves”

- Benefits and costs of industrialism
 - Owners grew rich off factory system
 - Workers endured long hours, low wages, small meals
 - Unsanitary buildings that were poorly ventilated, lighted, and heated
 - Forbidden by law to form unions (seen as criminal conspiracy)

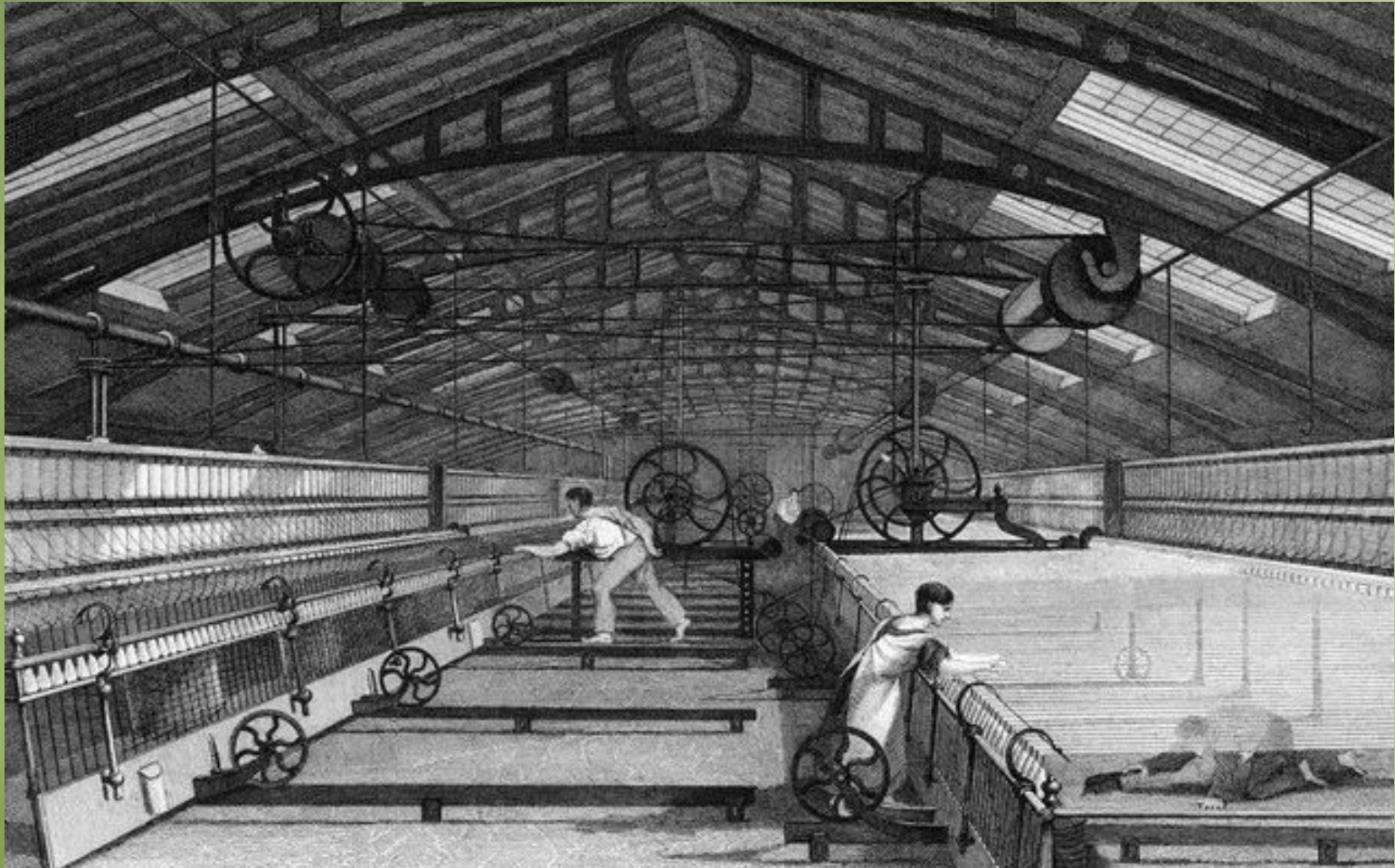
Factory Labor



Workers and “Wage Slaves”

- Child labor
 - Significant number of workers were children under 10
 - Victims were mentally and physically stunted, emotionally starved
 - Beaten in “whipping rooms” as punishment

Child Labor in a Factory



Workers and “Wage Slaves”

- 1820s – 1830s – conditions for adult workers improved
 - Workers granted the vote
 - Joined with Democratic party of Andrew Jackson
 - Worked for 10-hour day, higher wages, better working conditions, public schools, and end to imprisonment for debt

Workers and “Wage Slaves”

- Employers fought 10-hour day
 - Would lessen production, increase costs, and cause lazy workers to fall into sin
- 1840 – Van Buren authorized 10-hour day for all federal workers
 - States eventually copied federal standard for working people

Workers and “Wage Slaves”

- Strikes and unions
 - Workers stopped working to protest wages and conditions
 - Few strikes before 1830s because they were seen as illegal conspiracies
 - 1830s – 1840s – dozens of strikes occurred
 - Lost more strikes than they won
 - Employers could import strikebreakers (“scabs”) in place of striking workers
 - Workers opposed immigration because they were used as strikebreakers
 - Unions and strikes gained strength during 1830s, but weakened in 1837 during depression
 - 1842 – Commonwealth v. Hunt
 - Supreme Court ruled unions not illegal conspiracies
 - Unions had another century of rough work to complete before full recognition and rights established

Women and the Economy

- Before industrialism, women worked at home making clothing and food products needed for home
- Factories displaced homemade products, but also offered employment to women
- Factory jobs gave women greater economic independence and means to buy manufactured goods

Women and the Economy

- Factory girls
 - Worked 6 days a week, 12-13 hours per day
 - New England girls from farms
 - Supervised on and off the job; escorted to church; forbidden to form unions

Women and the Economy

- Jobs for women scarce
 - A few factory jobs, nursing, domestic service, teaching
 - Teaching became “feminized” as men left the field
 - 20% of women had been employed before marriage

Women and the Economy

- “cult of domesticity”
 - Working women were single; upon marriage they left their jobs to become wives and mothers
 - “cult” was widespread cultural belief system that glorified the customary functions of the homemaker
 - Women’s increased influence led to changes in the family

Women and the Economy

- Marriage for love instead of arrangement by parents
 - Parents kept power of veto
 - Marriages became closer

Women and the Economy

- Families grew smaller
 - “fertility rate” (number of births among women, 14-45) dropped sharply among white women
 - Birth control was primitive, but something was done to prevent childbirth
 - Women probably led in the decision to have fewer children (“domestic feminism”)

Women and the Economy

- Child-centered families
 - Fewer children meant parents could give more attention to them
 - Children were not spoiled
 - Other forms of punishment besides beatings used to shape children's behavior
 - Raised to be independent individuals, not submissively obedient (raised to be good US citizens)



The “Cult of Domesticity”

Western Farmers Reap a Revolution in the Fields

- Trans-Allegheny region (between Appalachians and Mississippi River) became US's breadbasket
 - Especially Ohio-Indiana-Illinois area
 - Grew corn to be fed to hogs or distilled into liquor (both easier to transport east than corn itself)
 - Most produce floated down Ohio-Mississippi Rivers to South

Western Farmers Reap a Revolution in the Fields

- Farmers worked to expand acreage
 - 1837 – John Deere invented steel plow to break tough soil in west and was light enough to be pulled by horses instead of oxen
 - 1830s – Cyrus McCormick invented the mechanical mower-reaper
 - 1 man could do work of 5

John Deere Plow



The McCormick Reaper in Use



Western Farmers Reap a Revolution in the Fields

- Because of new inventions, farmers could profitably expand acreage
 - Subsistence farming replaced by production for market
 - Cash-crop agriculture dominated Trans-Allegheny West
 - Farmers went into debt buying more land and new equipment
 - Farmers produced more than South could consume
 - East-West transportation system needed to sell surplus farm goods

Highways and Steamboats

- Late 1700s – primitive transportation
 - Dangerous travel over water (along coast or river)
 - Dirt roads rough, muddy – making travel slow and dangerous

Highways and Steamboats

- 1790s – Lancaster Turnpike
 - Wide, hard road between Philadelphia and Lancaster (62 miles)
 - Toll road (pikes blocking road turned when toll was paid = turnpike)
- Impact of Lancaster Turnpike
 - Highly successful (15% return to investors)
 - Increased trade to Philadelphia
 - Led to many more turnpikes being constructed and increased movement west

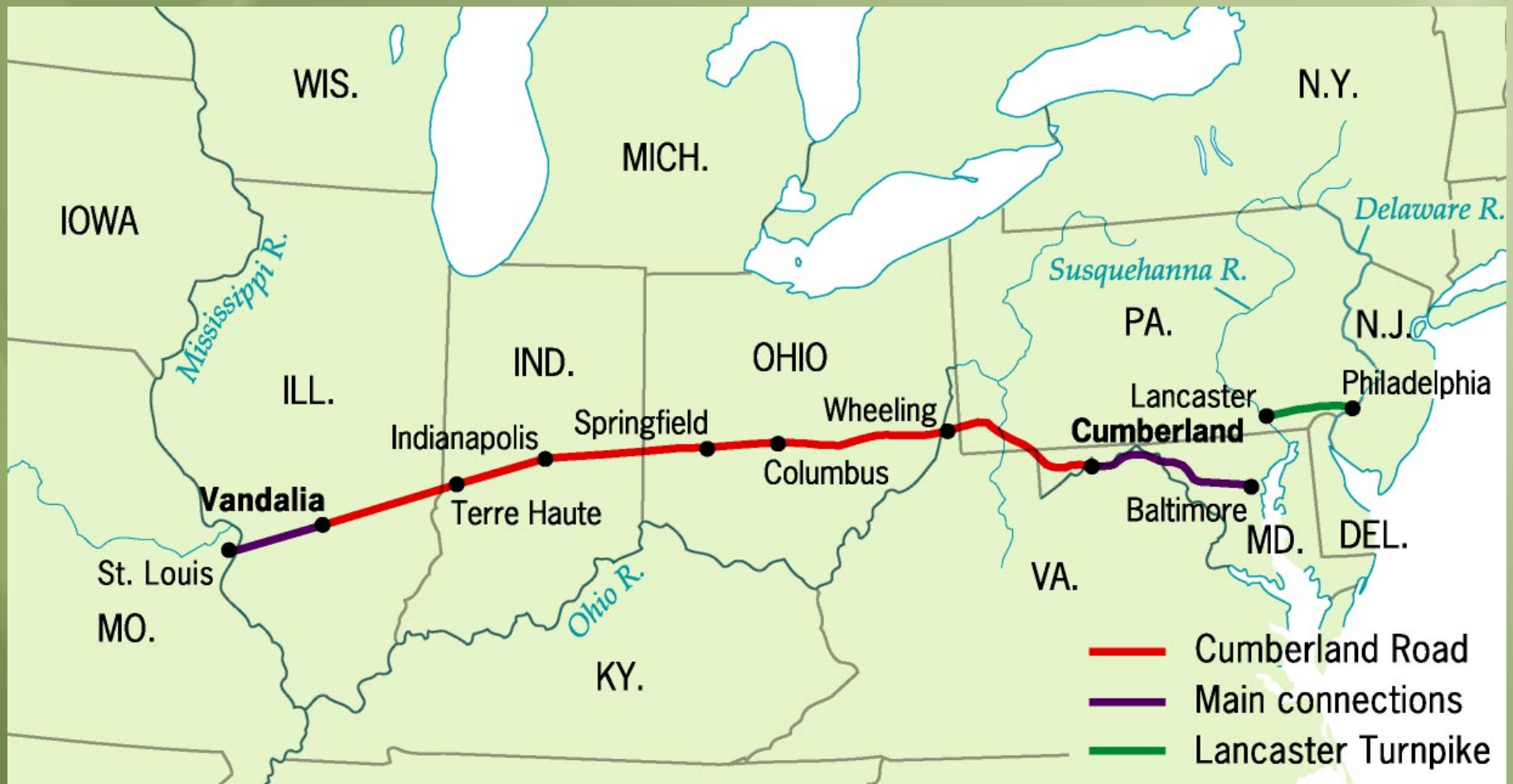
Highways and Steamboats

- Obstacles to road building
 - States' rights proponents who opposed federal aid to local road projects
 - Eastern states opposed emigration from their states to West

Highways and Steamboats

- Cumberland (National) Road
 - Began in 1811
 - Stretched from western Maryland to Illinois (591 miles)
 - Slowed by War of 1812 and states' righters, but finally finished in 1852

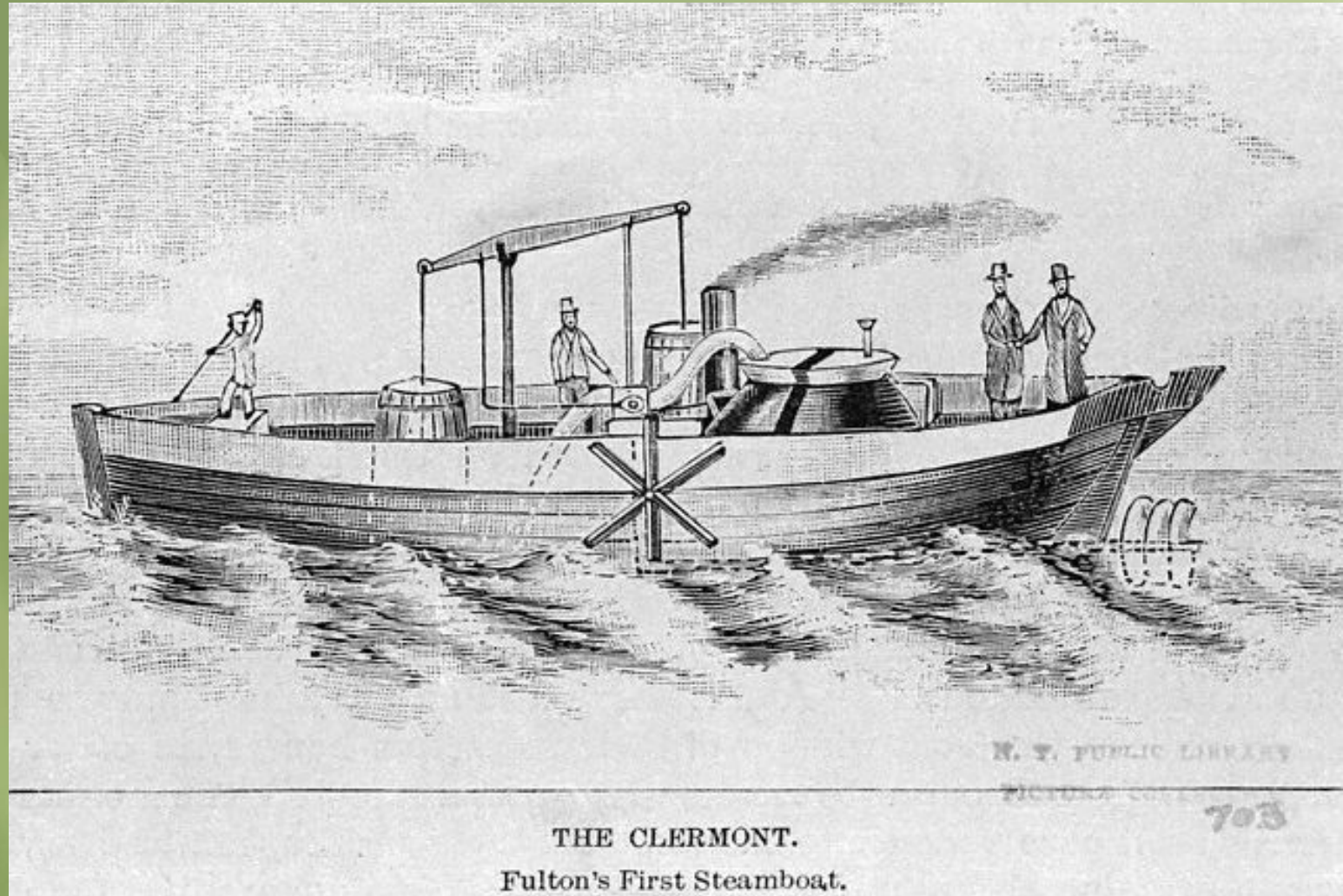
Cumberland (National) Road and Main Connections



Highways and Steamboats

- Steamboats
 - Robert Fulton put steam engine in Clermont
 - 1807 – Clermont sailed 150 miles from New York City to Albany in 32 hours
 - Many steamboats built after Fulton's success

Robert Fulton's First Steamboat



Highways and Steamboats

- Effects of the steamboats
 - Steamboats could sail upstream (against current)
 - Before keelboats had been pushed up the Mississippi at under 1 mile per hour (and was very expensive)
 - Steamboats could sail upstream at 10 miles per hour
 - Steamboat accidents (boiler explosions) claimed many lives
 - Helped settle West and South (with many rivers)
 - Could ship out produce and bring in manufactured goods
 - Settlements made around rivers

“Clinton’s Big Ditch” in New York

- Erie Canal
 - Part of canal craze in early 1800s
 - Connected Hudson River and Great Lakes
 - 1817 – 1825 – built by New York and governor Dewitt Clinton

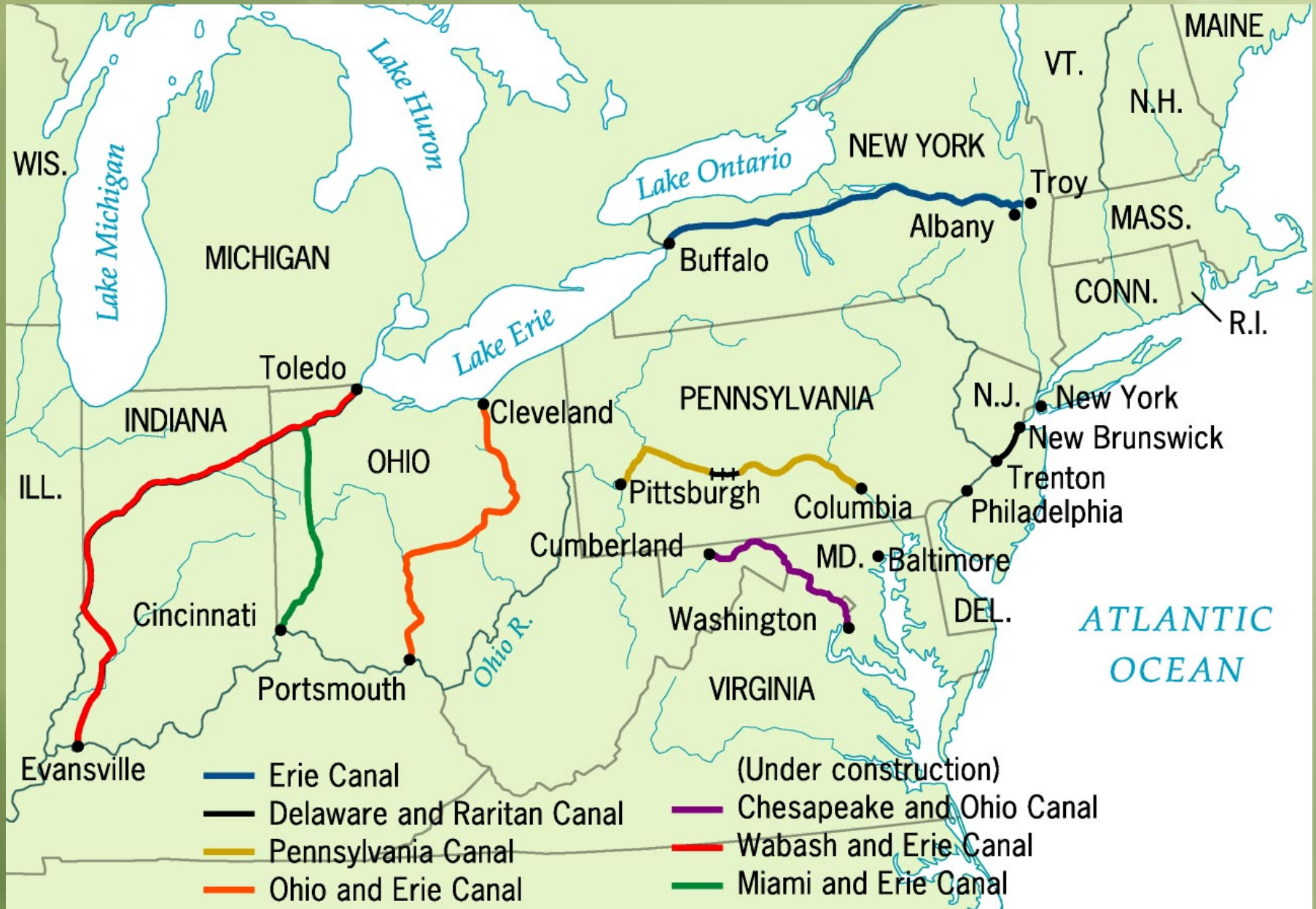
Erie Canal and Main Branches



“Clinton’s Big Ditch” in New York

- Effects of the Erie Canal
 - Cheap shipping of western produce to East (\$100 per ton to \$5 per ton)
 - Value of land increased along canal
 - New cities along canal and Great Lakes built
 - Industry in New York increased (shipping west)
 - Farming in Old Northwest (Ohio, Michigan, Indiana, Illinois) increased (shipping east)
 - Northeastern farmers put out of business
 - Moved, worked in industry, grew different products like fruit

Principle Canals in 1840



The Iron Horse

- Railroad
 - Greatest cause of continental economy (not confined to regions)
 - Advantages
 - Fast and reliable
 - Cheaper than canals to build
 - Could go almost anywhere

The Iron Horse

- Opposition to railroads
 - Canal backers tried to get laws passed against railroads (because of competition)
 - Sparks could ignite haystacks and fields
 - Accidents led to many deaths

The Iron Horse

- Early obstacles railroads had to overcome (and eventually were)
 - Weak brakes
 - Inaccurate schedules
 - Differences in gauge (distance between rails) made railroad lines incompatible (so passengers had to change trains)

The Iron Horse

- 1828 – first railroad in US
- 1860 – 30,000 miles of track
 - 3/4 in industrial North

The Railroad Revolution



Cables, Clippers, and Pony Riders

- Transatlantic communication
 - 1858 – Cyrus Field laid cable across Atlantic (Newfoundland to Ireland)
 - 1866 – 2nd cable laid after 1st one went dead

Cables, Clippers, and Pony Riders

- 1840s – 1850s – important American contributions to shipping
 - Clipper ships produced
 - Long, sleek, fast-sailing ships that could even outrun a steamer
 - Carried high-value cargo at fast speeds
 - 1860s – British steamers beat clippers for control of oceanic trade
 - Slower, but more reliable and could carry more

Cables, Clippers, and Pony Riders

- Western communication
 - 1850s – stagecoach allowed travel from Missouri to California
 - 1860 – Pony Express established
 - Speedy mail delivery from St. Joseph, Missouri to Sacramento, California
 - Stations every 10 miles
 - Trip made in 10 days
 - Lost money and closed after 18 months
 - 1861 – Morse Code (invented by Samuel Morse)
 - Transmitted over telegraph lines
 - Replaced Pony Express for delivering messages from East to California almost instantly

Main Routes West Before the Civil War



The Transport Web Binds the Union

- “transportation revolution” tied the US together
- 1790 – 1830 – Western produce went to South (down Mississippi)
 - Steamboat helped finished goods travel up Mississippi (from South to West)

The Transport Web Binds the Union

- 1830 – 1860 – more important ties of East to West
 - Carried out by canals and railroads
 - Trade diverted from South (down Mississippi) to East (railroads, boats, canal barges)
 - Made New York City chief port of US

The Transport Web Binds the Union

- National division of labor
 - Each section specialized in certain economic activity
 - South grew cotton for New England and Britain
 - West raised grain and livestock for export to East (and Europe)
 - East made machines and textiles for West and South

Industry and Agriculture, 1860



The Transport Web Binds the Union

- Economic pattern and Civil War
 - South believed upper Mississippi valley states would have to secede or be economically destroyed
 - South did not see the importance of East-West ties along railroads and canals that bound them together

The Market Revolution

- Changes in economy and business raised new questions
 - How tightly should patents protect inventions
 - Should the government regulate monopolies
 - Who should own the technologies and networks that drove the US economy

The Market Revolution

- Chief Justice John Marshall's court strongly protected contract rights
 - Required state governments to grant irrevocable (unchangeable) charters
 - Monopolies created as a result
 - Died in 1835

The Market Revolution

- New court under Chief Justice Robert Taney changed Marshall's defense of monopolies
 - Owners of Boston's Charles River Bridge sued owners of new Warren Bridge for violating their original contract
 - Taney sided with Warren owners; "the rights of the community" outweighed corporate rights or contracts
 - Led to greater competition

The Market Revolution

- “limited liability”
 - Passed in 1830s
 - Allowed investors to only be liable for the amount they had invested (the stock price) if the company was sued or went bankrupt
 - Led to greater economic investment by more people

The Market Revolution

- Changes in households because of the market economy
 - Store-bought goods replaced homemade goods
 - Women's work (making homemade things for household) became unnecessary
 - Home transformed from place where families worked together to refuge from world and a special area for women as its guardians

The Market Revolution

- Increased gap between rich and poor
 - Some families amassed huge fortunes
 - Cities had greatest inequality
 - Unskilled, wandering workers (“drifters”) formed underclass in cities
 - Few instances of large social mobility (“rags to riches”)
 - Still more opportunity and wealth (even for poor) than in Europe