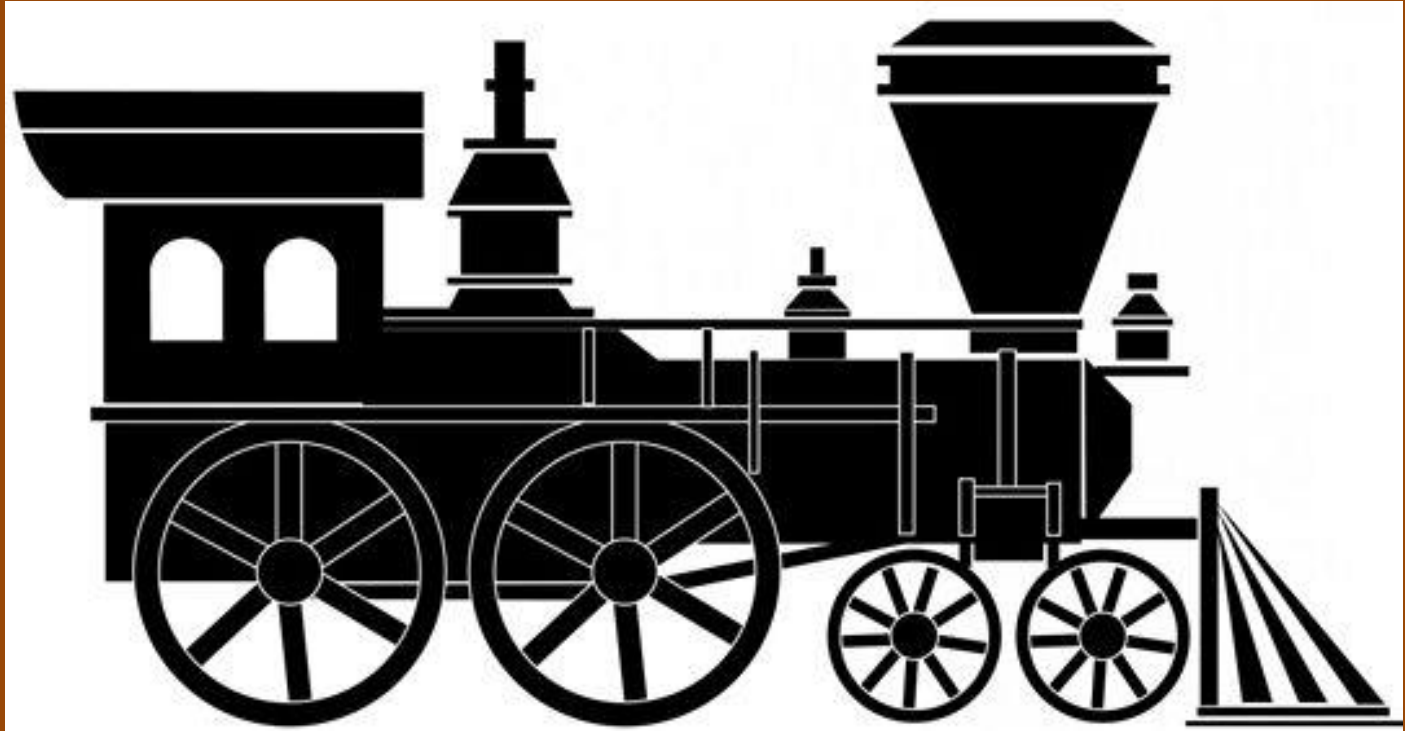


Development of the Steam Locomotive

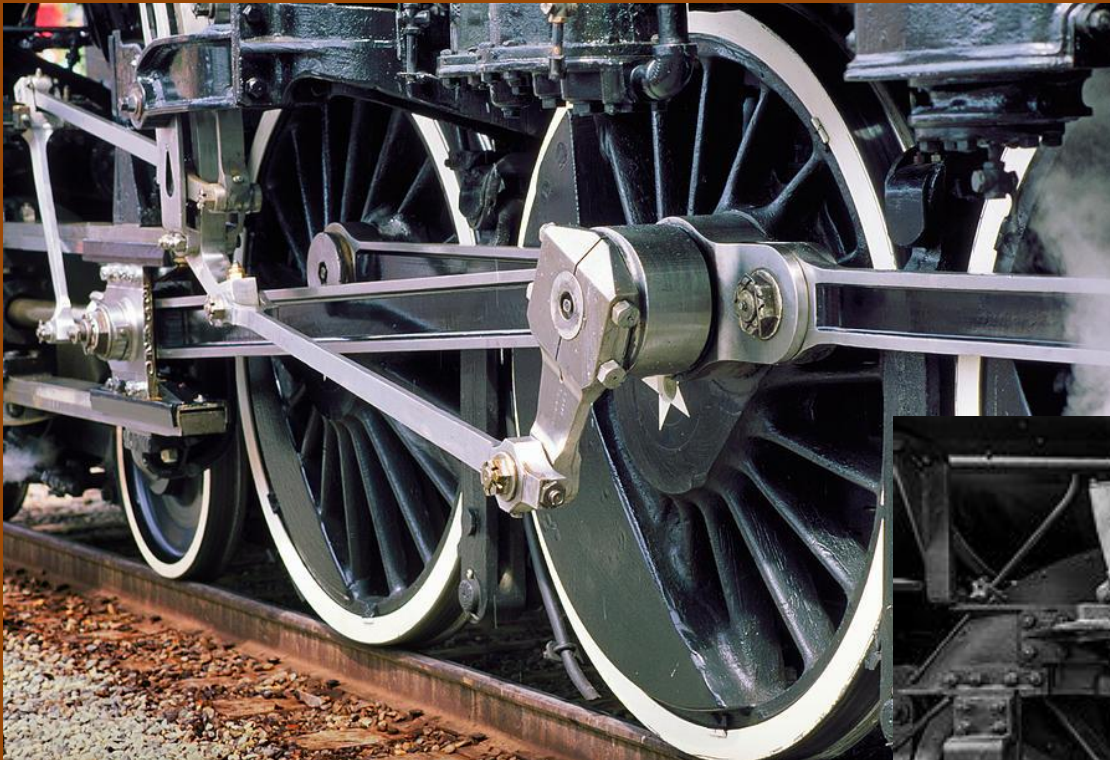


And Building the
Transcontinental Railroad

This Program will cover:

- historical development of transportation
- the movement west
- the first steam engines and the American standard locomotive
- building the transcon and a trip on the finished route

Inventions that had the Biggest Impact on Humanity #1 the Wheel

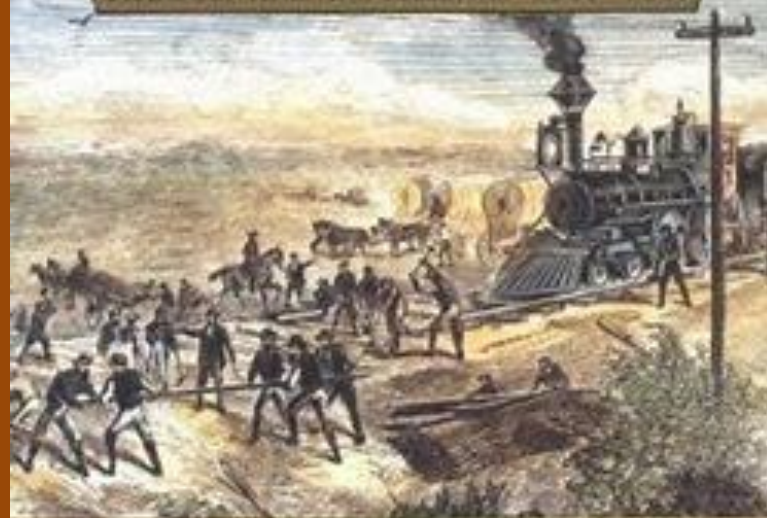




Copyrighted Material
THE #1 NEW YORK TIMES BESTSELLER

STEPHEN E. AMBROSE

THE MEN WHO BUILT THE
TRANSCONTINENTAL RAILROAD 1863-1869



NOTHING LIKE IT IN THE WORLD

*"Richly readable ... [Stephen Ambrose] juggles a mountainous abundance of wonder and excitement."
—Honor Kohn, The New York Times Book Review*

CHRISTIAN WOLMAR

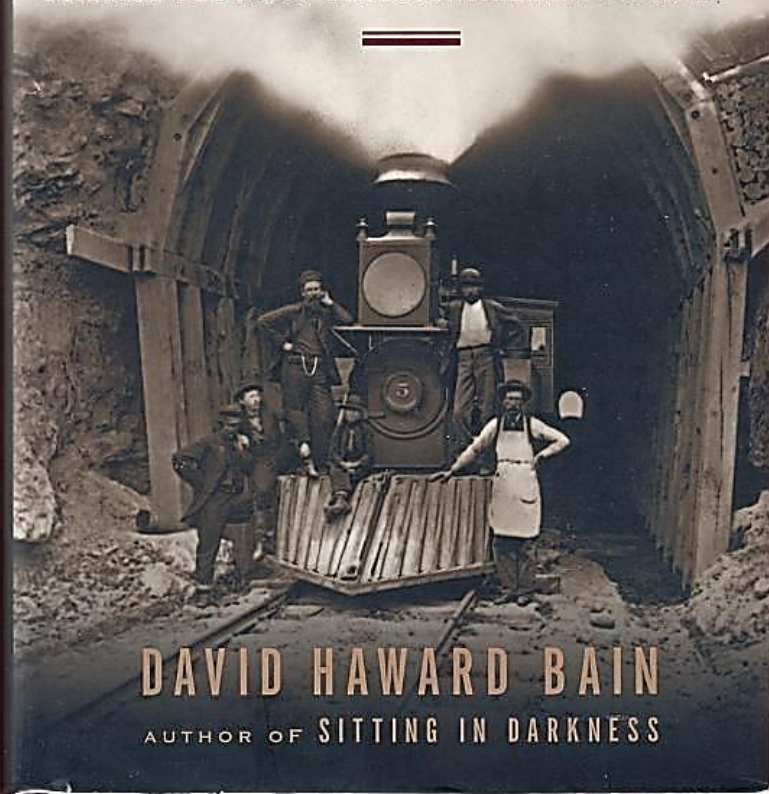


THE IRON ROAD

AN ILLUSTRATED HISTORY OF THE RAILROAD

EMPIRE EXPRESS

BUILDING THE FIRST TRANSCONTINENTAL RAILROAD



DAVID HAWARD BAIN

AUTHOR OF SITTING IN DARKNESS

CHRISTIAN WOLMAR

The
GREAT RAILWAY
REVOLUTION

The EPIC STORY of the AMERICAN RAILROAD



Transportation Modes in Early America



Sloop



Ketch



Brigantine



Caravel



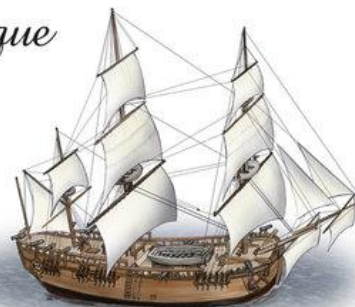
Carrack



Galley



Barque



Galleon



Frigate



Man O' War



Ship of the Line



Queen Anne's Revenge



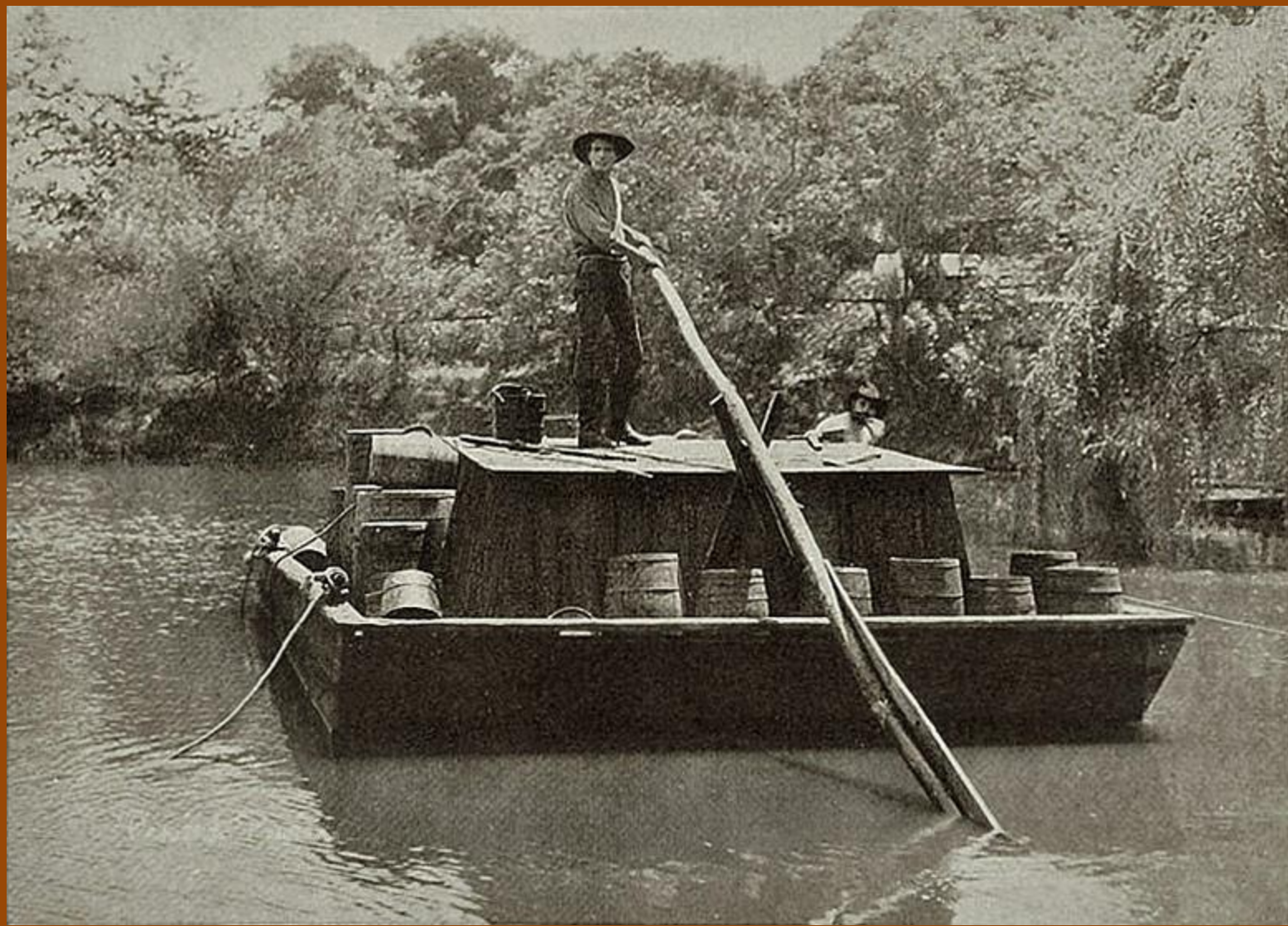






© The Canadian Canoe Museum



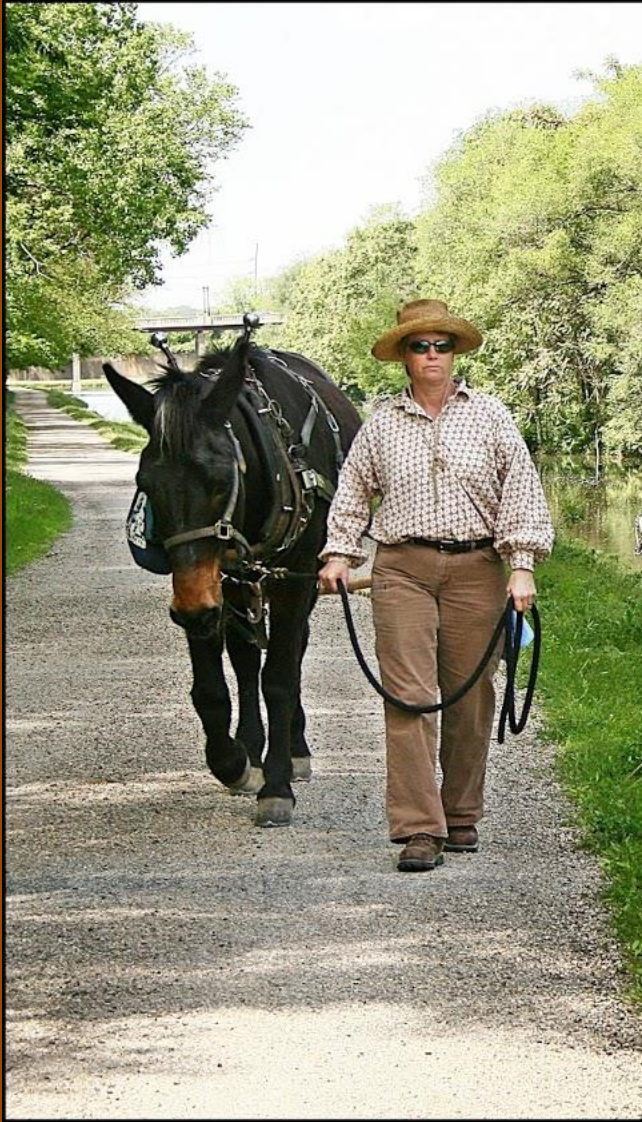




Flat-boat going down the Mississippi.

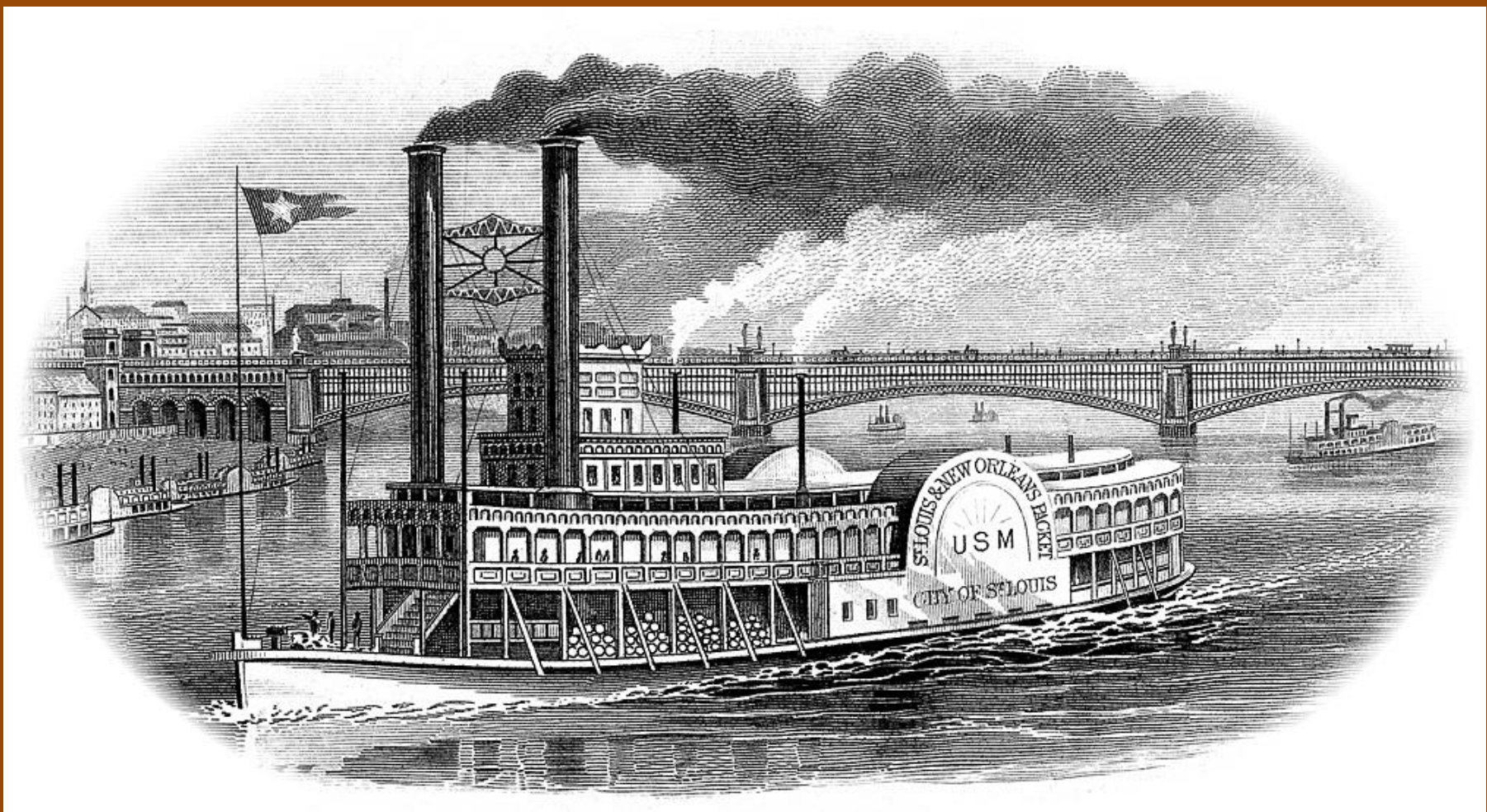












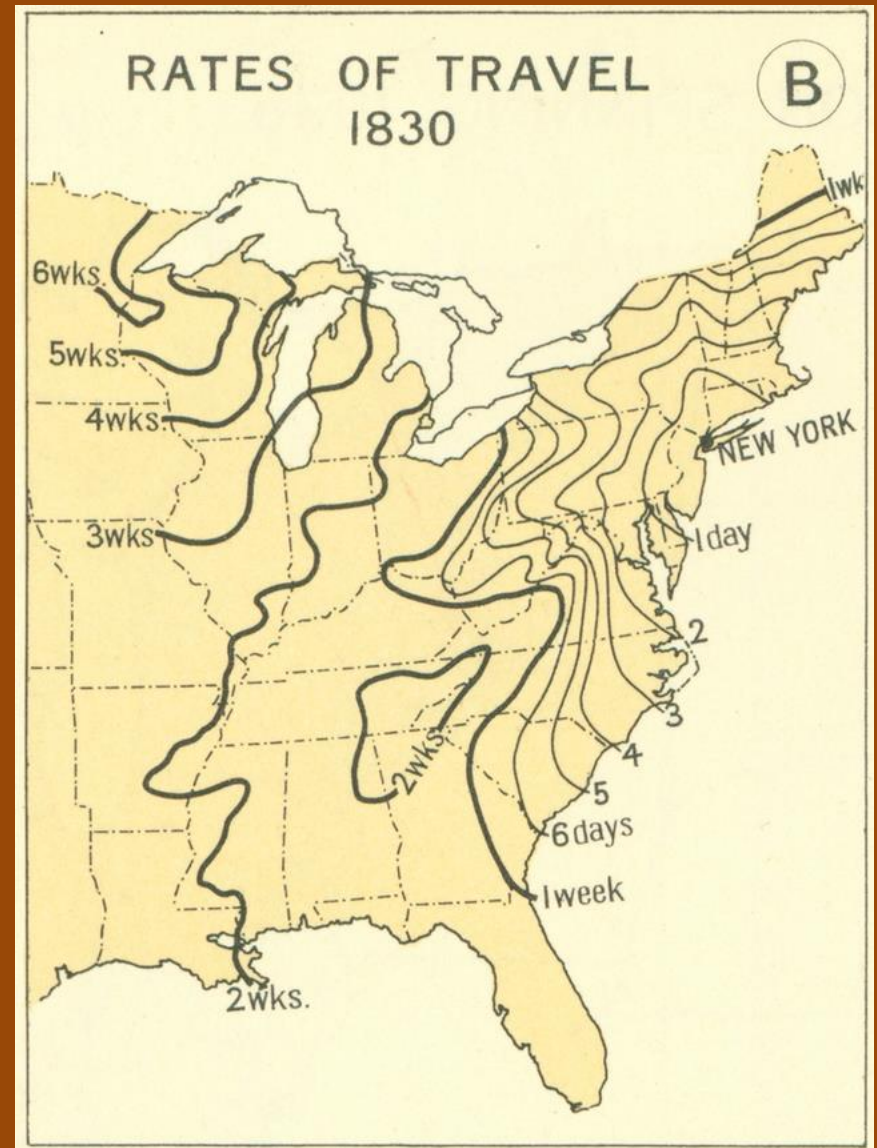
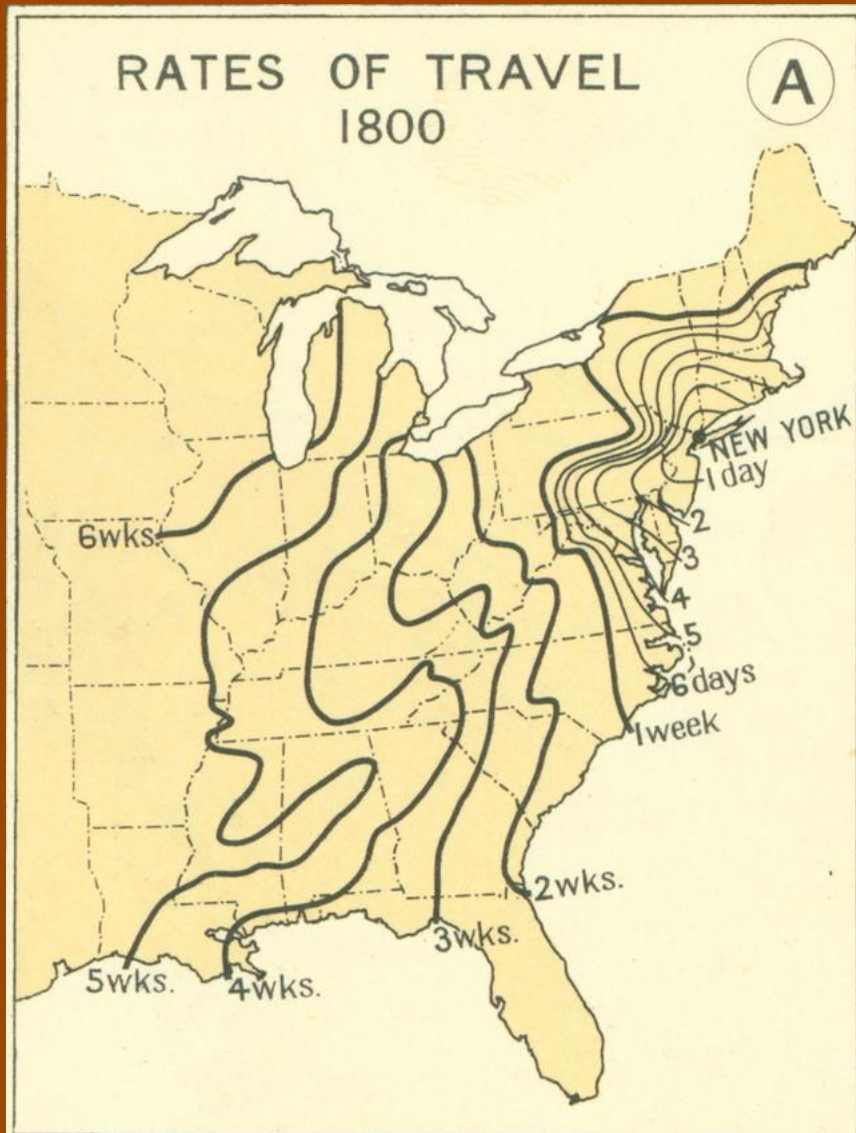






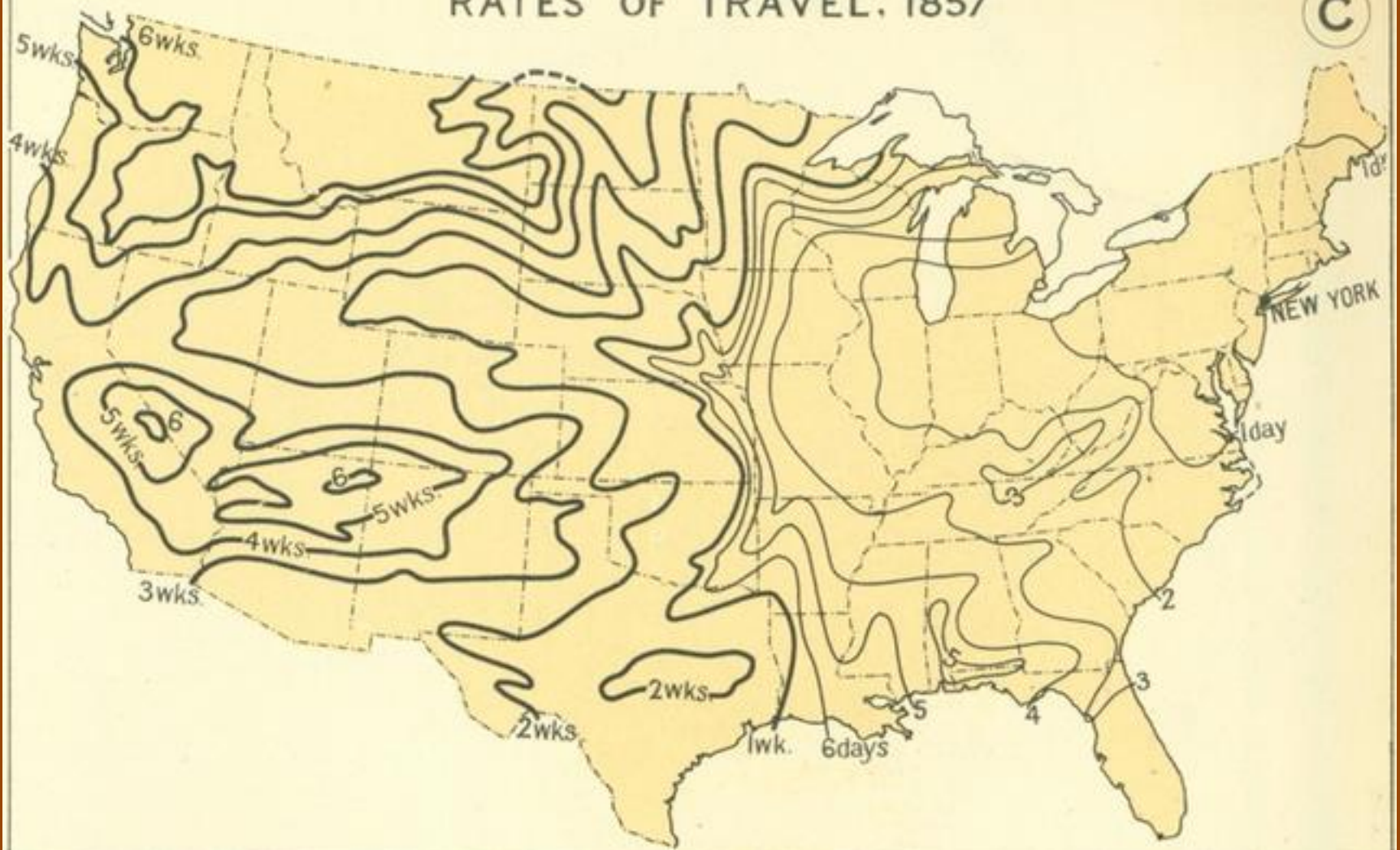


All the maps use New York City as a starting point on the East Coast, and show how long it would take to move westward across the country.



RATES OF TRAVEL, 1857

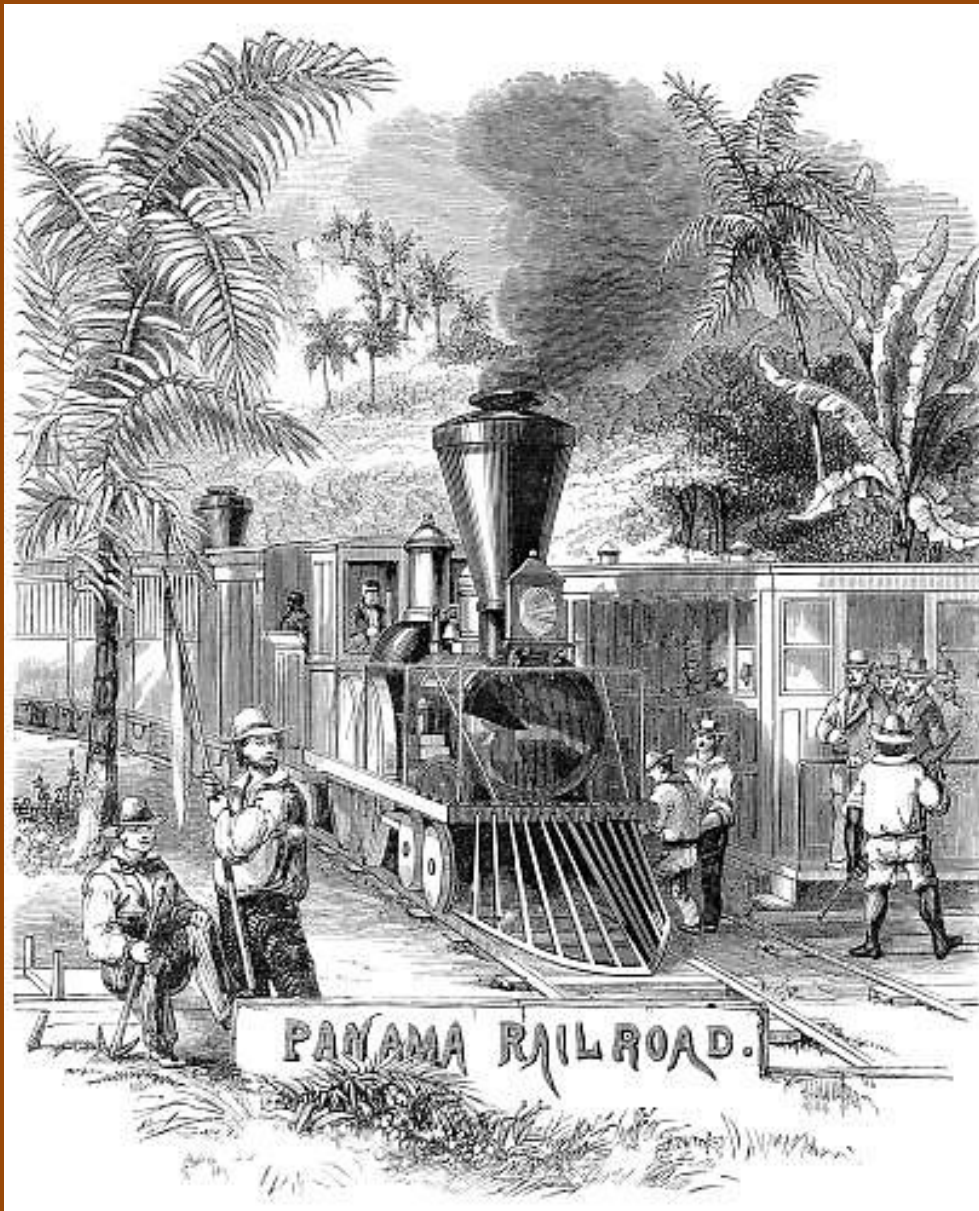
C



Travel Routes to California







Panama RR

1855, 1st transcontinental

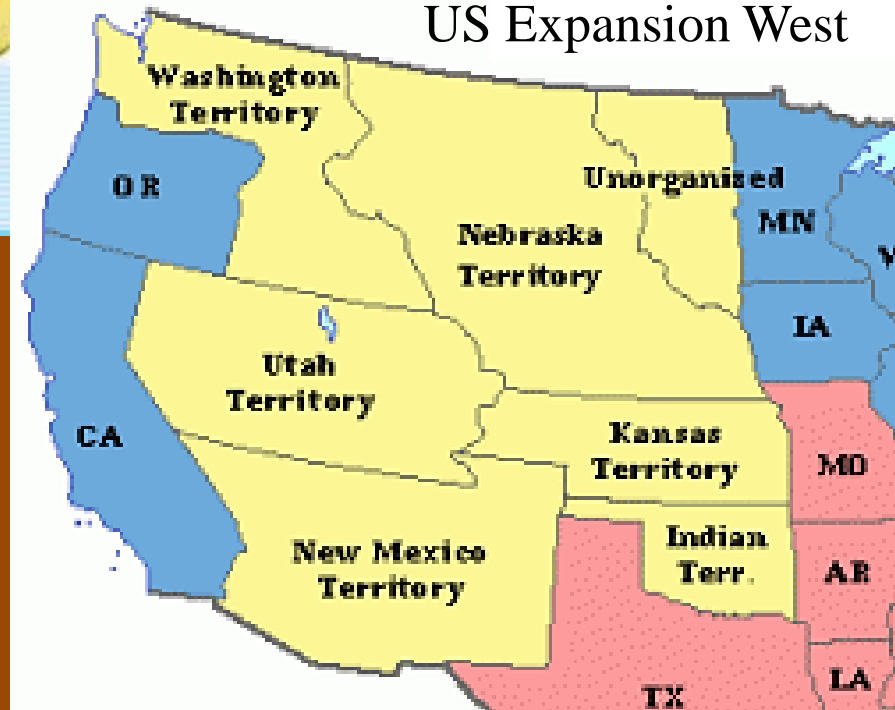


charged \$25 in gold
for a first-class fare

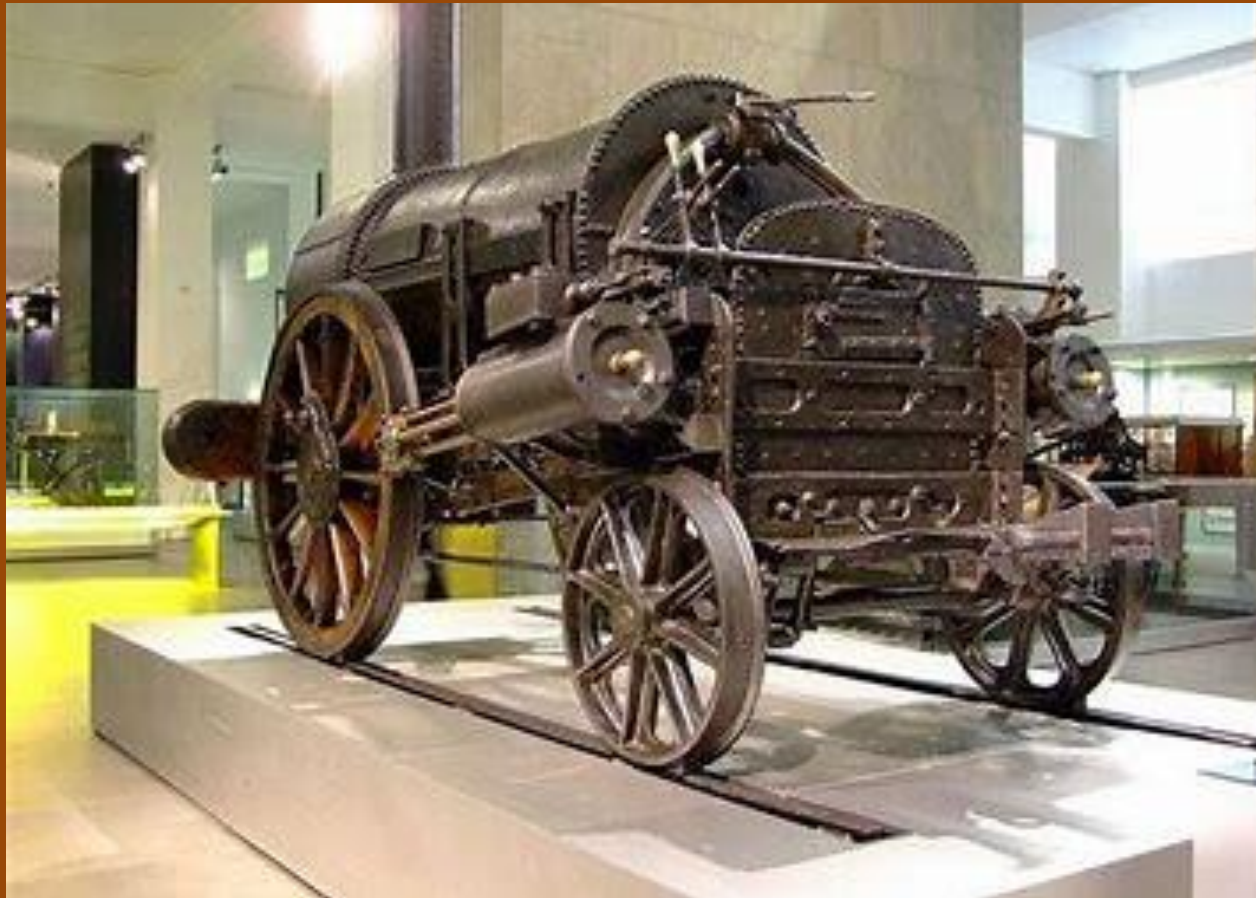
Location of Tribes Along Route



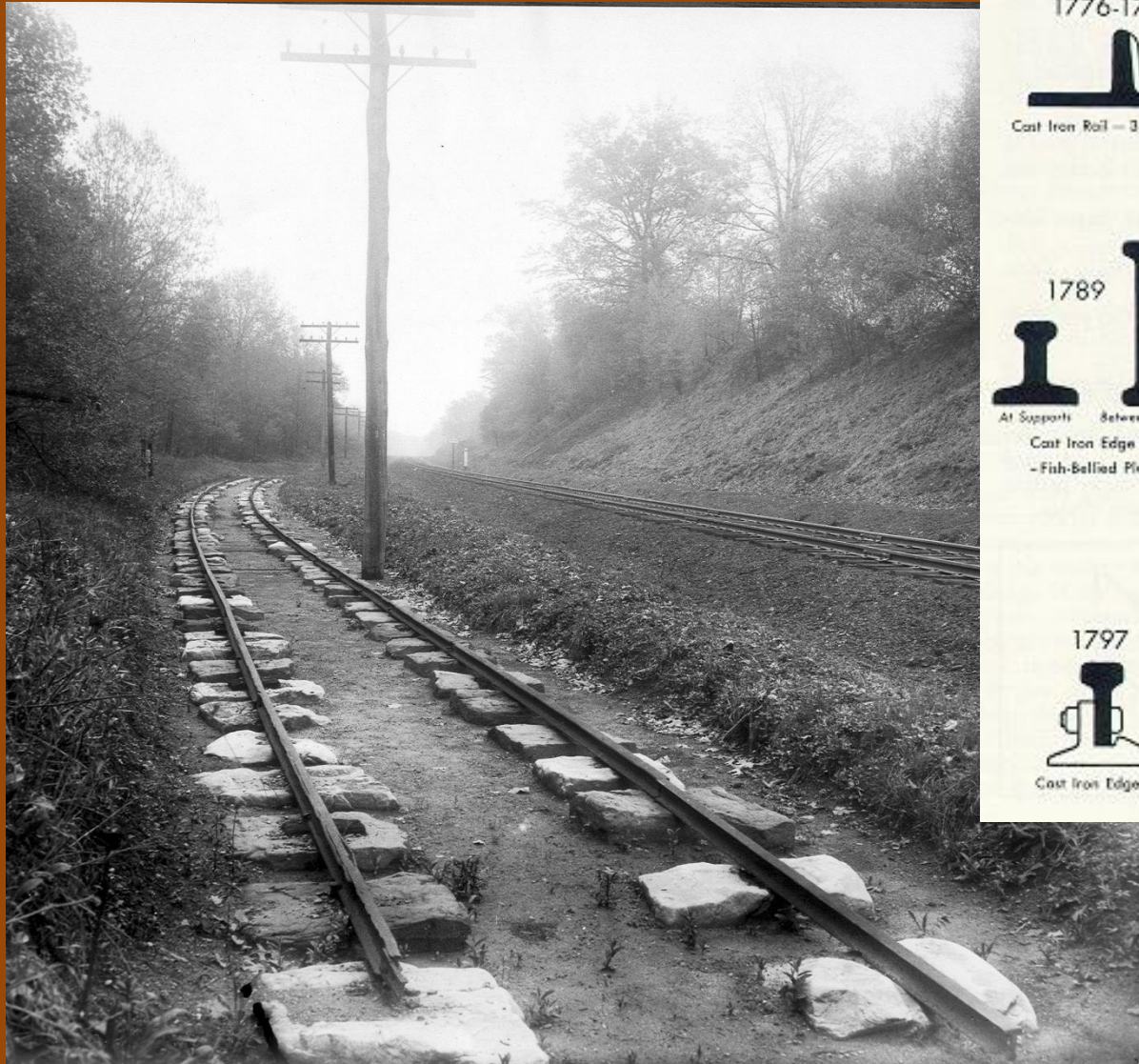
US Expansion West



Development of the Steam Engine







1767



Cast Iron Plate — 5 ft. long

1776-1793



Cast Iron Rail — 3 ft. long

1789



At Supports



Between Supports

Cast Iron Edge Rail
— Fish-Bellied Plate

1797



Cast Iron Edge Rail

1802



Cast Iron Rail — 4½ ft. long

1808



Cast Iron Rail

1808-1811



Malleable Iron Rail

1820

26 lb



Birkenhead Rolled Iron Rail

1816



Cast Iron Edge Rail

1830



33 lb

Clarence Rolled Iron Rail

1831



Robert L. Stevens Tee-Rail

1831



41 lb

P. R. R. Amboy Div.

1835



40 lb

U or Bridge Rail

1837







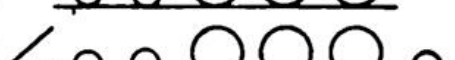








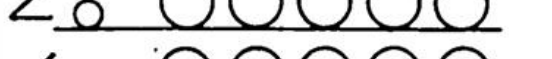

58 lb

Lock Rail

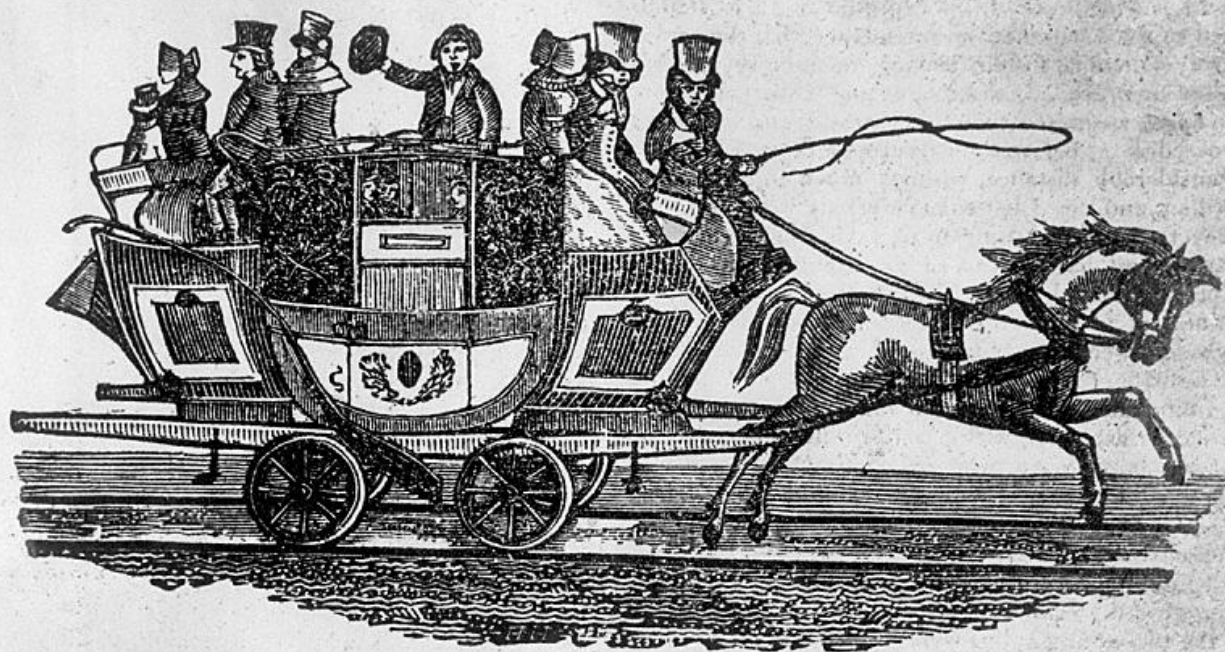




Locomotives.—Types of.—

Full Truck or Bogie Class.		Single Driver.....	4—2—2
		American.....	4—4—0
		Atlantic.....	4—4—2
		Ten Wheel.....	4—6—0
		Pacific or St. Paul.	4—6—2
		Twelve Wheel.....	4—8—0
		Mastodon	4—10—0
Pony or Two Wheel Trunk Class.		Columbia.....	2—4—2
		Mogul.....	2—6—0
		Prairie.....	2—6—2
		Consolidation.....	2—8—0
		Mikado or Calumet	2—8—2
		Decapod.....	2—10—0
		Santa Fe.....	2—10—2
		Centipede.....	2—12—0

RAPID, SAFE, AND CHEAP TRAVELLING
By the Elegant NEW RAILWAY COACH,



THE UNION,

Which will COMMENCE RUNNING on the STOCKTON and DARLINGTON RAILWAY, on MONDAY
the 16th day of October, 1826,

And will call at Yarm, and pass within a mile of Middleton Spa, on its way from Stockton to Darlington, and vice versa.

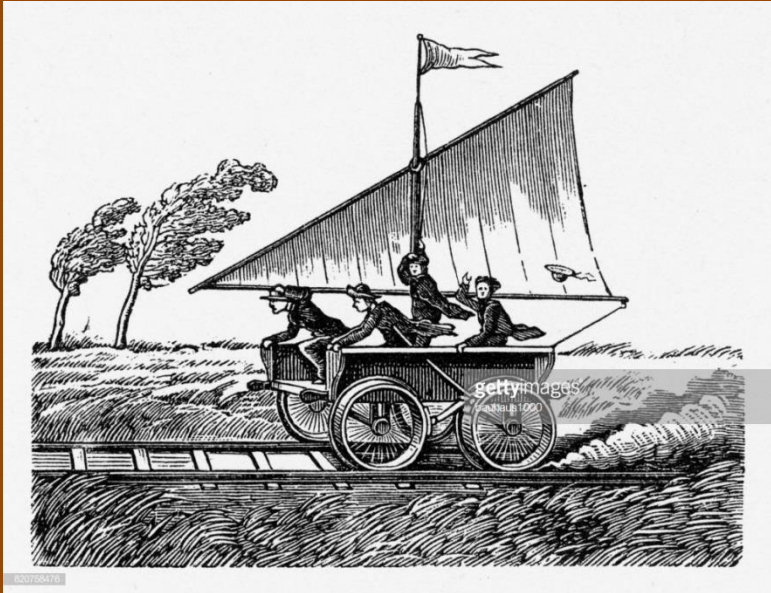
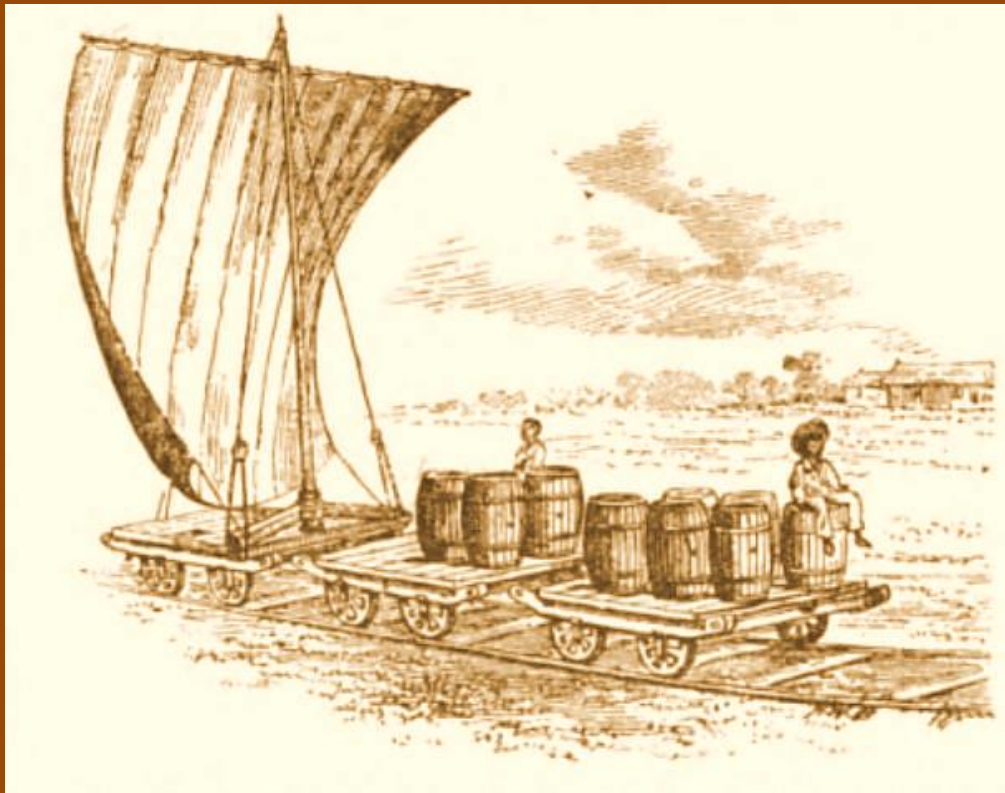
FARES. Inside $1\frac{1}{2}$ d.—Outside, 1d. per Mile. Parcels in proportion.

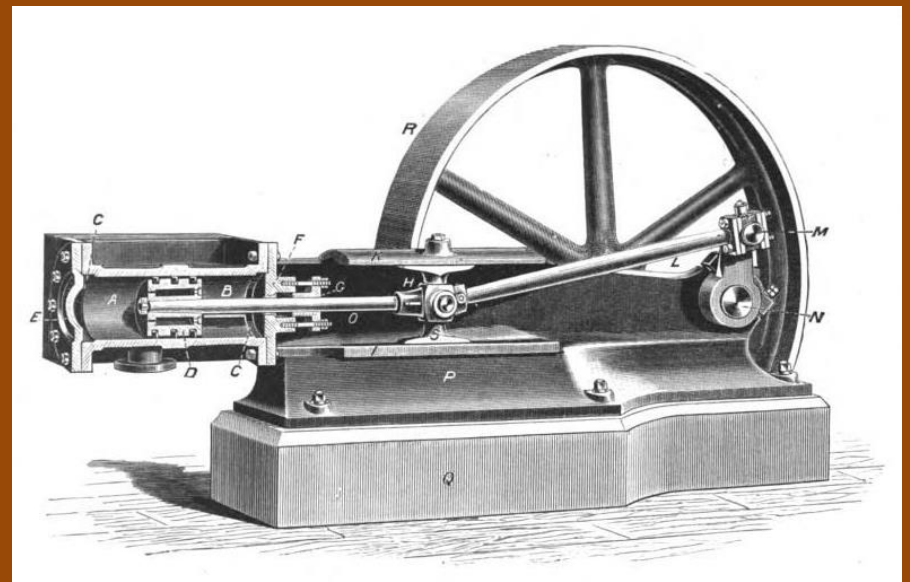
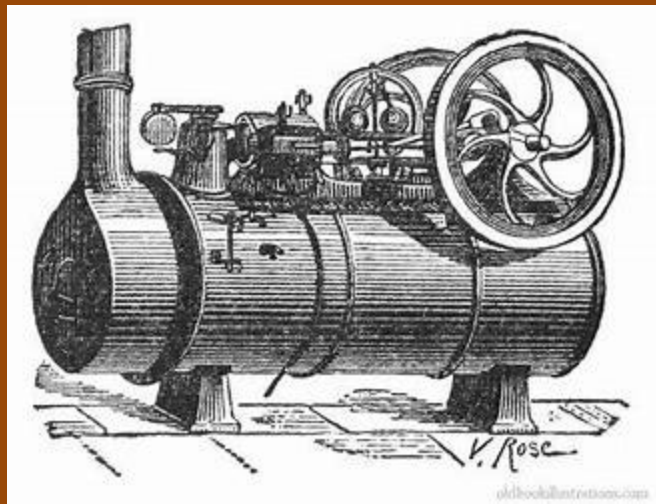
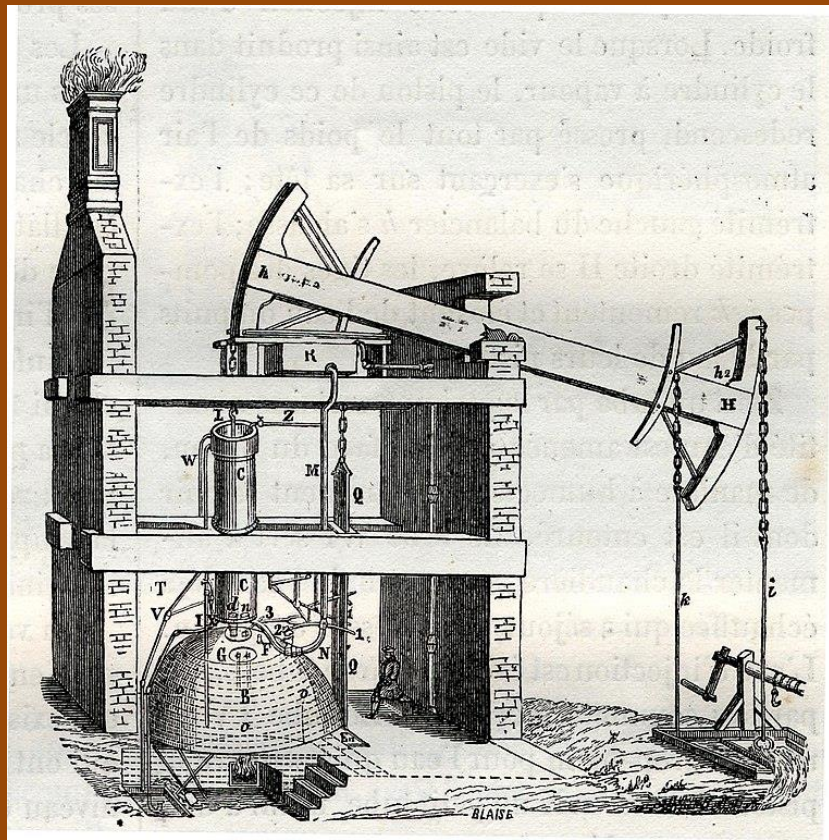
No gratuities expected by the Guard or Coachman.

N. B. The Proprietors will not be accountable for any Parcel of more than £5. value, unless entered and paid for accordingly.

The UNION will run from the Black Lion Hotel and New Inn, Stockton, to the New Inn, Yarm, and to the Black Swan Inn, near the Croft Branch, Darlington; at each of which Inns passengers and parcels are booked, and the times of starting may be ascertained, as also at the Union Inn, Yarm, and Talbot Inn, Darlington.

On the 19th and 20th of October, the Fair Days at Yarm, the Union will leave Darlington at six in the morning for Yarm, and will leave Yarm for Darlington again at six in the evening; in the intermediate time, each day, it will ply constantly between Stockton and Yarm, leaving each place every half hour.



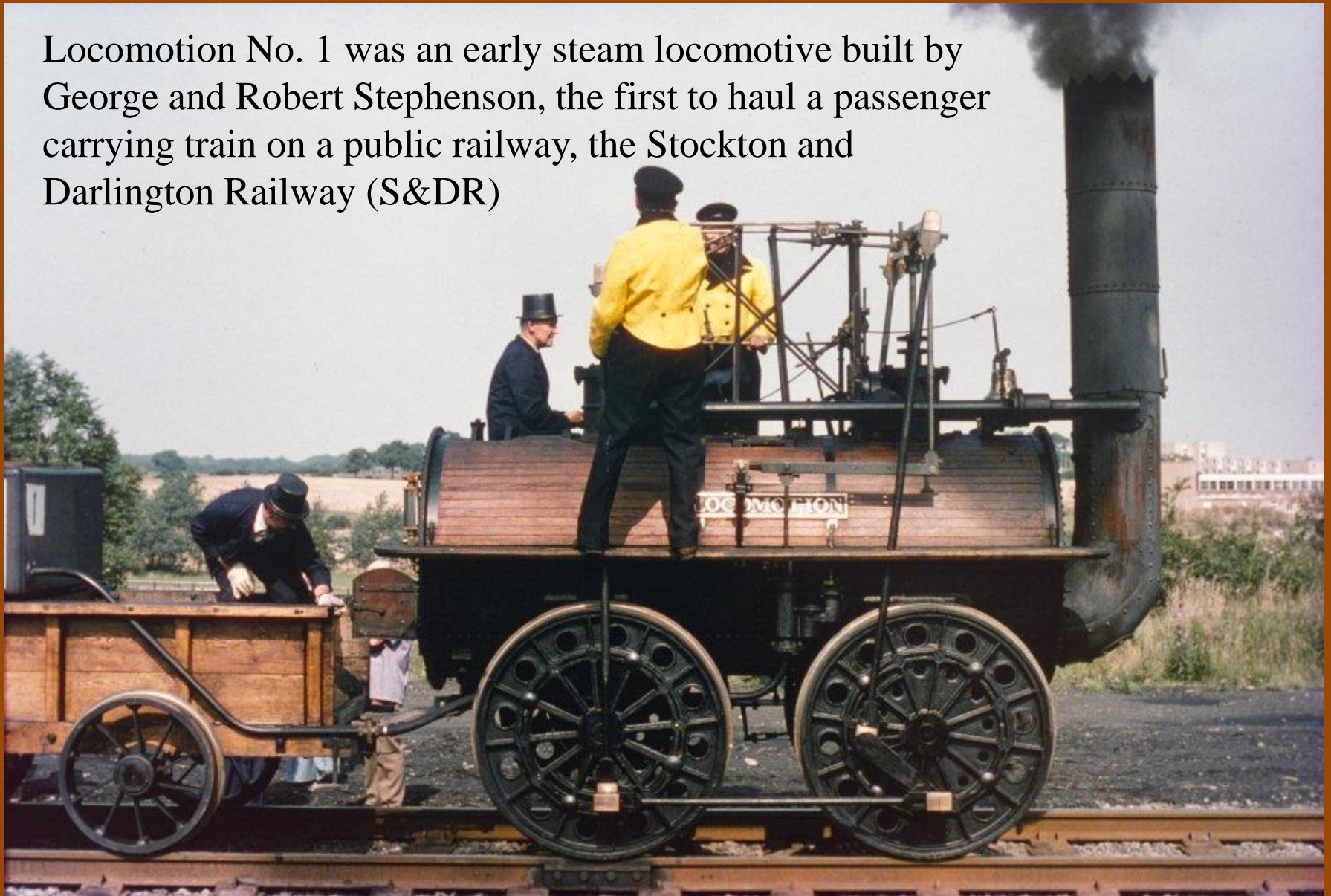


Engineer Richard Trevithick
had completed the first successful
steam-powered locomotive to haul
a load on rails in 1804





Locomotion No. 1 was an early steam locomotive built by George and Robert Stephenson, the first to haul a passenger carrying train on a public railway, the Stockton and Darlington Railway (S&DR)







The Rainhill Trials

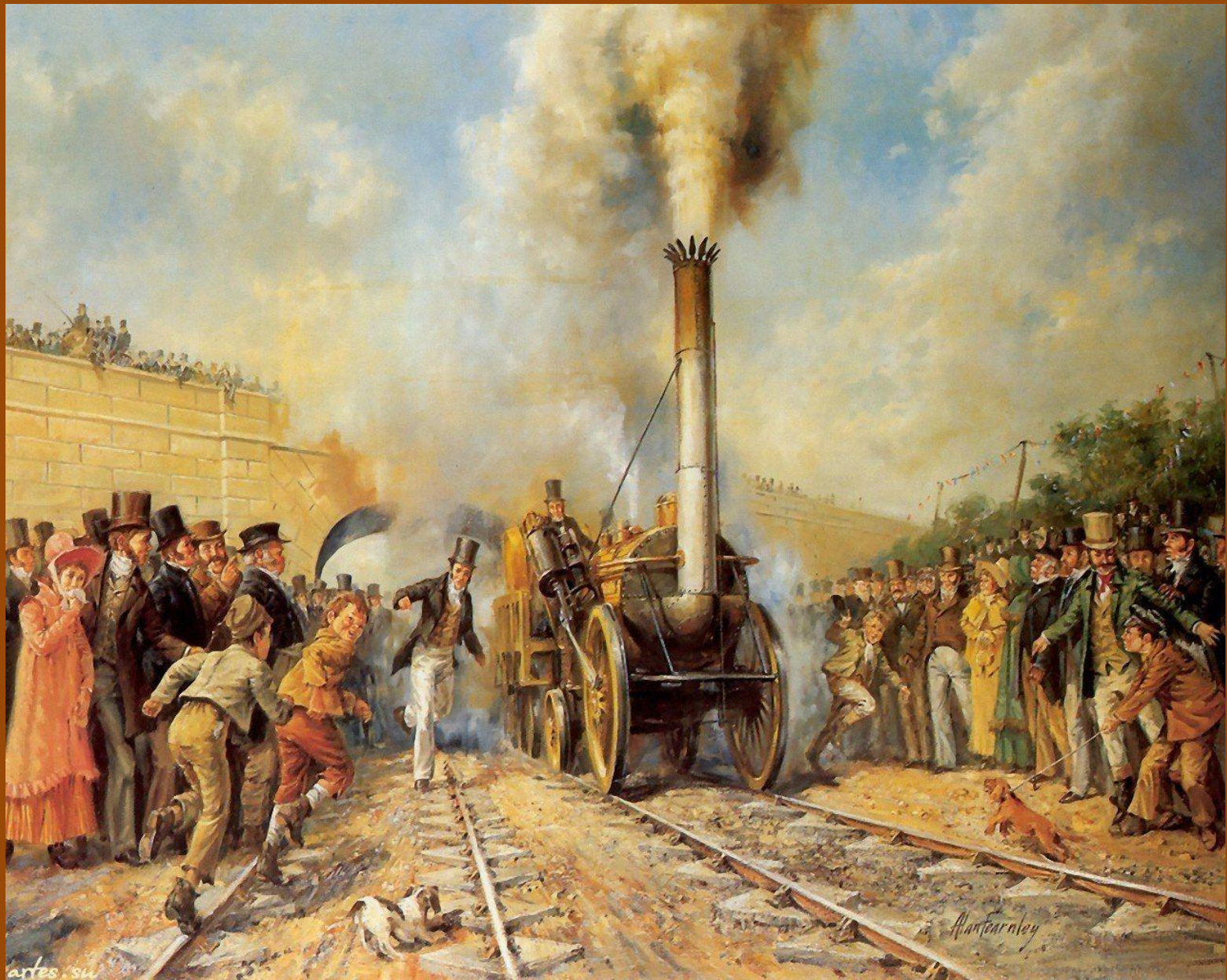
The cotton mills owners in Liverpool and Manchester decided to hold performance trials to discover best locomotive engine for a railway, with a prize of £500.

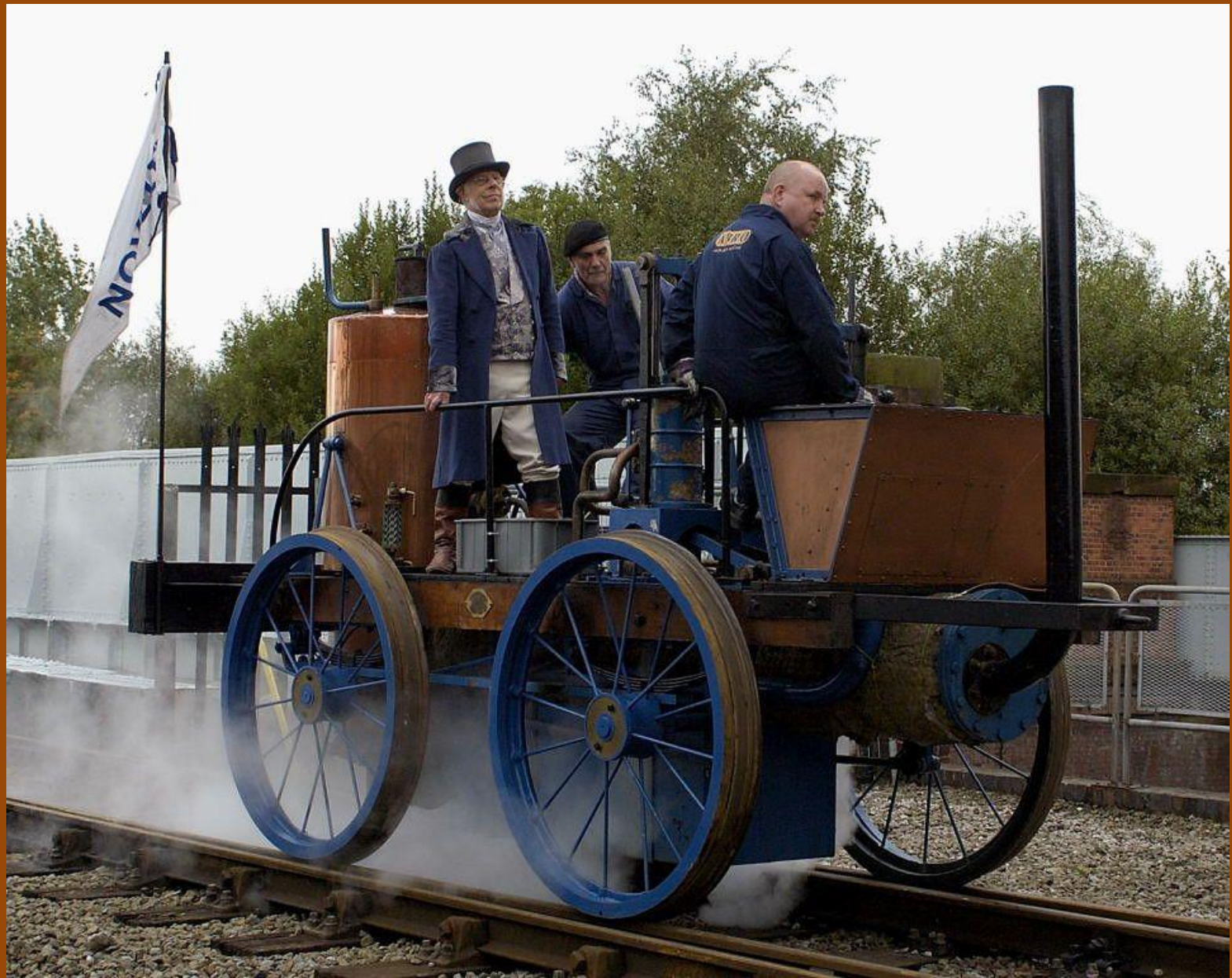
The task itself was simple: 10 return trips along 1.5 miles of track.

When the trips had been completed, the amount of fuel and water used and the average speed achieved were calculated.





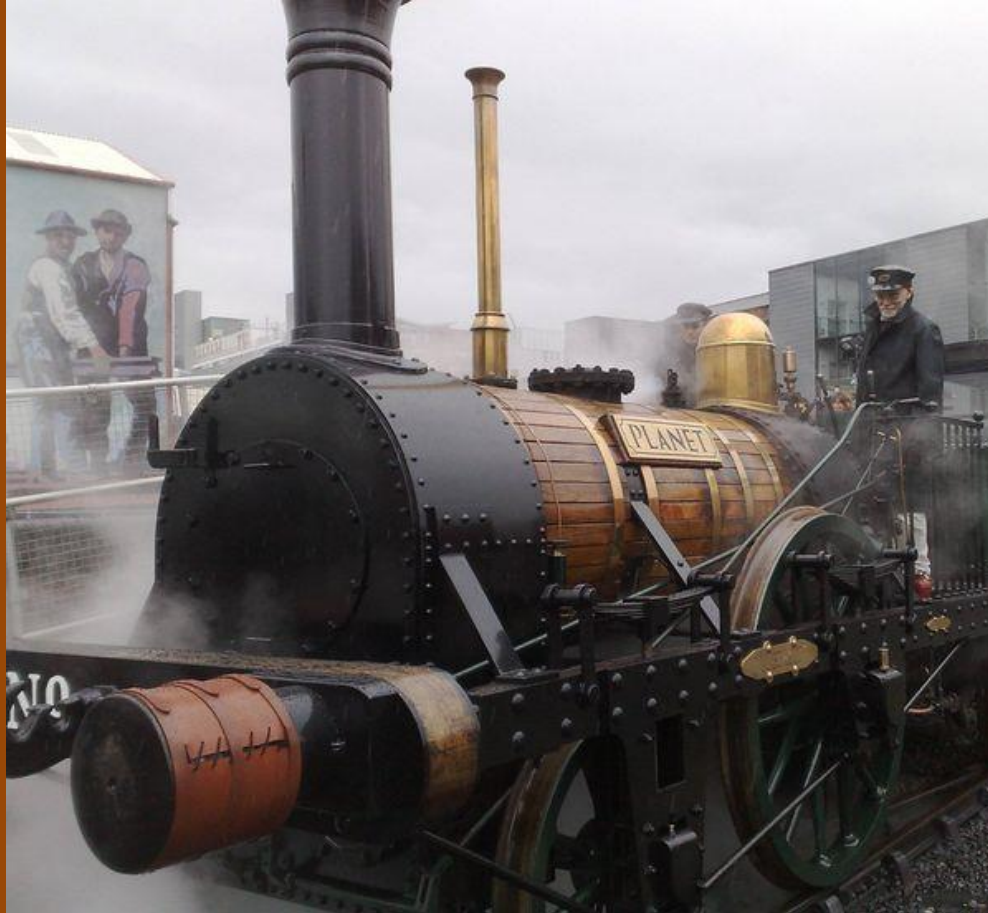






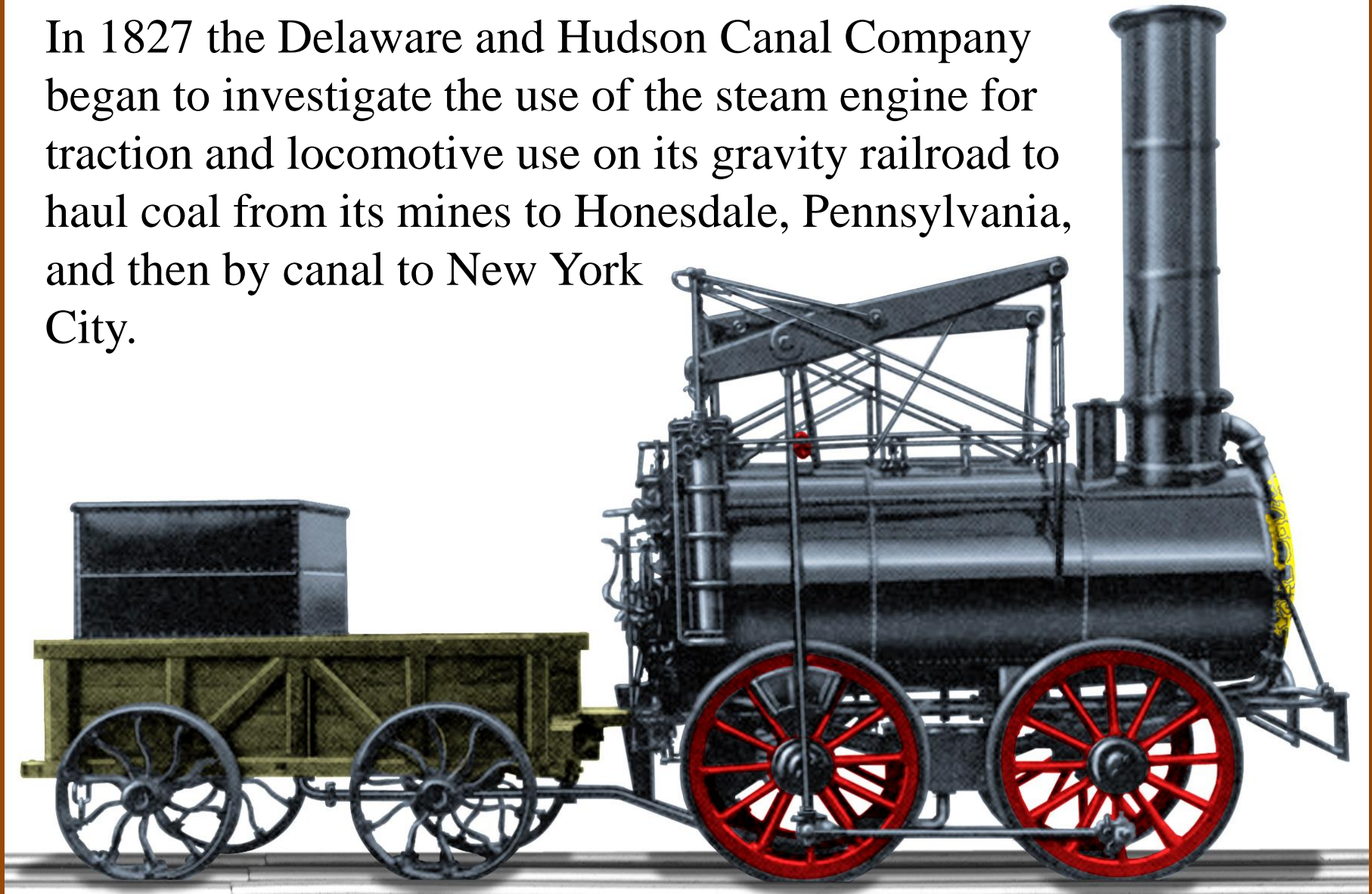




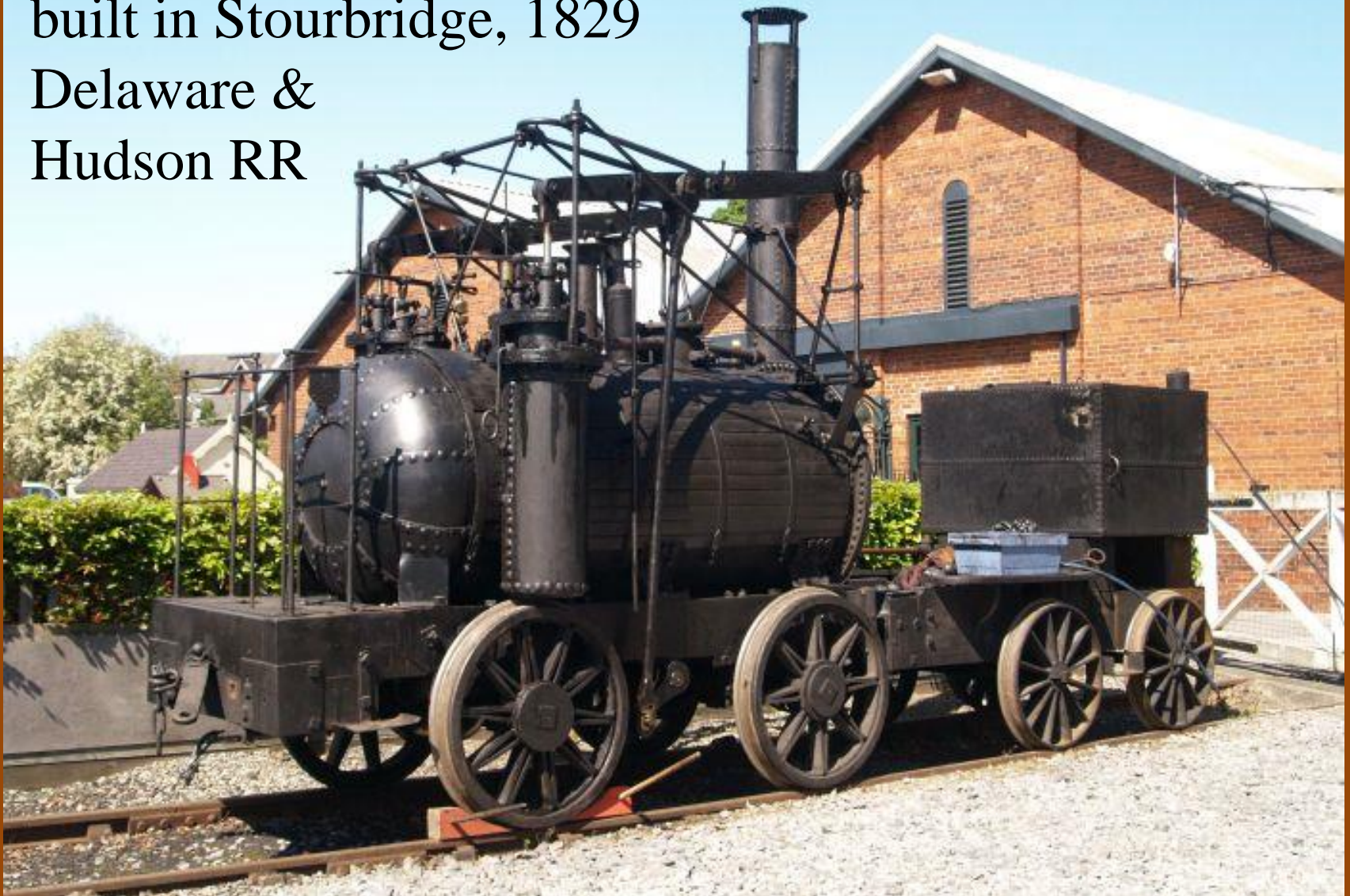


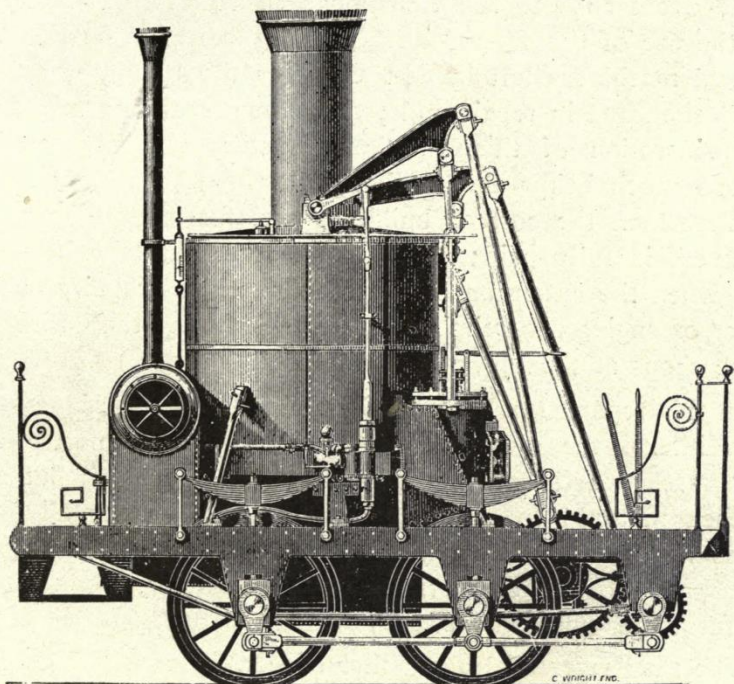


In 1827 the Delaware and Hudson Canal Company began to investigate the use of the steam engine for traction and locomotive use on its gravity railroad to haul coal from its mines to Honesdale, Pennsylvania, and then by canal to New York City.



Steam locomotive
built in Stourbridge, 1829
Delaware &
Hudson RR



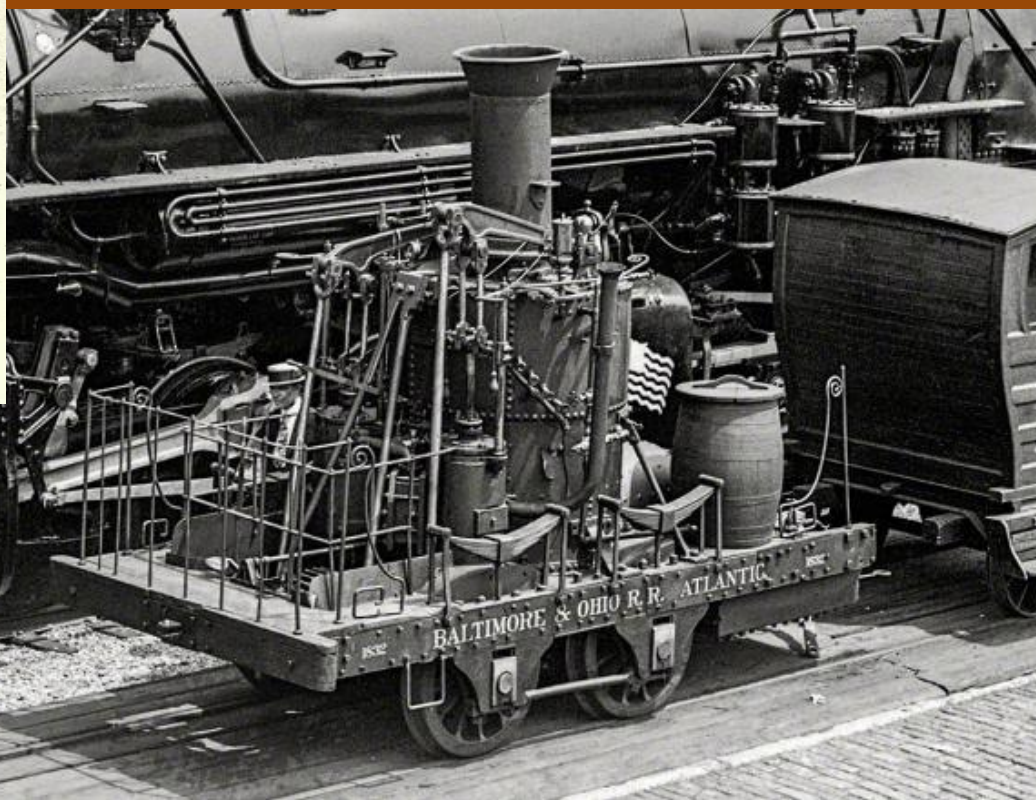


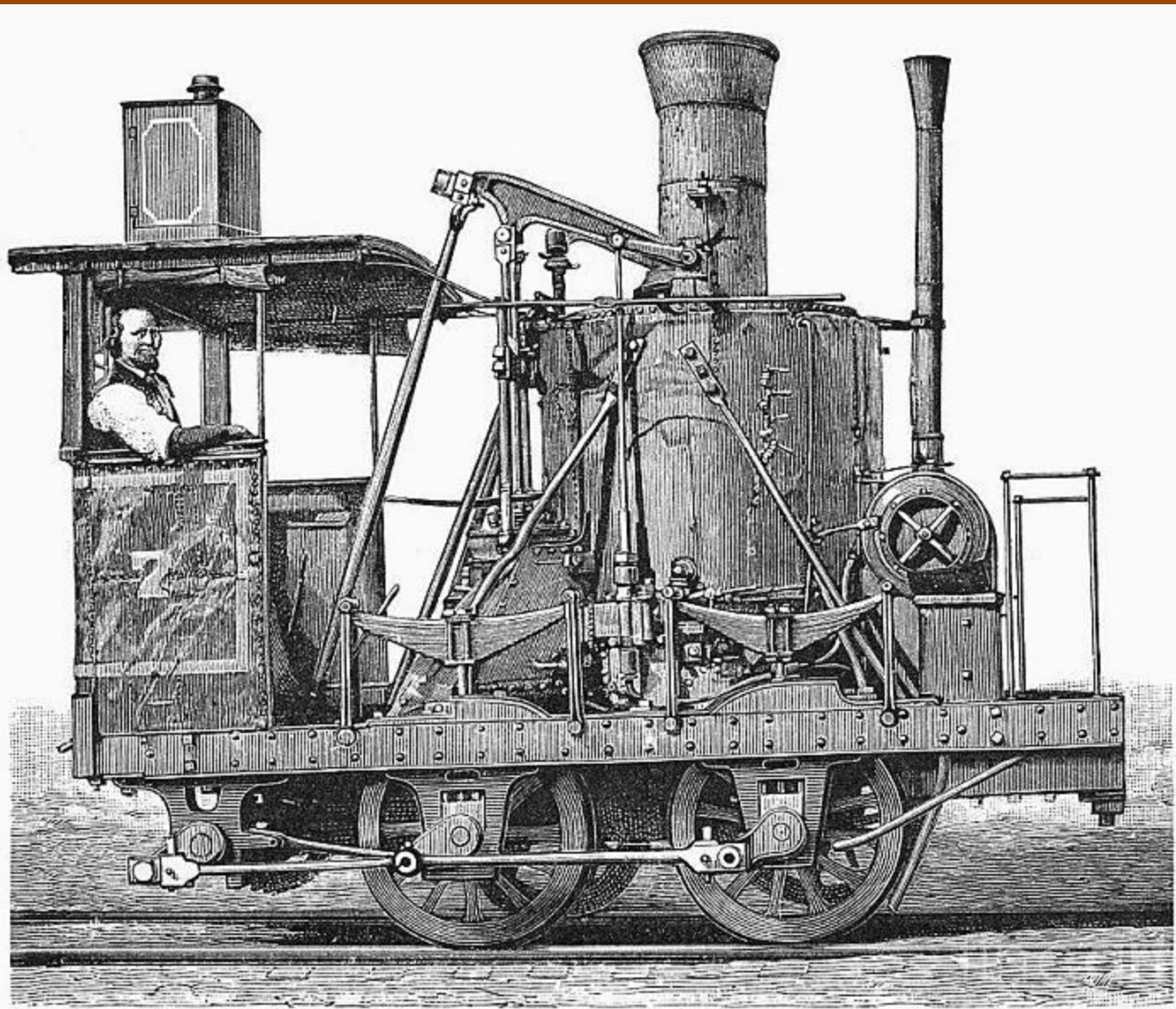
THE BALTIMORE & OHIO LOCOMOTIVE ENGINE.

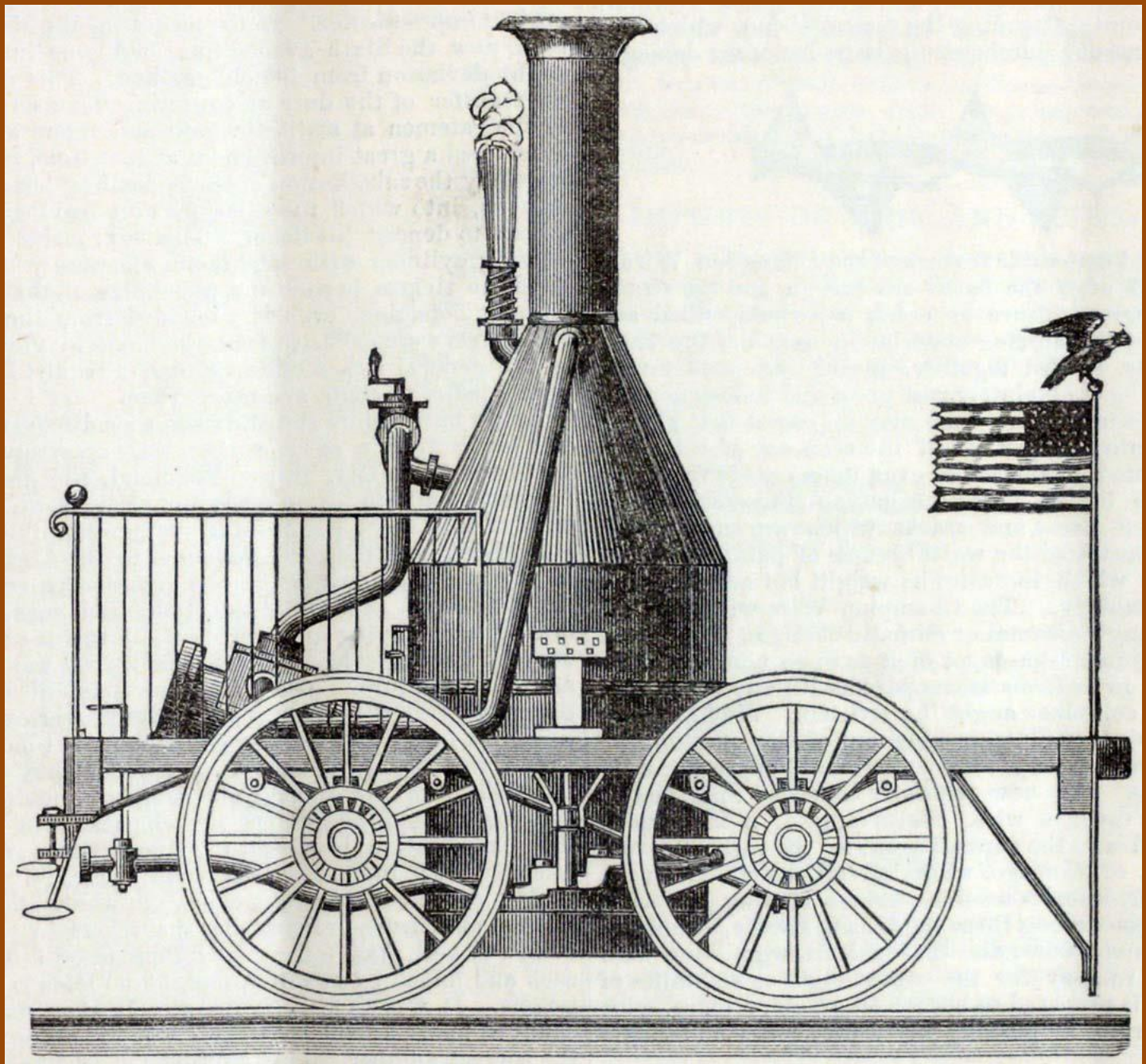
As Manufactured by Gillingham & Winans, B. & O. R. R. Company's Mt. Clare Depot, Baltimore, Md.

"The characteristics of this engine are: 1. The use of anthracite coal as fuel. 2. The vertical tubular boiler. 3. The use of adhesion of all four wheels. The boiler is competent to supply steam to work up to the adhesion of all the wheels at the rate of ten miles an hour, or to produce a continuous horizontal pull of 2,322 lbs., equal to drawing 211 tons on a level road at the rate of ten miles an hour, as determined from actual experiment. See 9th Annual Report of B. & O. R. R. Co., p. 79. This engine has drawn, exclusive of its own weight, 17½ tons up an ascent of 200 feet per mile for 2,150 feet at the uniform rate of 6 miles per hour. See Report of Committee of City Council of Baltimore, March 24, 1836. The weight of this engine varies from 7 to 8½ tons."

Fig. 3. A GRASSHOPPER







Tom Thumb was the first American-built steam locomotive to operate on a common-carrier railroad



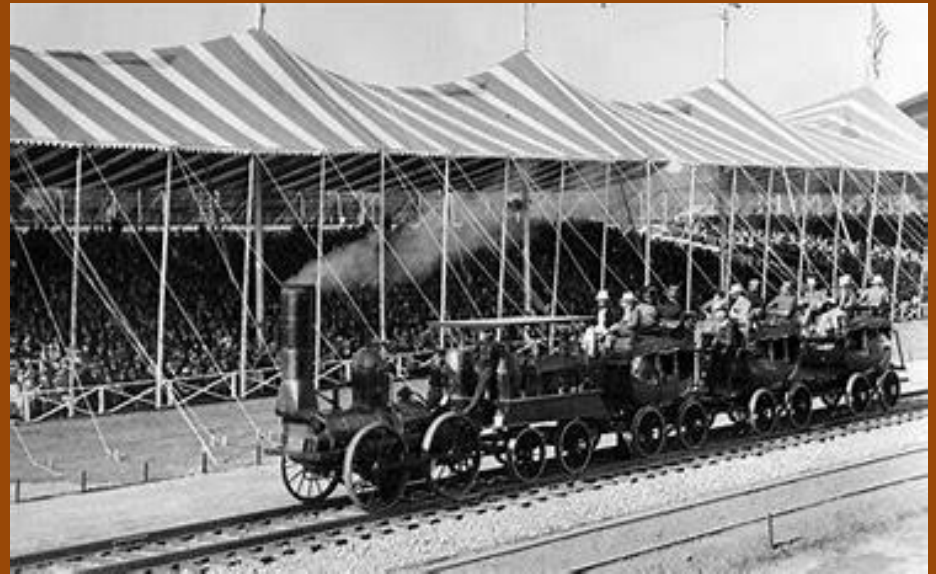




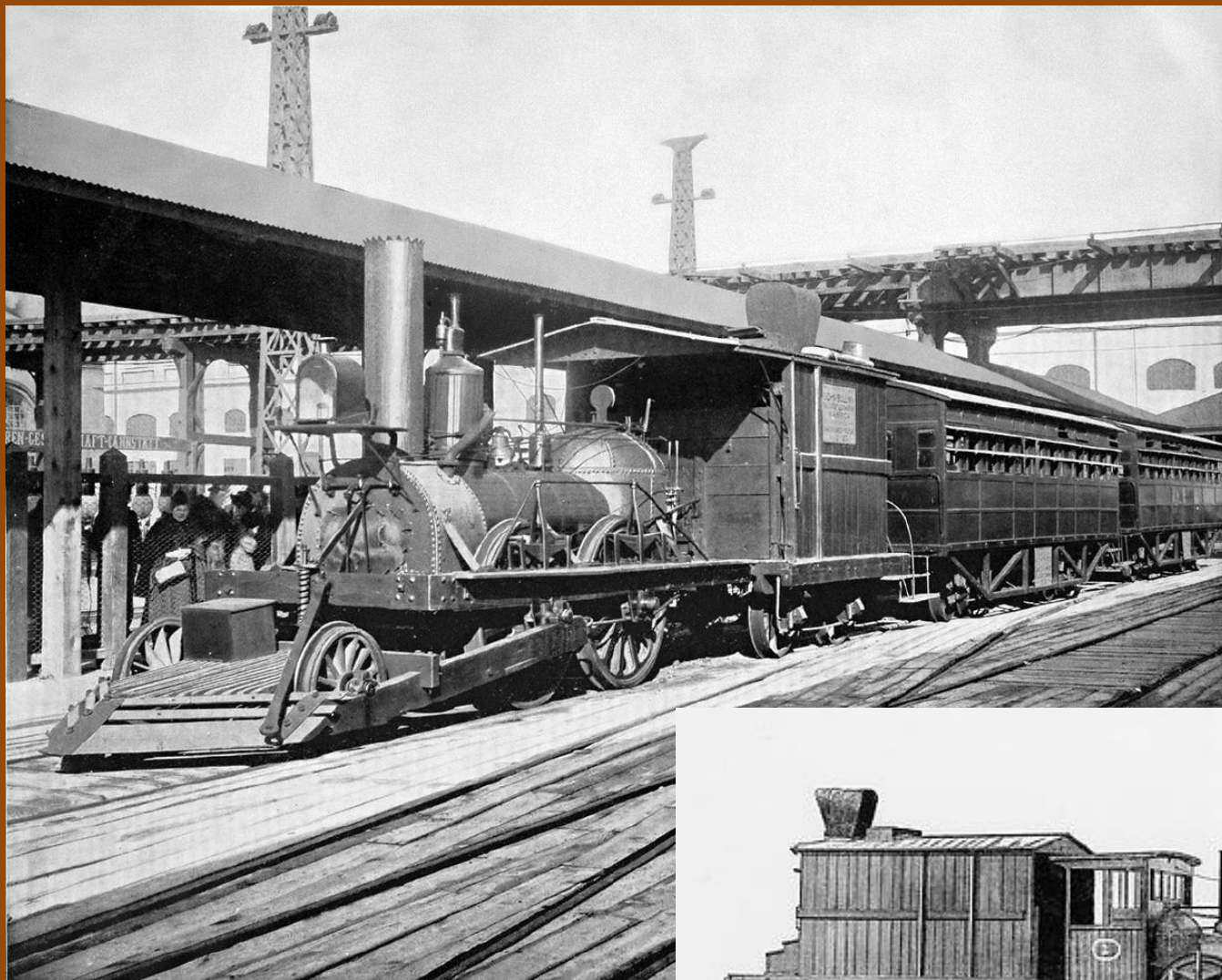




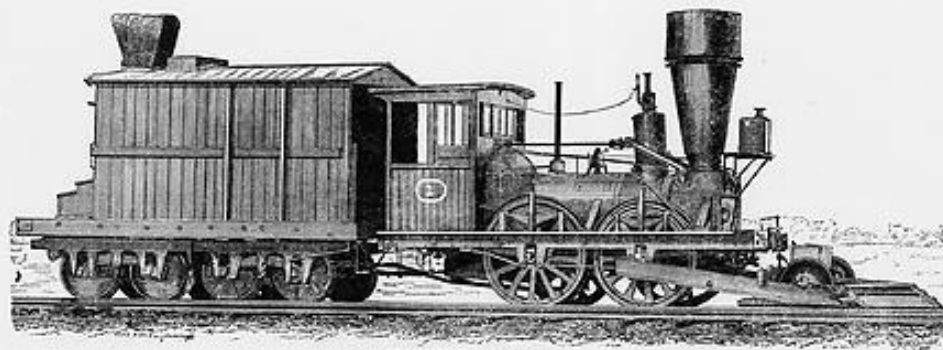
CENTENARY PAGEANT
OF THE
BALTIMORE AND OHIO
RAILROAD
TO BE HELD AT
Baltimore, Md.
September 24 ~ October 8, 1927







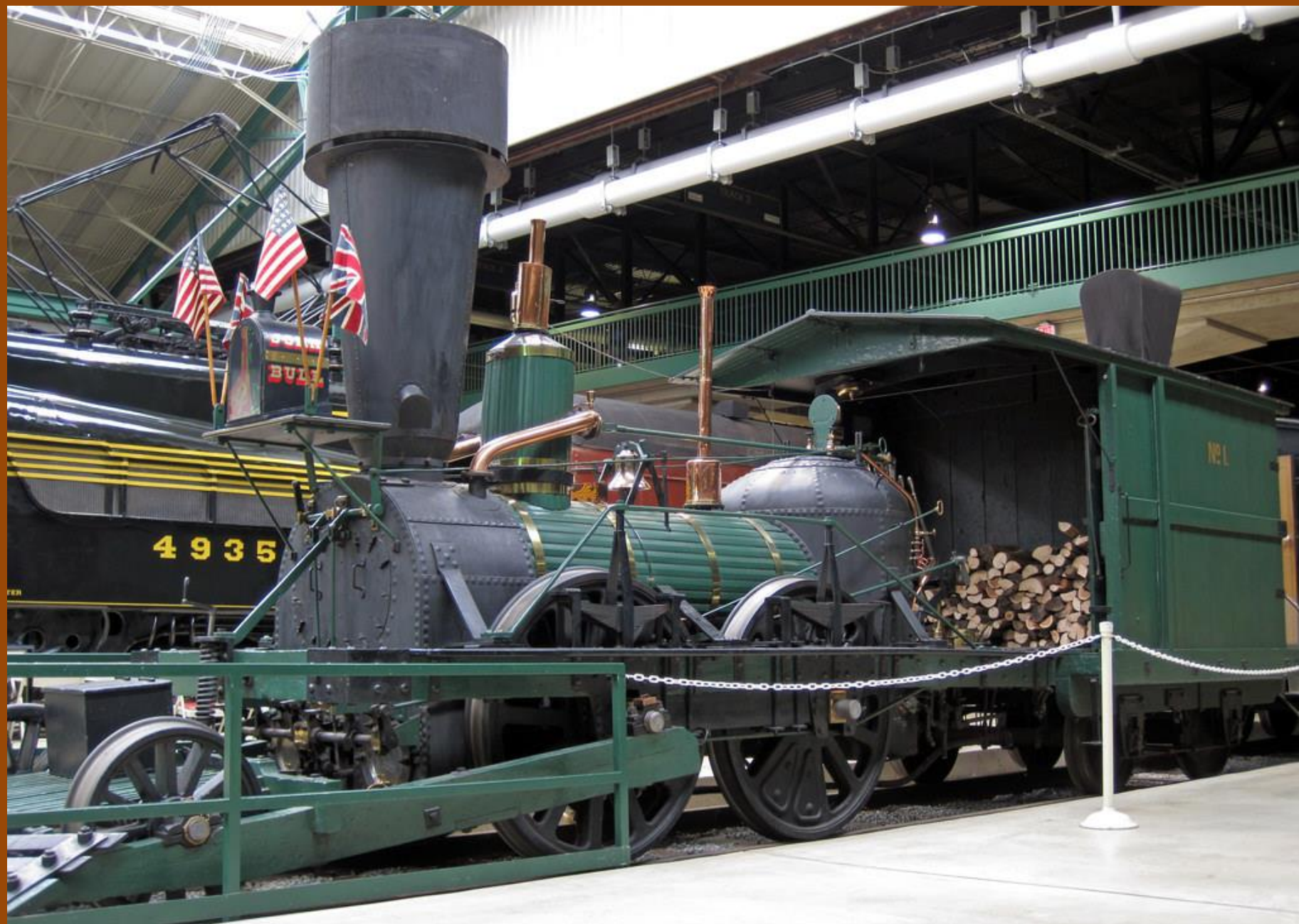
John Bull Camdon and Amboy RR



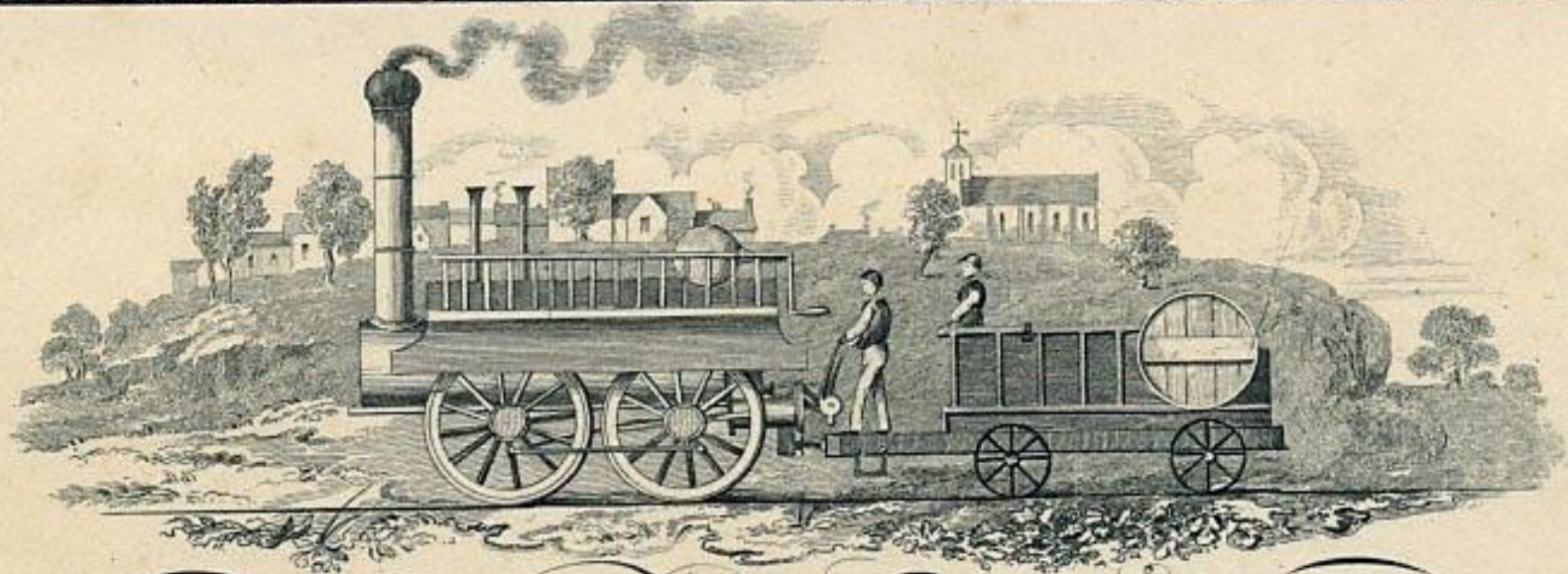
LOCOMOTIVE - JOHN BULL.



COPY BY A. S. WALTON.







TIMOTHY HACKWORTH,
Manufacturer of
LOCOMOTIVE, MARINE, HIGH PRESSURE,
AND OTHER **STEAM ENGINES, MILLS, &c.**

On the most approved Plans.

New Shildon, NEAR W^{re} Auckland.

D U R H A M.

CHAPLINS' PATENT CONTRACTORS' LOCOMOTIVES,

Specially designed and adapted for
Contractors' Purposes
in constructing
Railways, Docks, Harbours,
and similar Works;

Also, for moving Materials at
Railway Sidings,
Quarries, Coal Mines,
Gas Works, &c.,
thus replacing Horses.

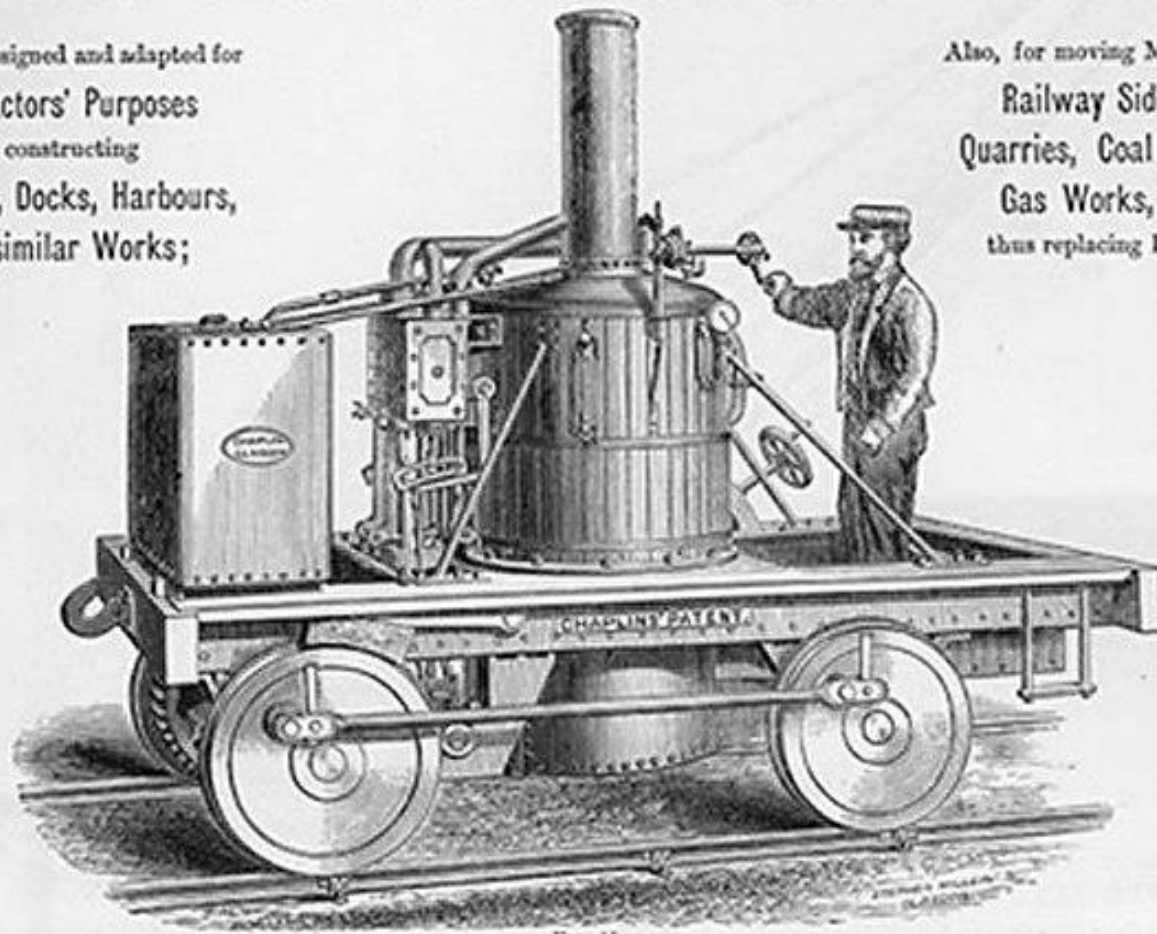
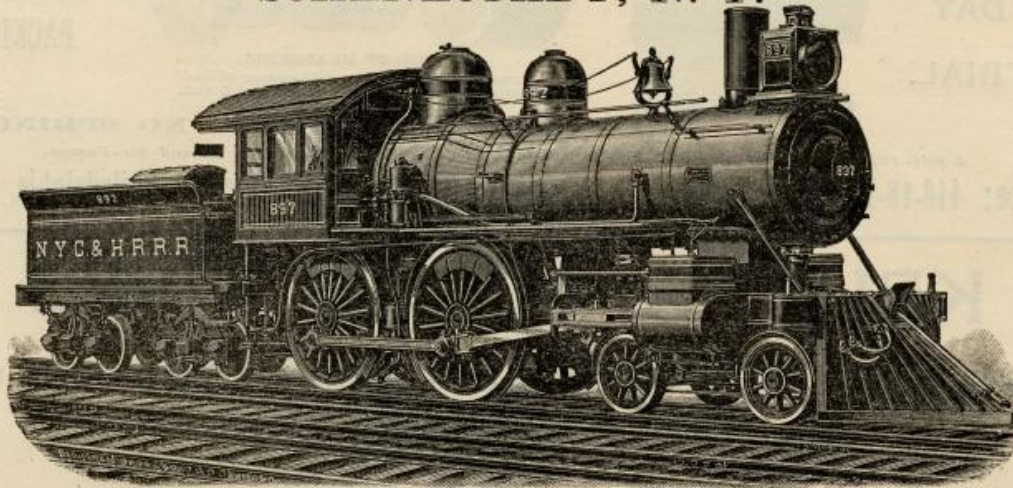


FIG. 11.

SCHENECTADY LOCOMOTIVE WORKS,

SCHENECTADY, N. Y.



Locomotives of Standard Design for all Classes of Service, or from Designs furnished by Railroad Companies

COMPOUND LOCOMOTIVES,

Showing an Economy of 15 to 25 Per Cent. in Fuel and Water.

EDWARD ELLIS, President.

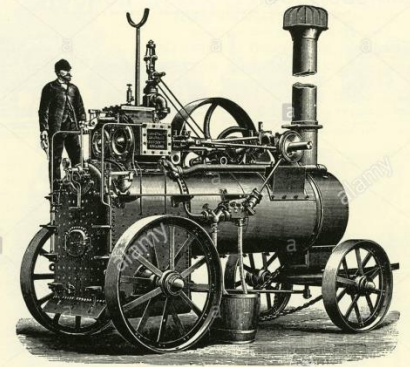
WALTER McQUEEN, Vice-President.

ANNUAL CAPACITY, 400.

WM. D. ELLIS, Treasurer.

ALBERT J. PITKIN, Superintendent

RICHARD GARRETT & SONS



COMPOUND PORTABLE ENGINE.

LEISTON WORKS, LEISTON, R.S.O., SUFFOLK.

NATIONAL LOCOMOTIVE WORKS.



W. H. BAILEY & CO.,
CONNELLSVILLE, PA.

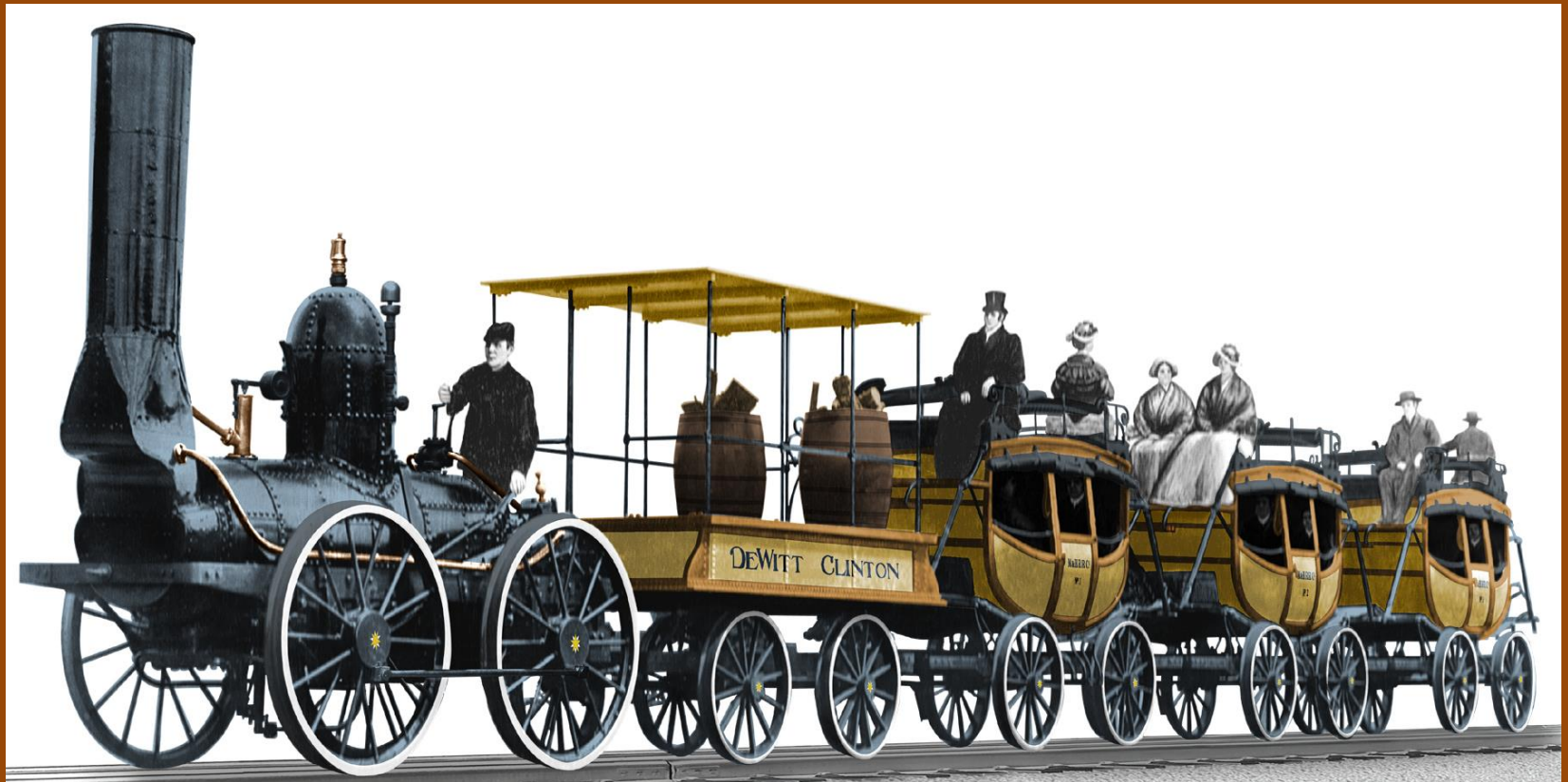
MANUFACTURERS OF

LOCOMOTIVE ENGINES,



THE DANFORTH
Locomotive and Machine Co.,
PATERSON, N. J.

Development of the Passenger Train



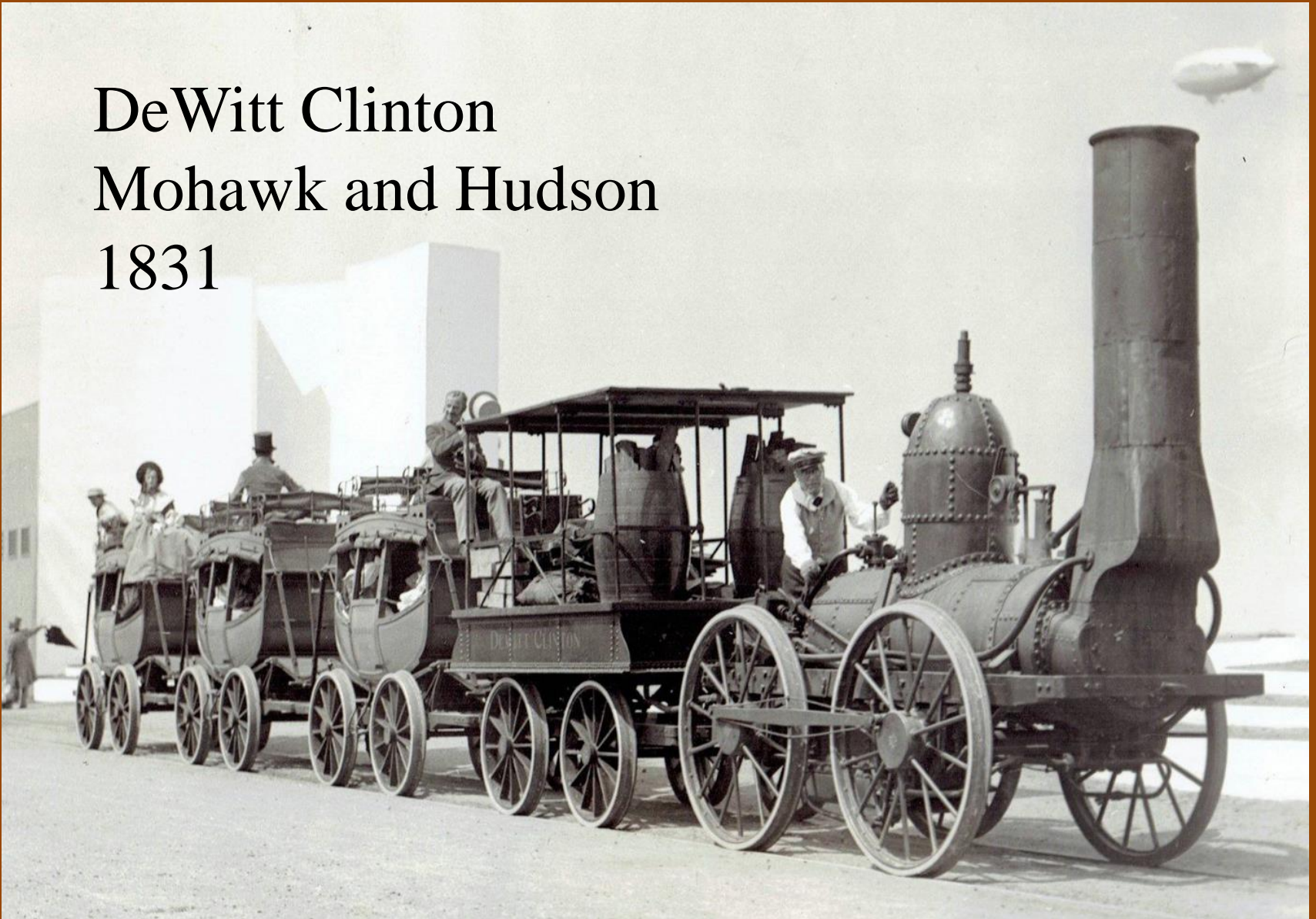








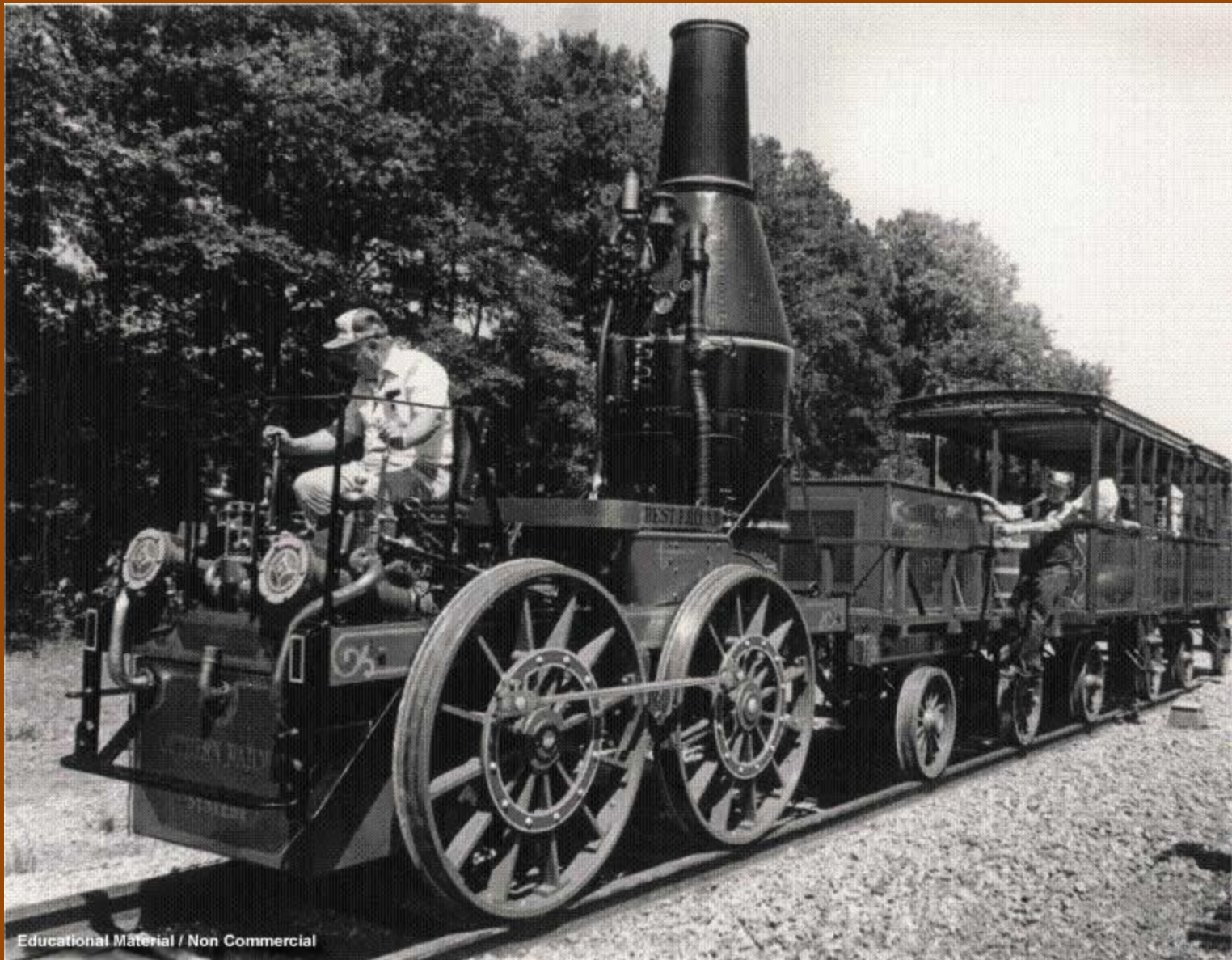
DeWitt Clinton
Mohawk and Hudson
1831





Best Friend of Charleston, 1830, Charlestown and Hamburg
RR, 136 mile line, for a time the longest in the world





Educational Material / Non Commercial







Some Radical Designs

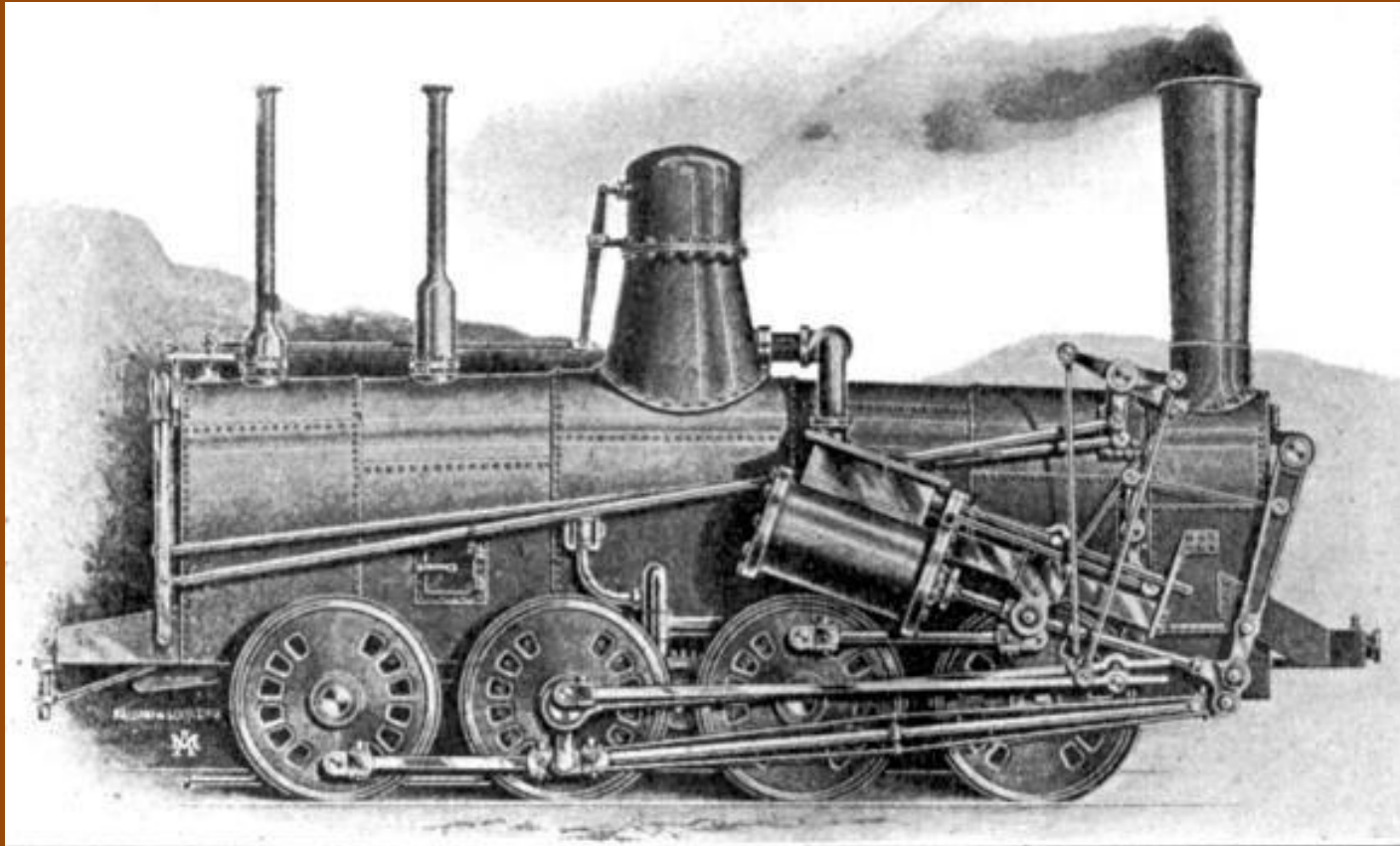
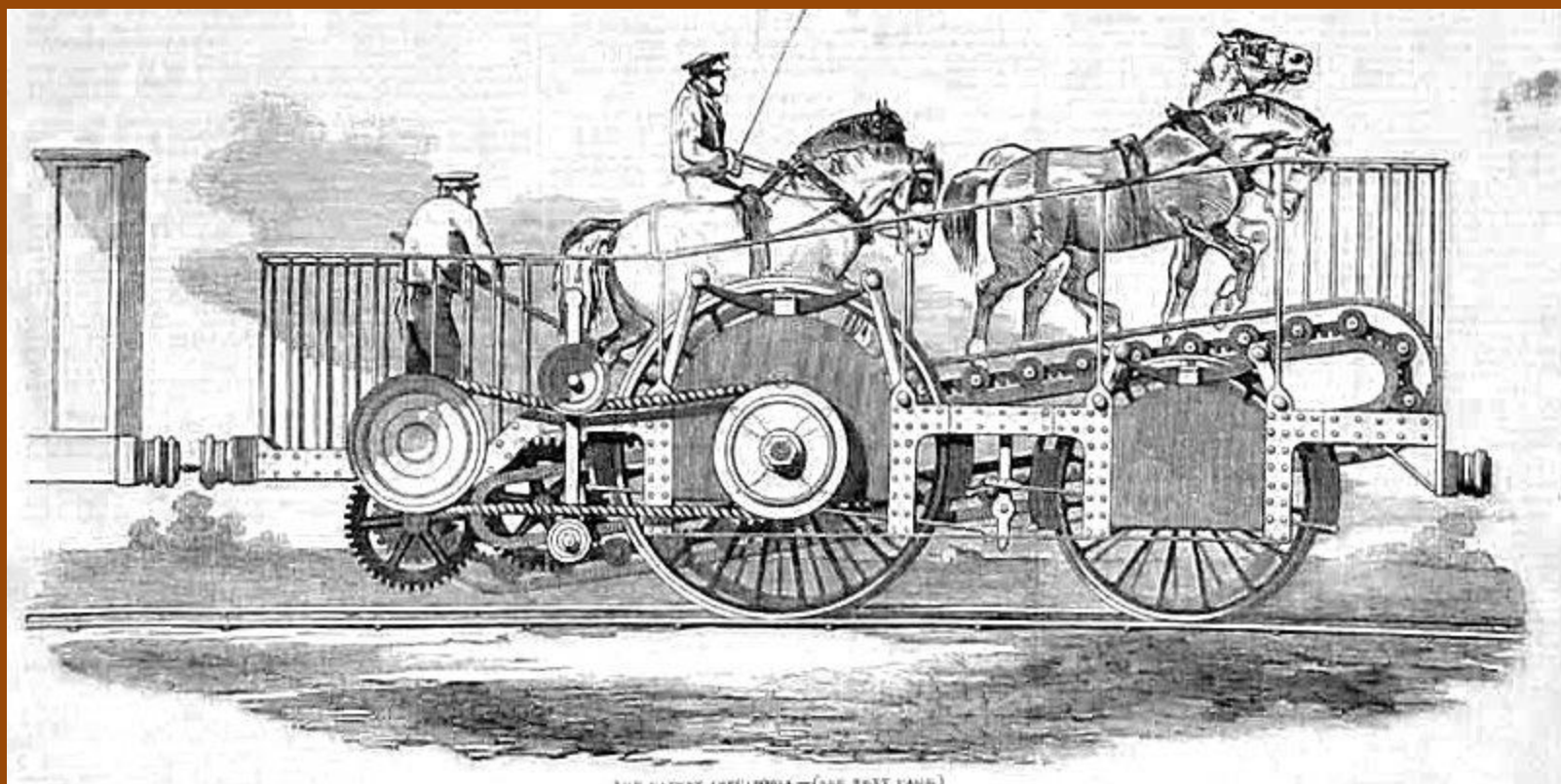
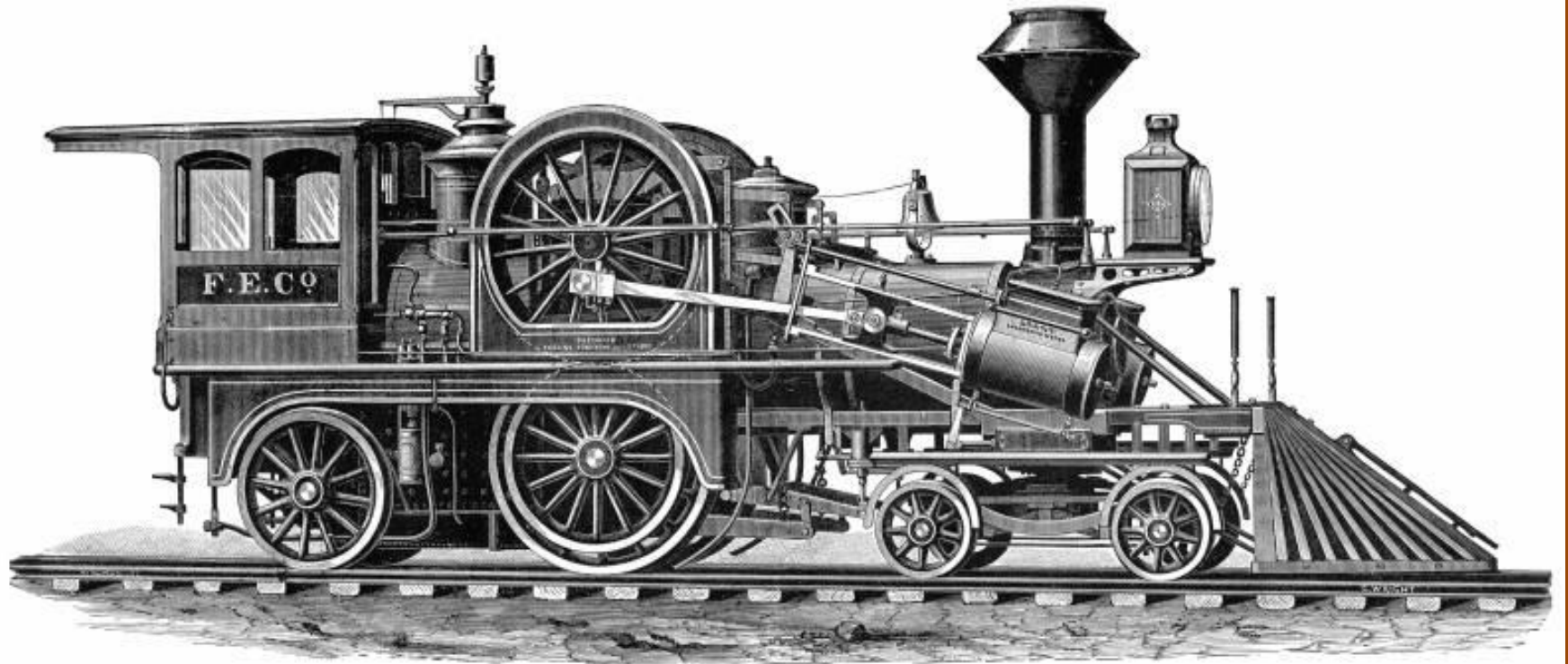
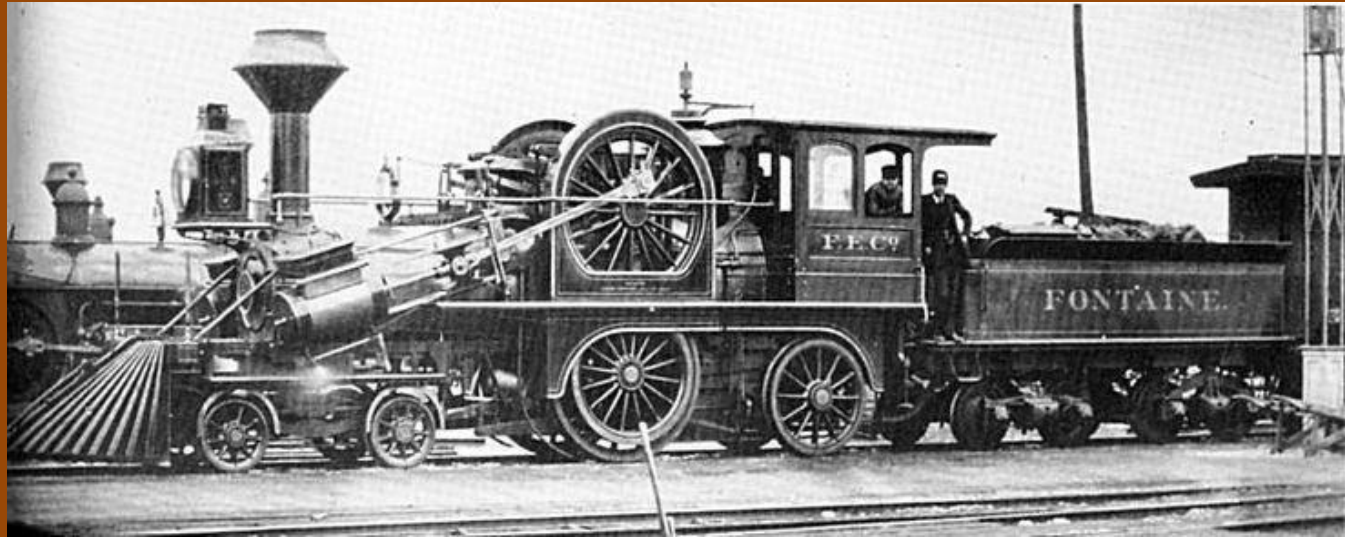


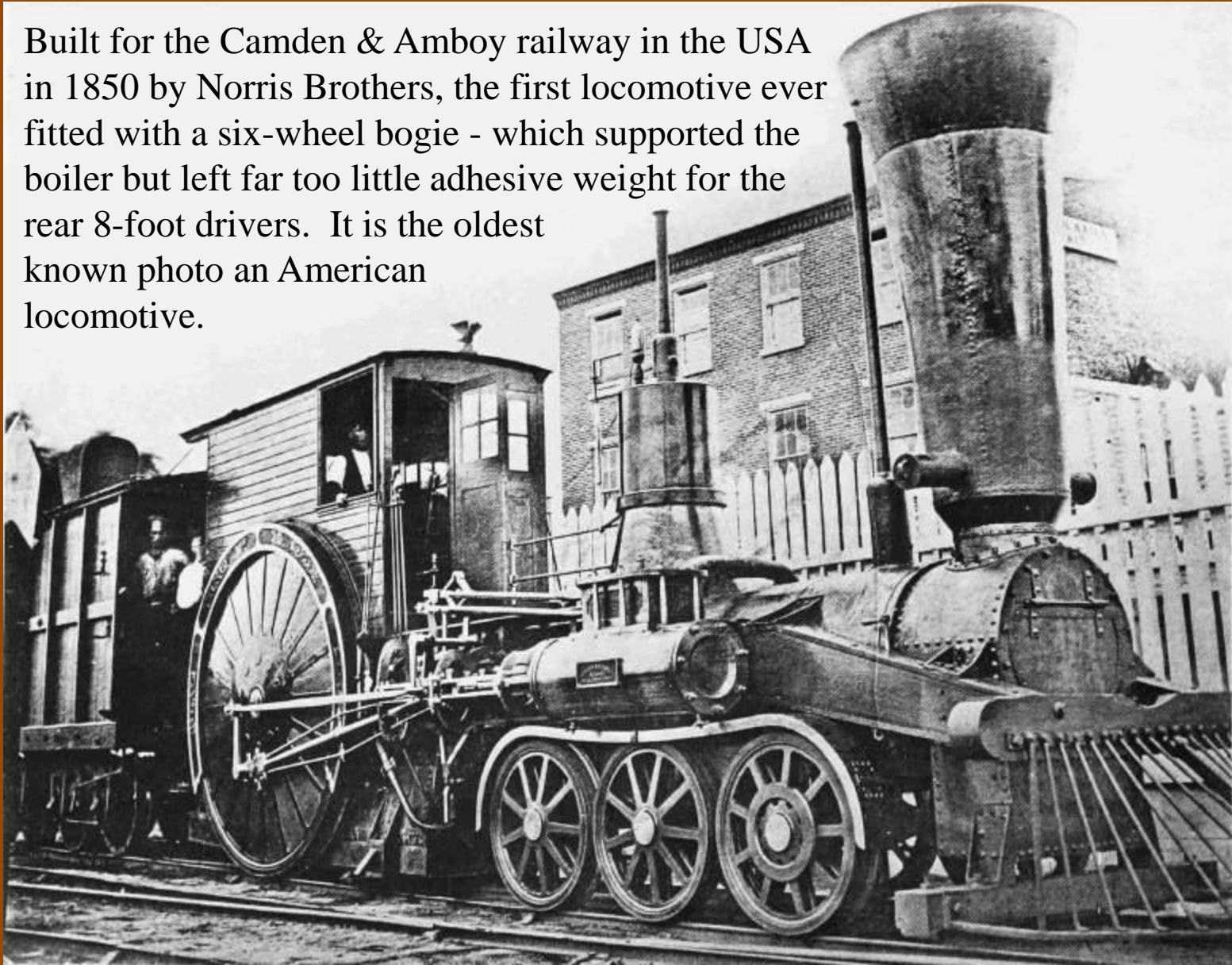
FIG. 8. CAMDEN & AMBOY MONSTER.

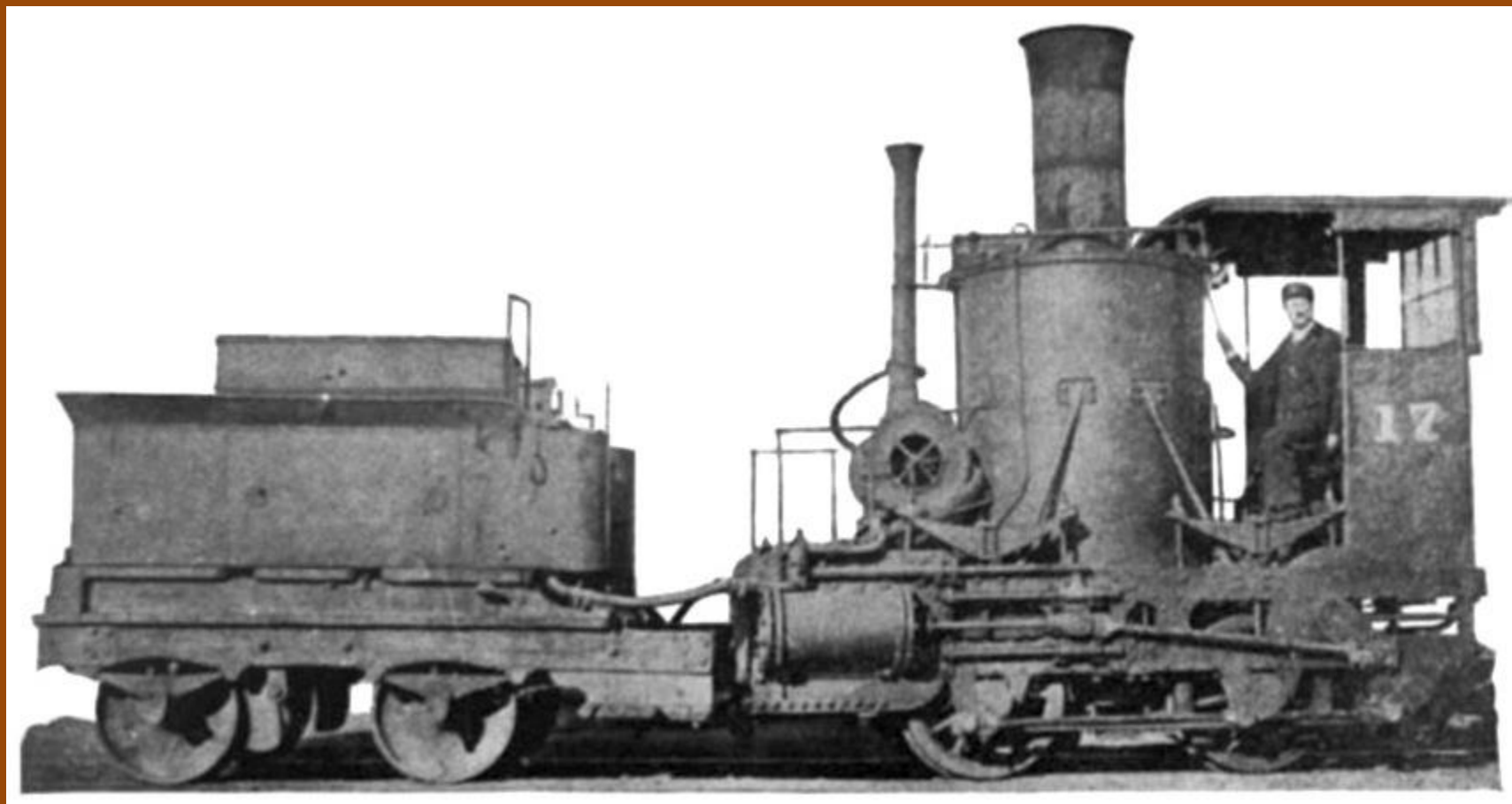


THE PORTABLE STEAM ENGINE—(SEE NEXT PAGE)



Built for the Camden & Amboy railway in the USA in 1850 by Norris Brothers, the first locomotive ever fitted with a six-wheel bogie - which supported the boiler but left far too little adhesive weight for the rear 8-foot drivers. It is the oldest known photo an American locomotive.

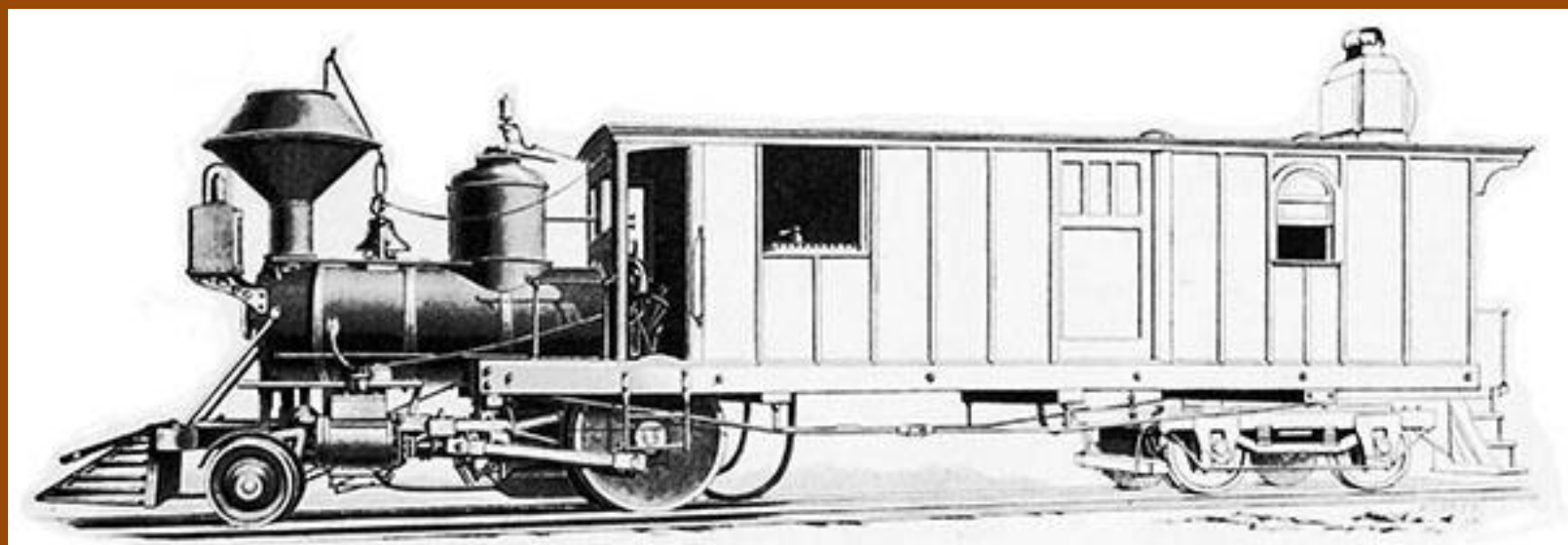
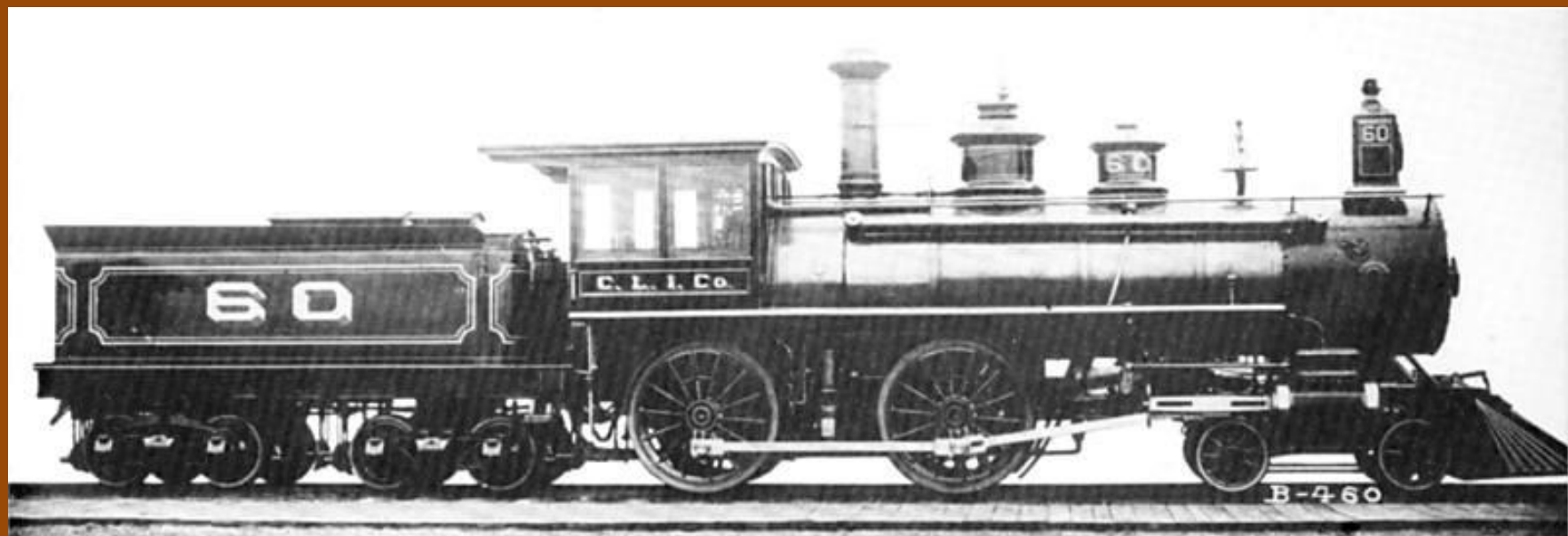


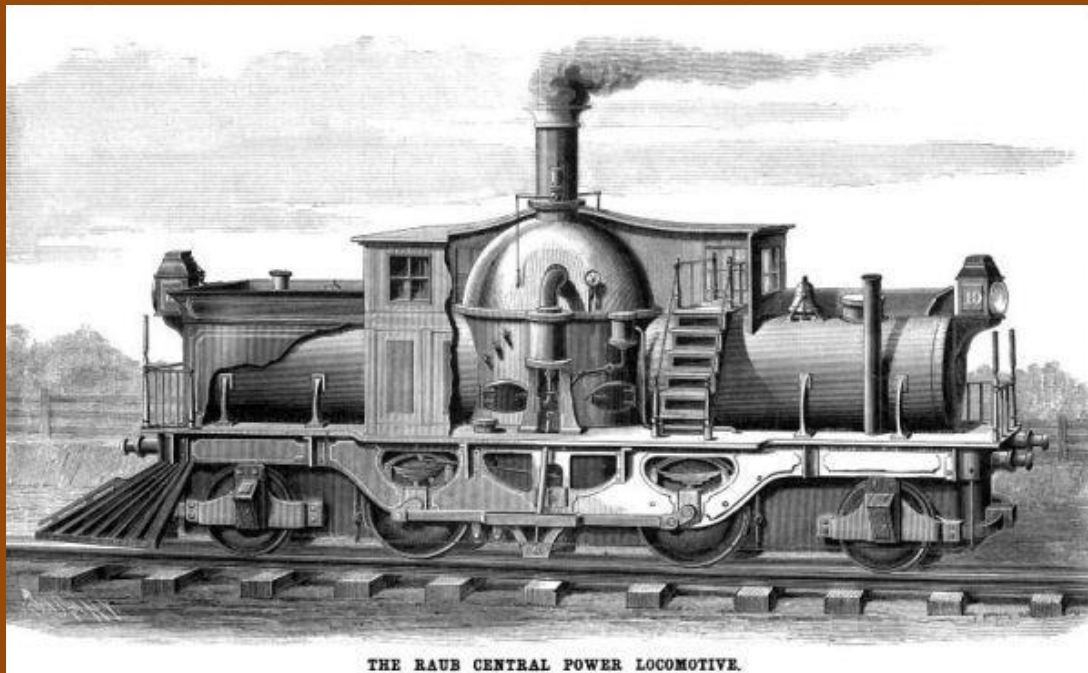


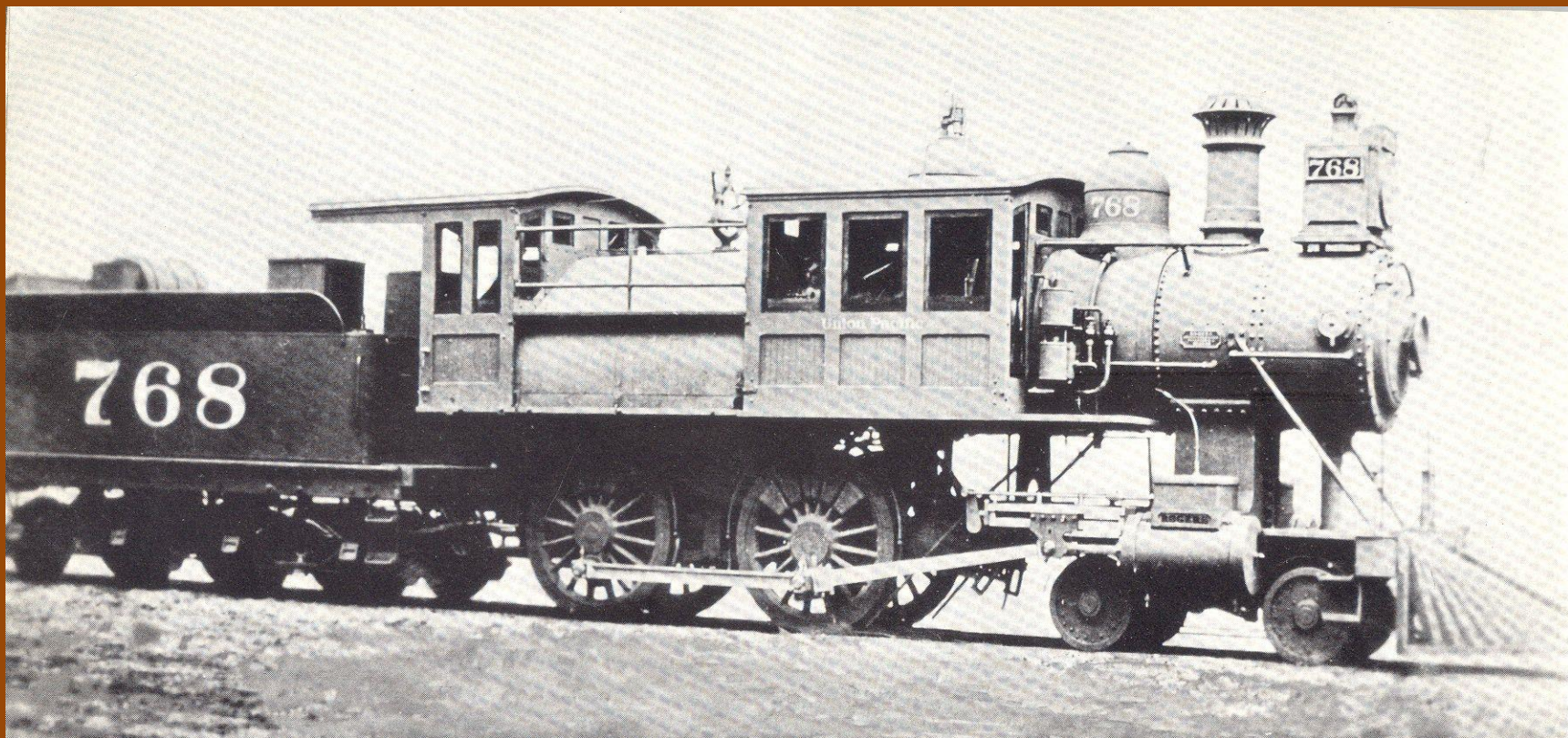














The American Type Locomotive

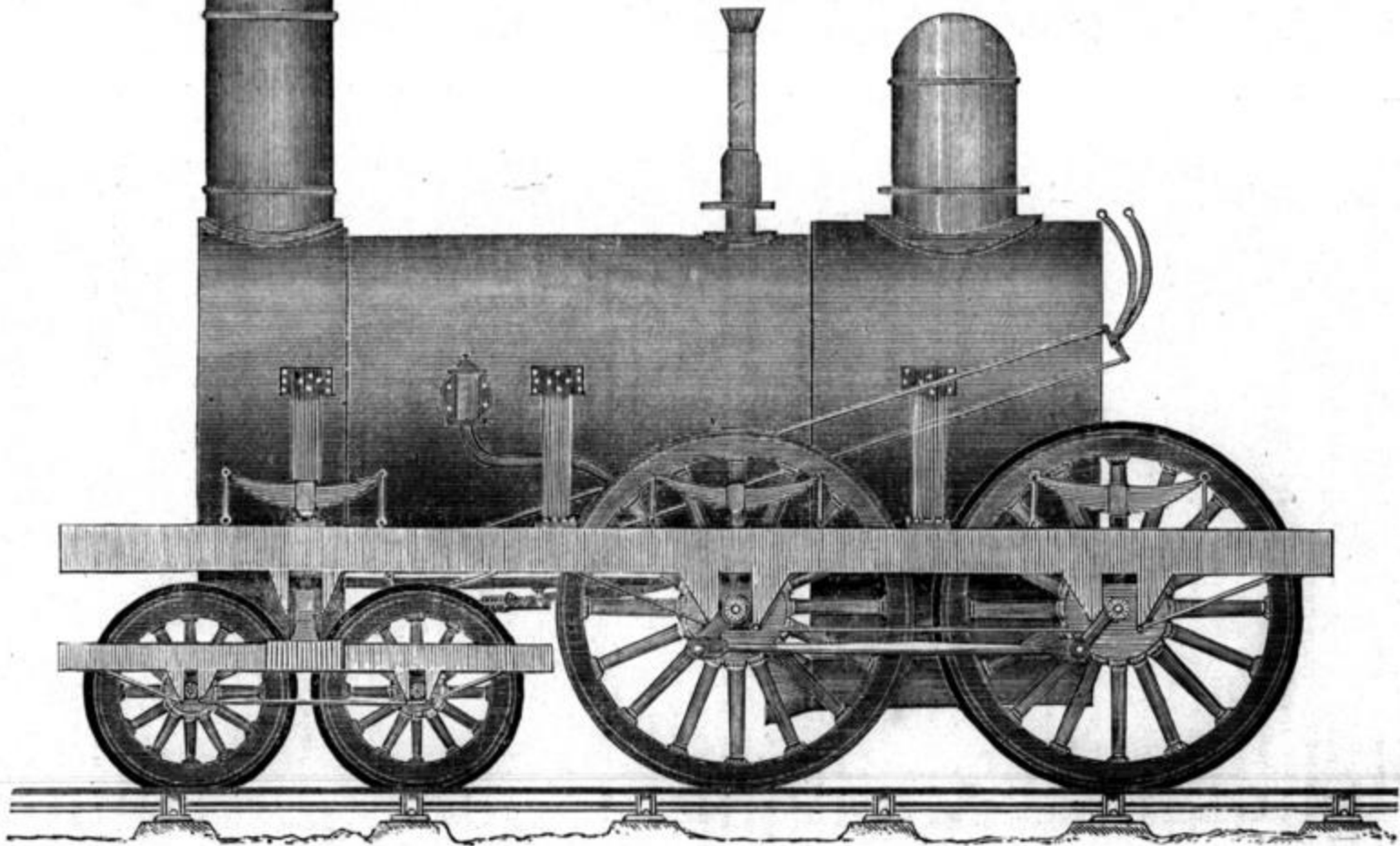
4-4-0 represents the arrangement of 4 leading wheels on 2 axles, 4 powered and coupled driving wheels on 2 axles, and no trailing wheels.

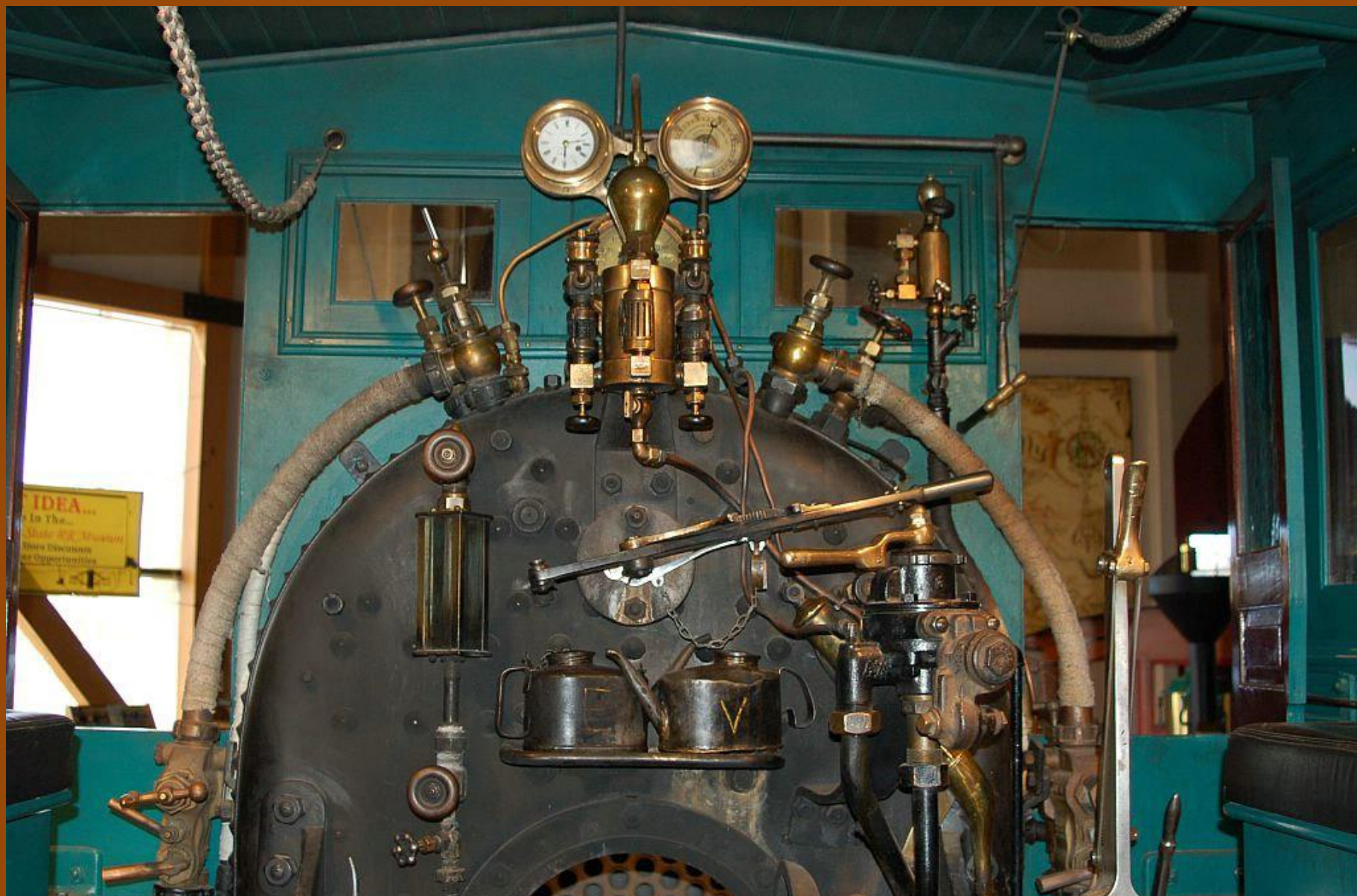
Almost every major railroad that operated in North America in the first half of the 19th century owned and operated locomotives of this type.

The 4-4-0 was originated by Henry R. Campbell, a native of Philadelphia and associate of M. W. Baldwin, while he was with the Philadelphia, Germantown, and Norristown Railway.

By the 1870s well over 3/4 of all steam locomotives operating in the country at that time were American types.

The first 4-4-0 locomotive was designed for the Philadelphia, Germantown and Norristown Railway, patented in 1836

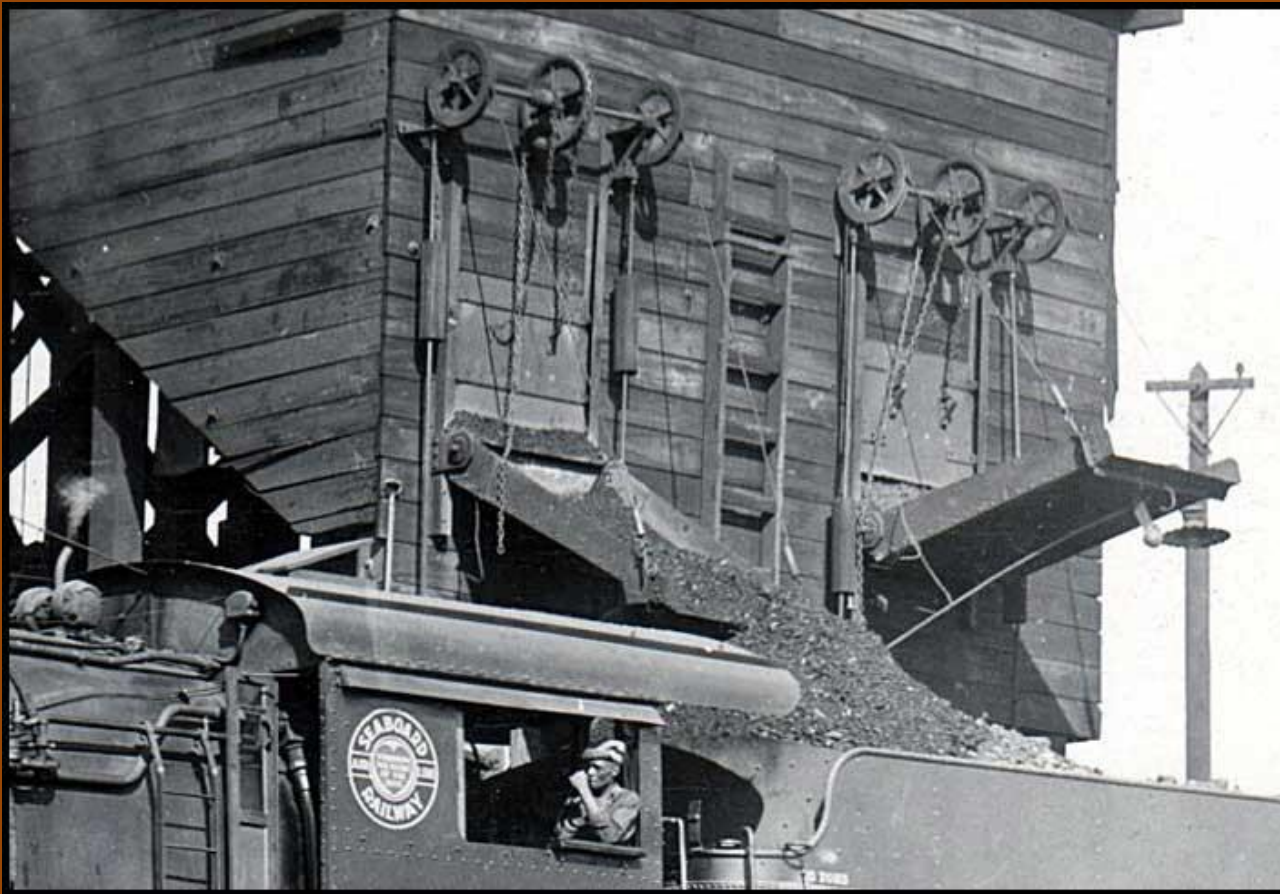








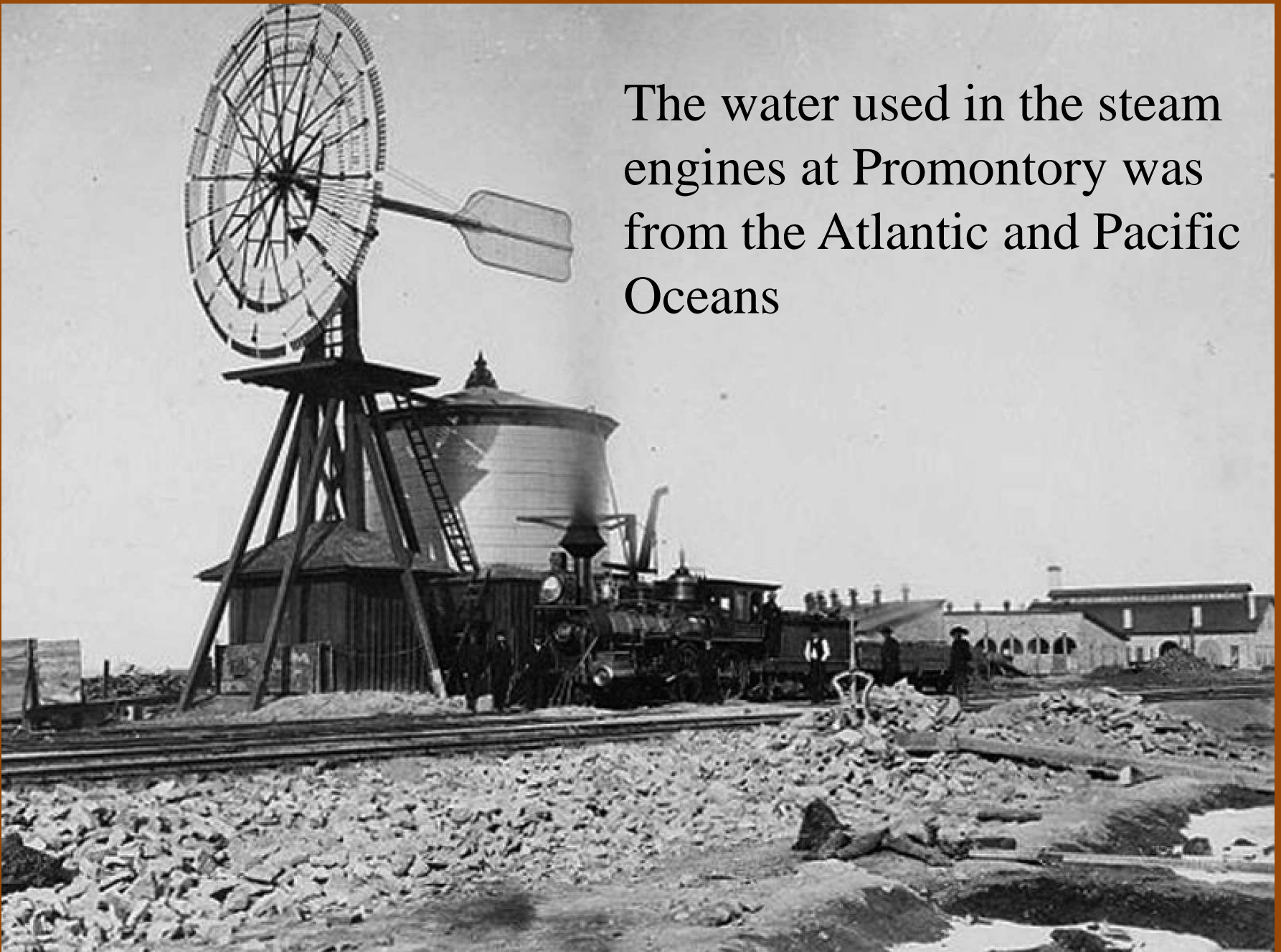
Compared to coal, wood is a bulky, primitive fuel with a low calorific value. In the 19th century 1 ton of soft coal = to $13\frac{1}{4}$ cords of wood, or 2,000 pounds of coal = 5,250 pounds of wood.



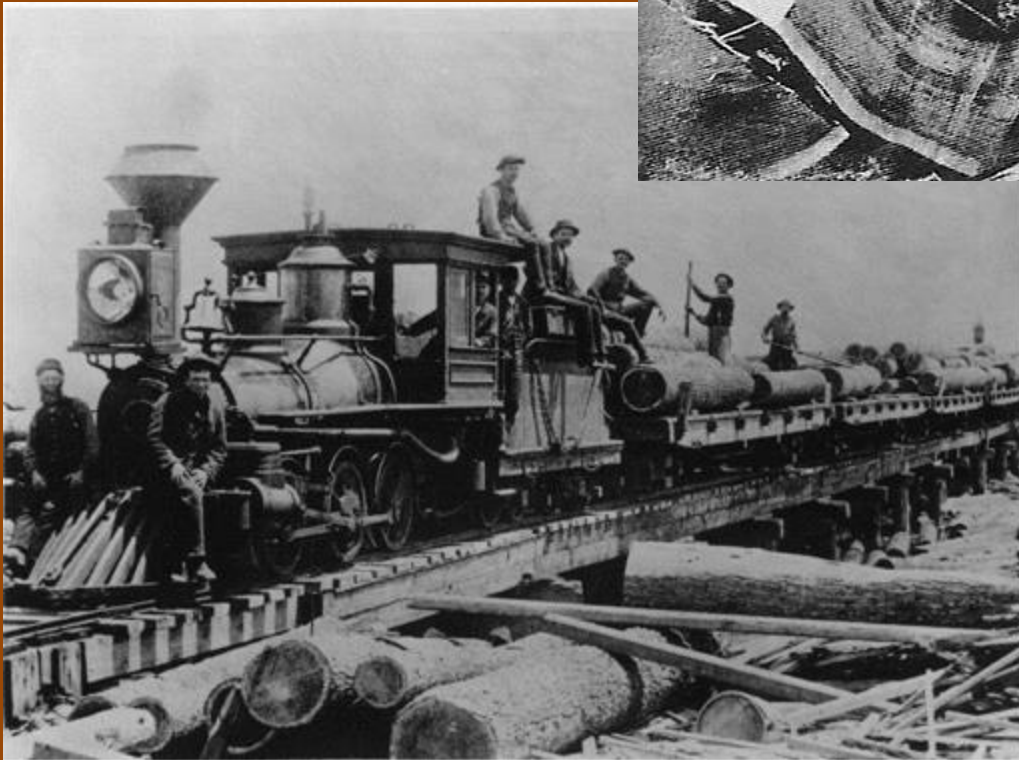




The water used in the steam engines at Promontory was from the Atlantic and Pacific Oceans

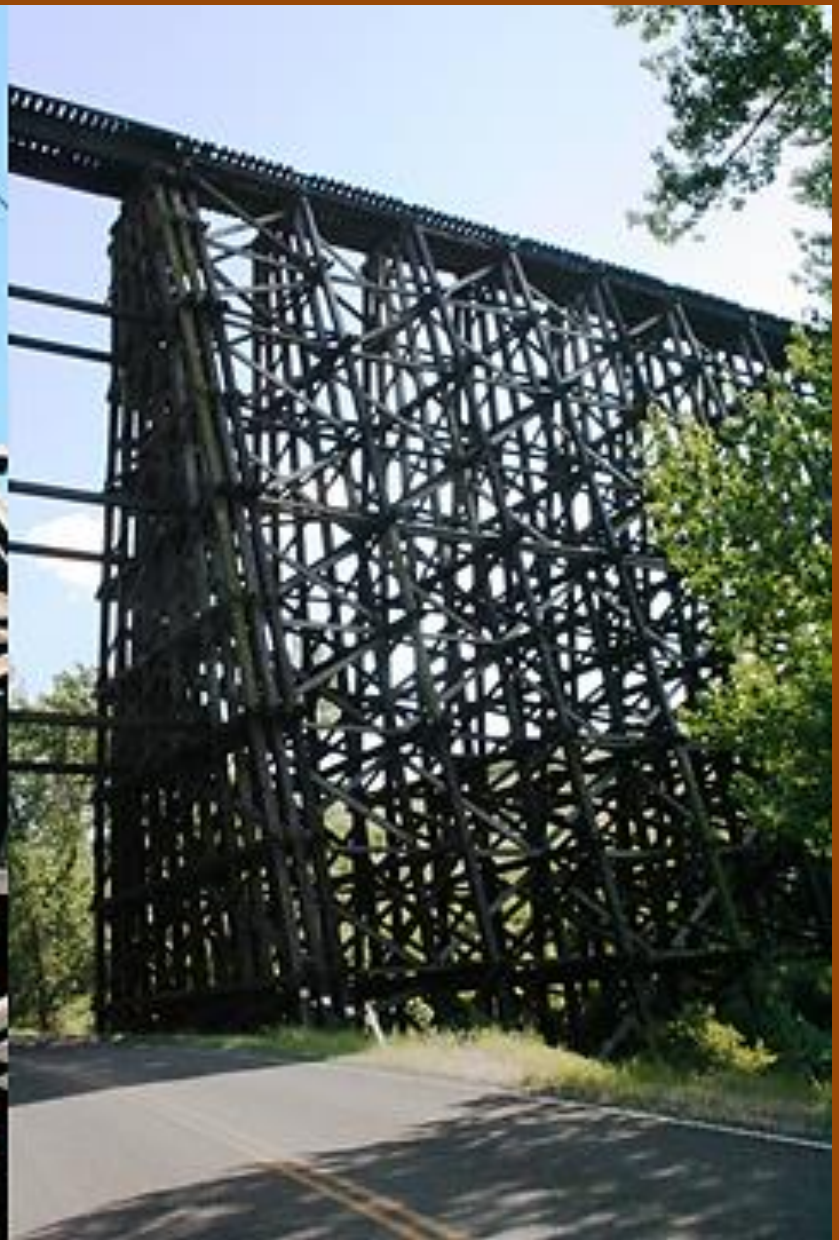


Loggers cut
up to 60 ties
per day, then
treated





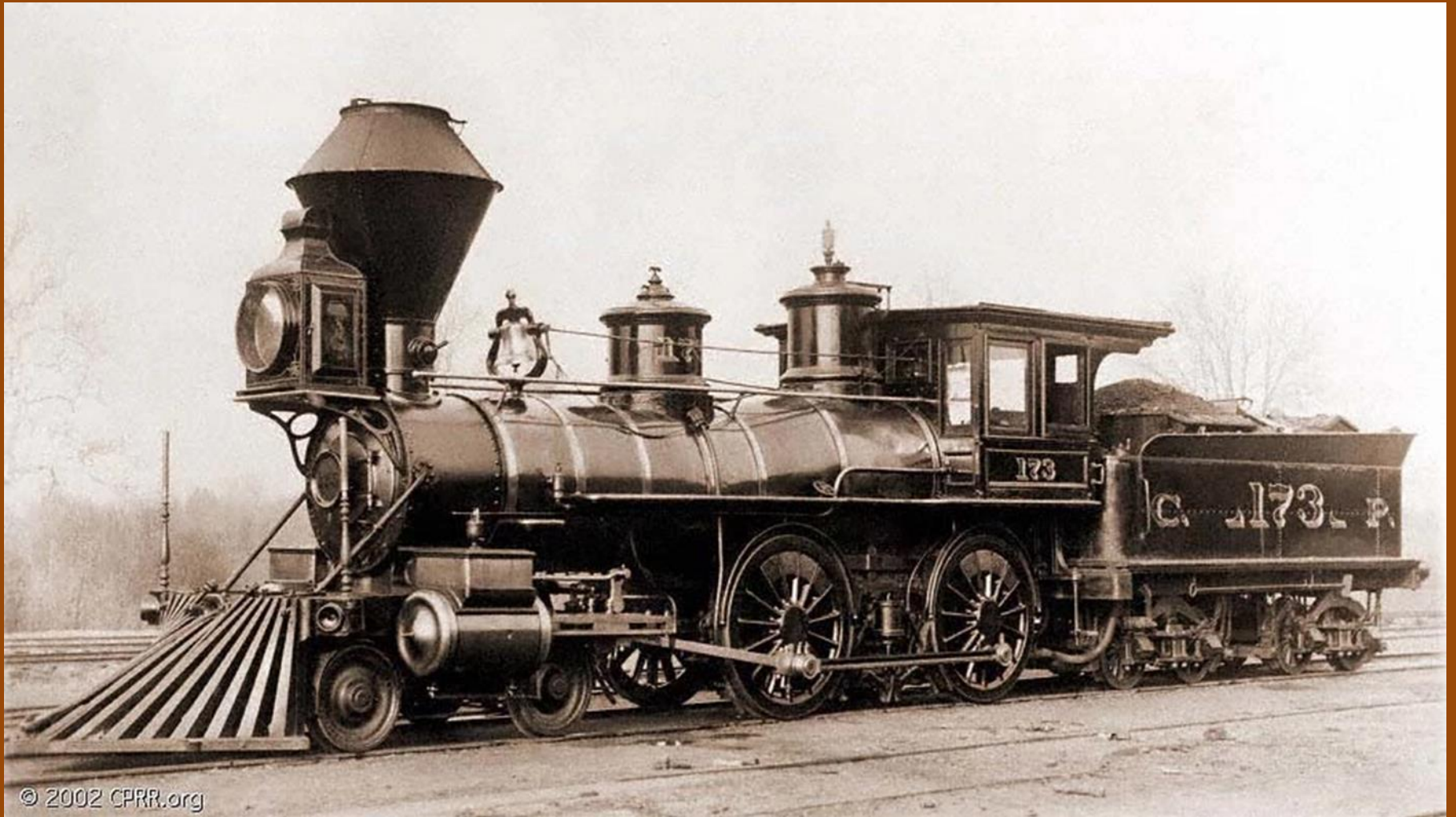


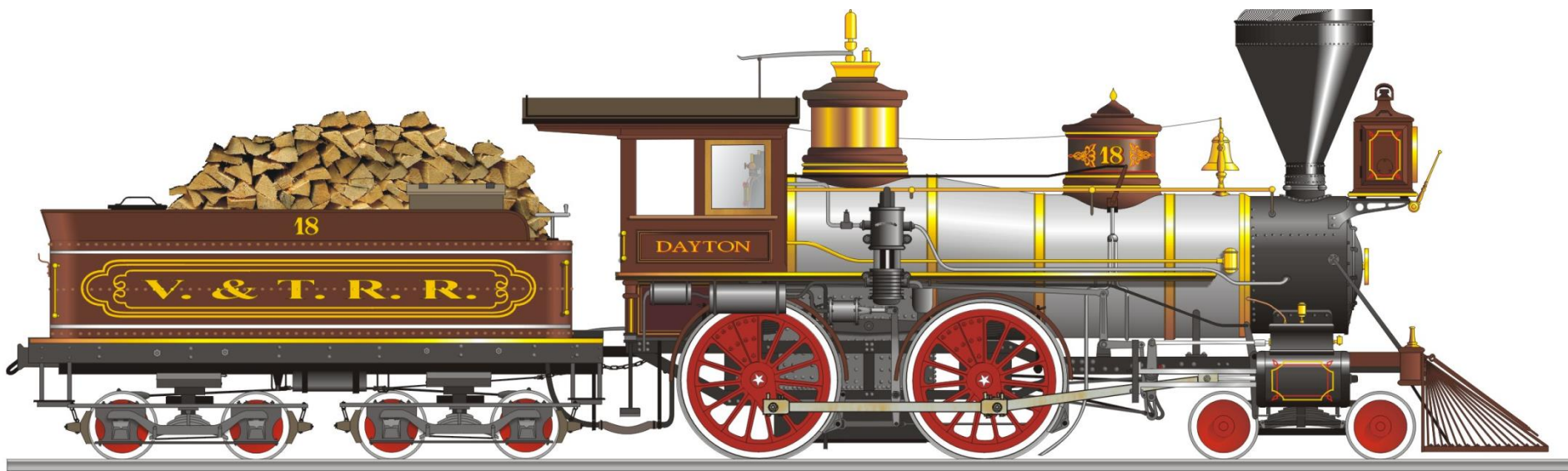
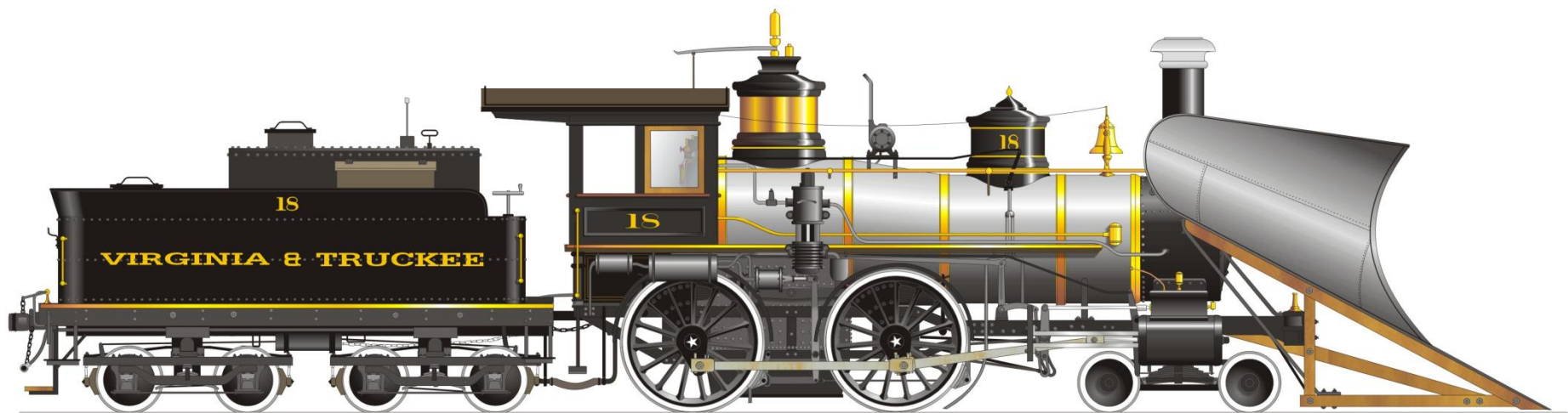


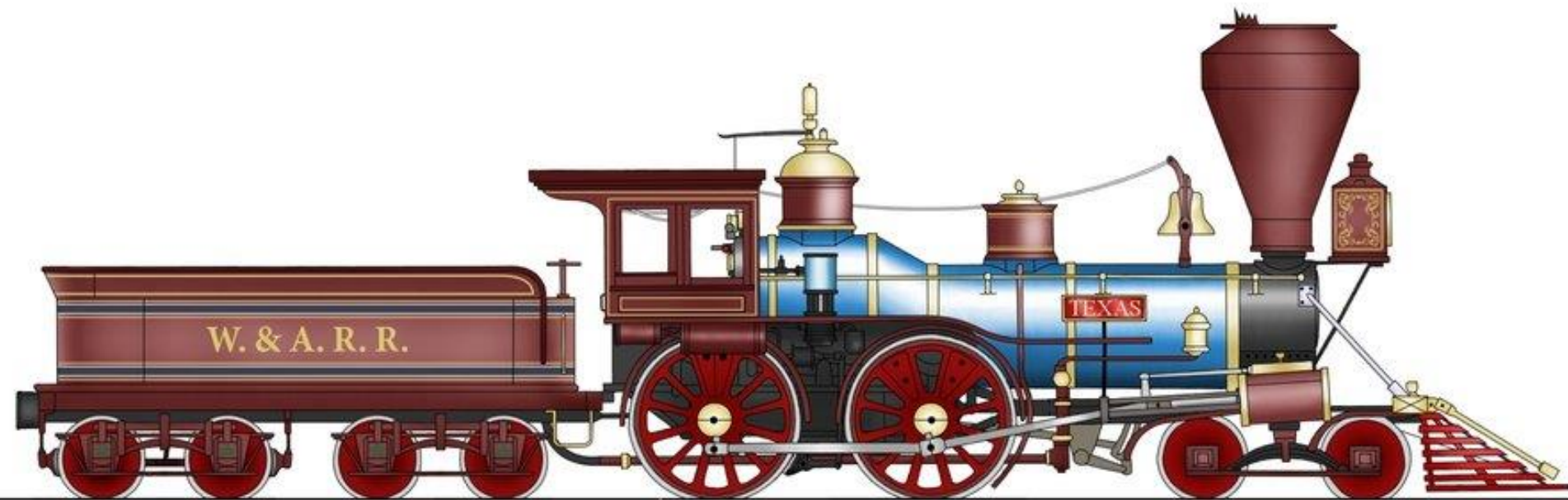
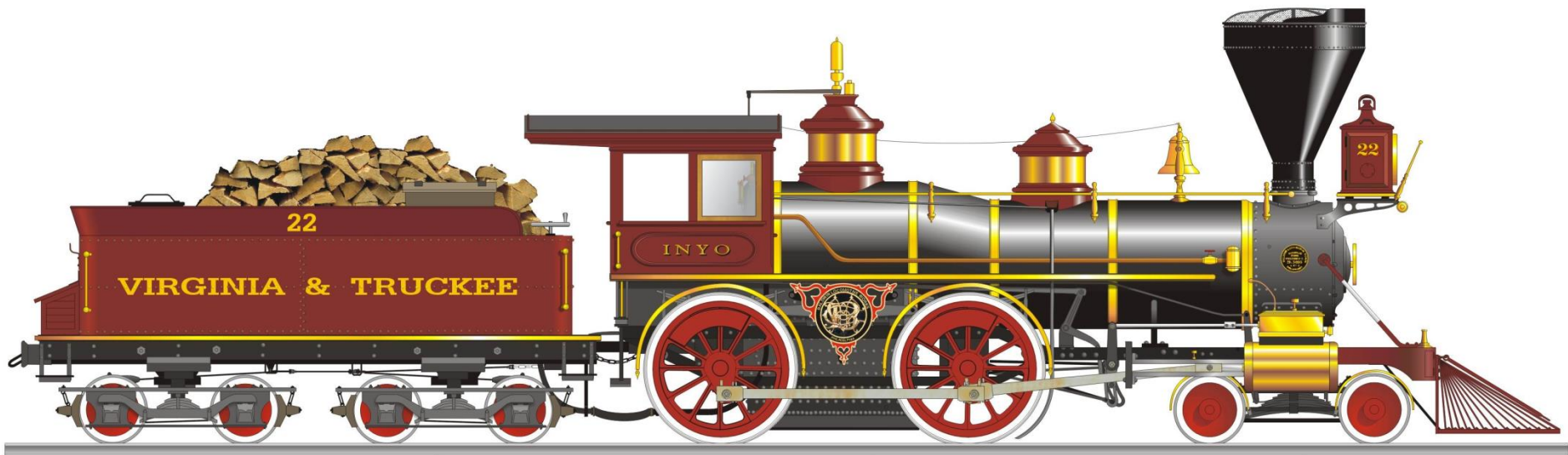




Parade of 4-4-0's









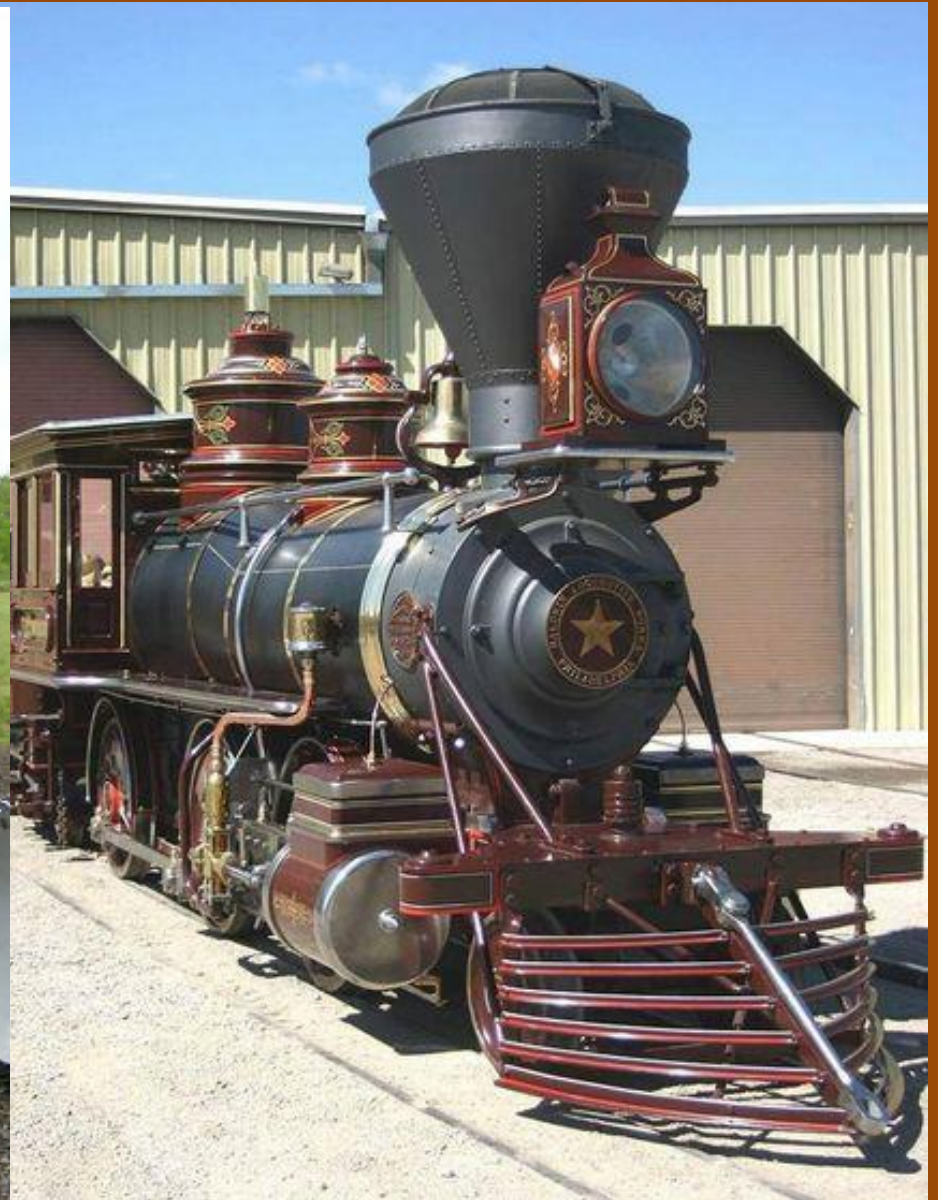




























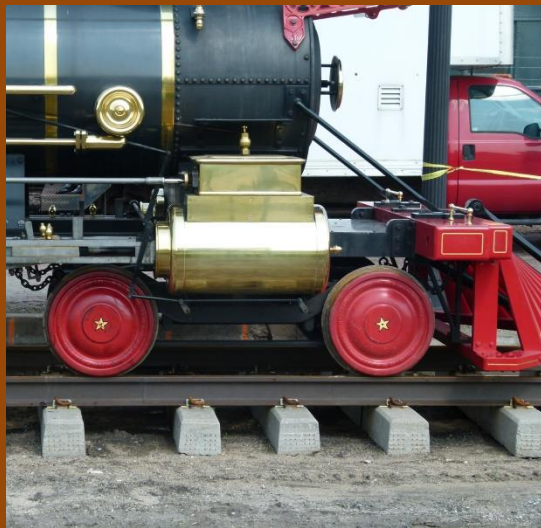














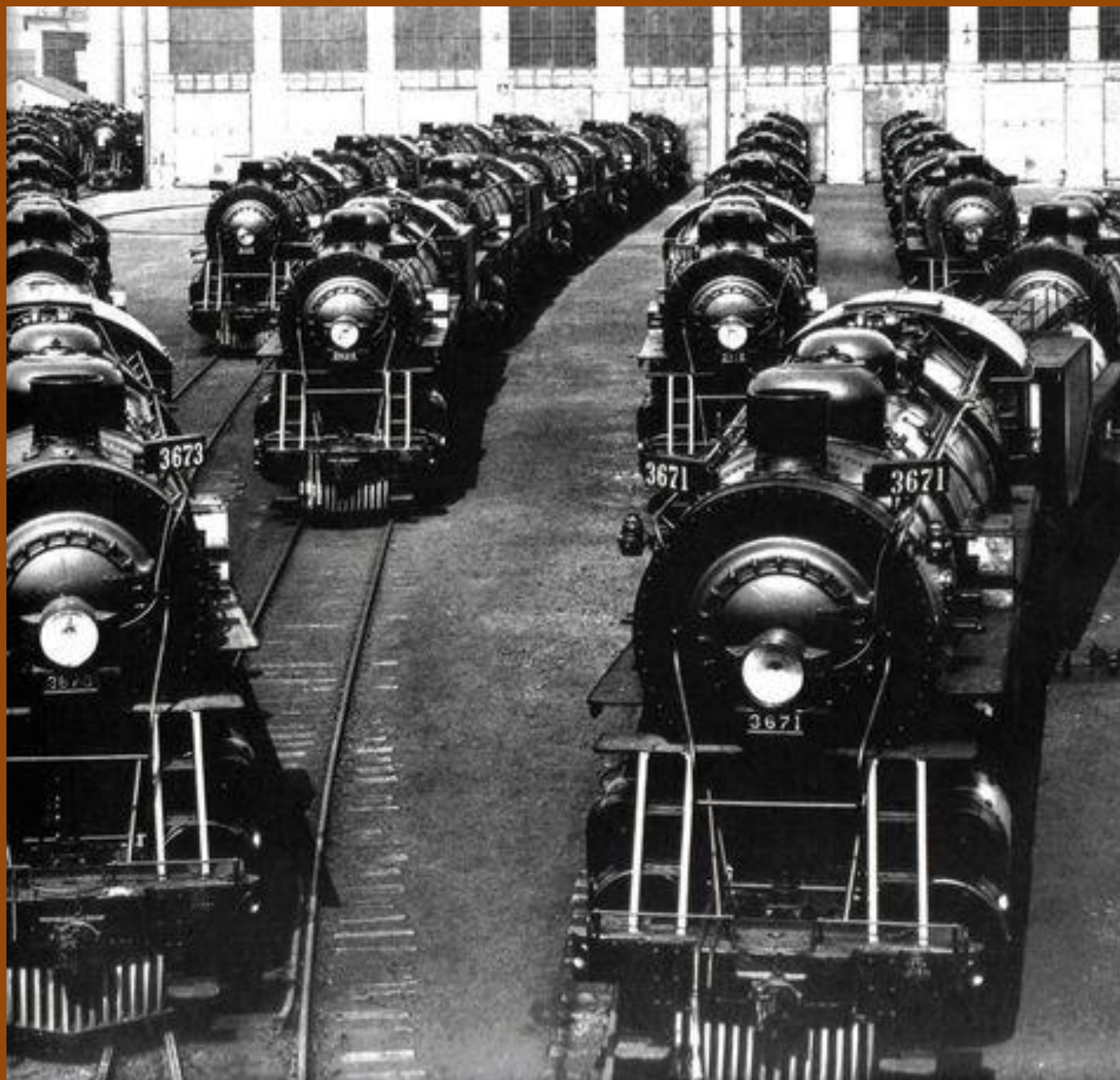


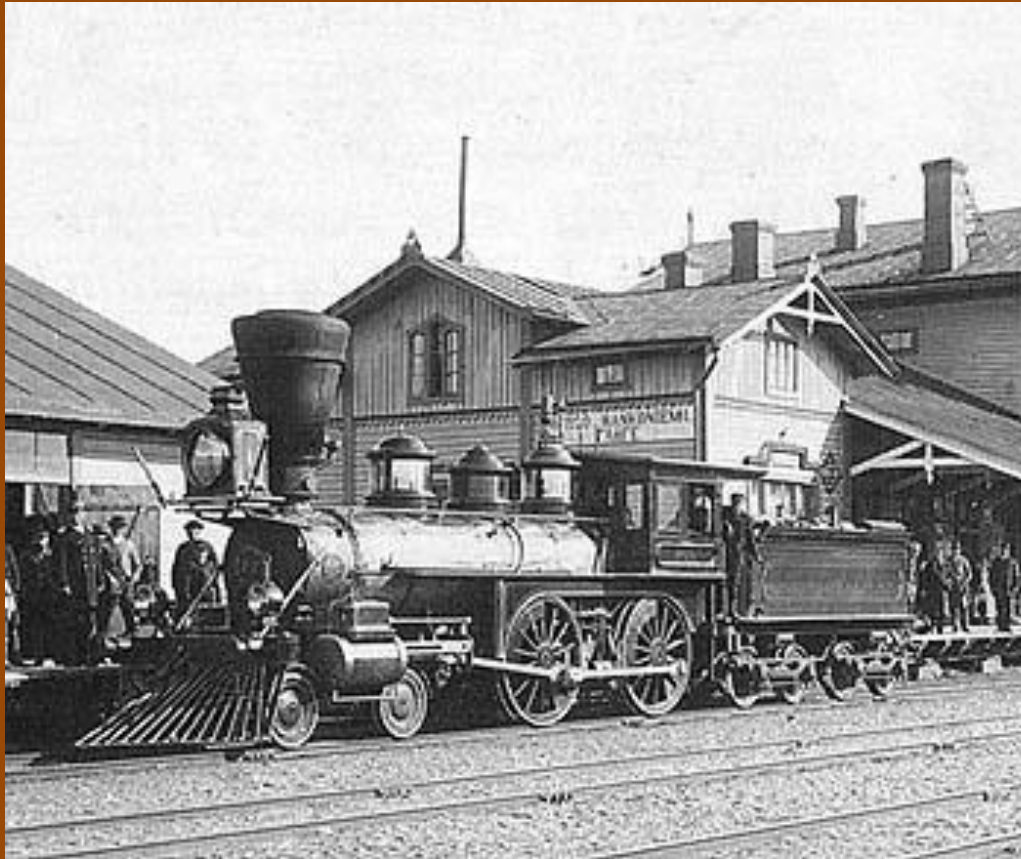
CPH 2007



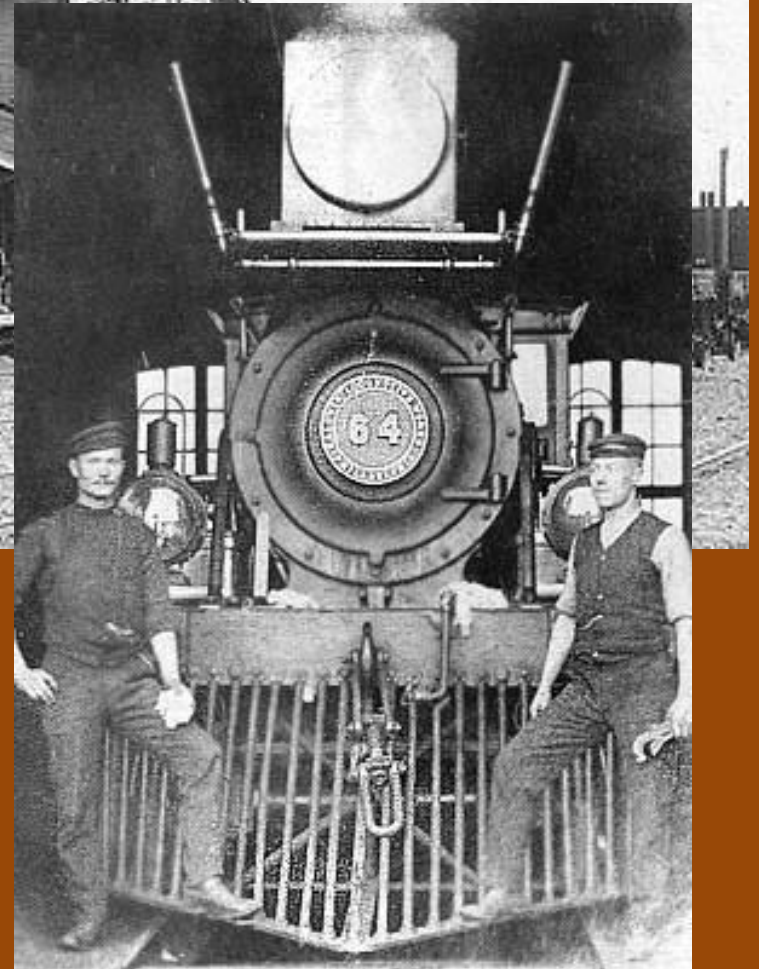




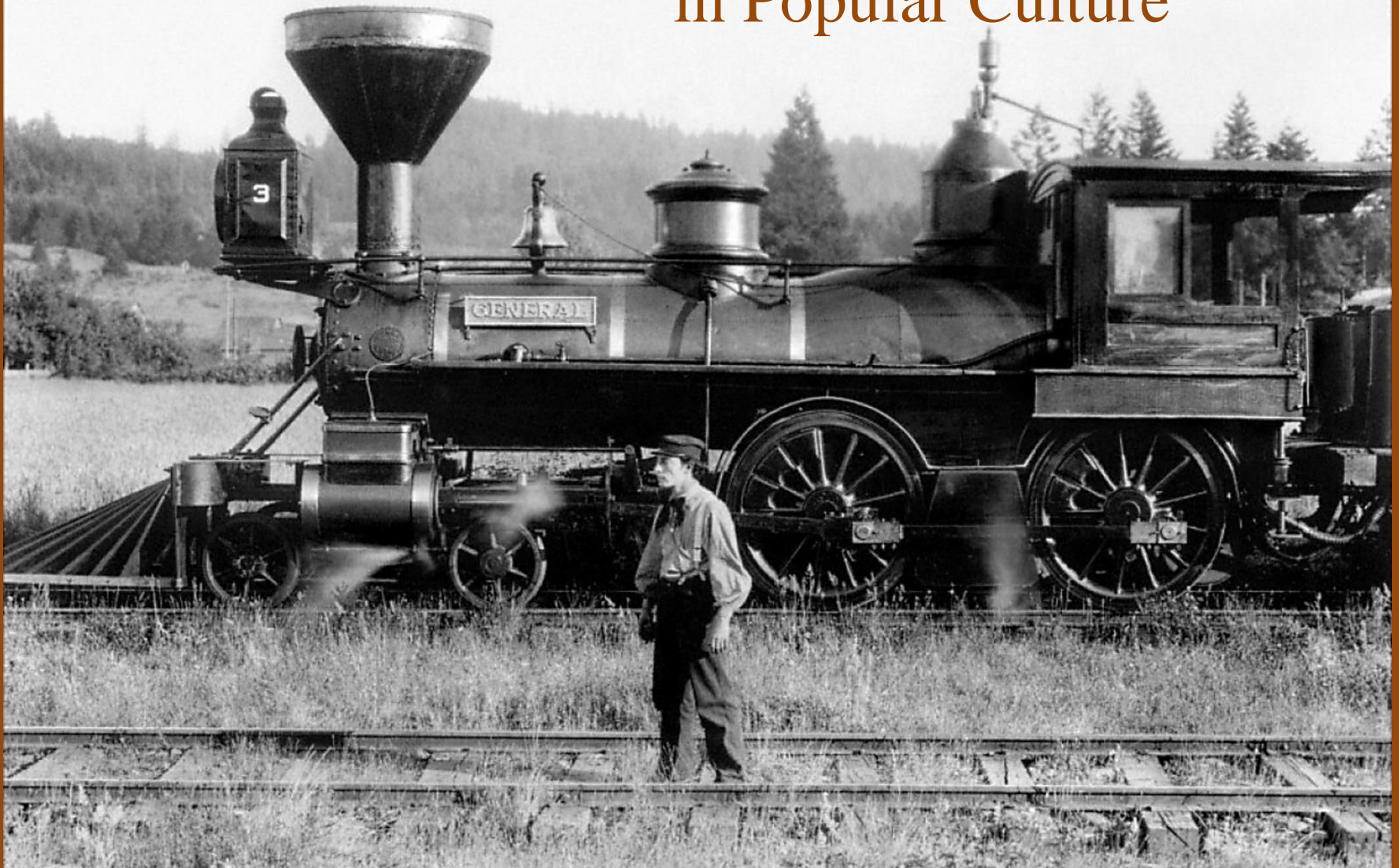




Over a period of almost 100 years, 26,000 American type locomotives were manufactured



American Standard Locomotive in Popular Culture



No. 201

EDISON FILM

COPYRIGHTED 1903

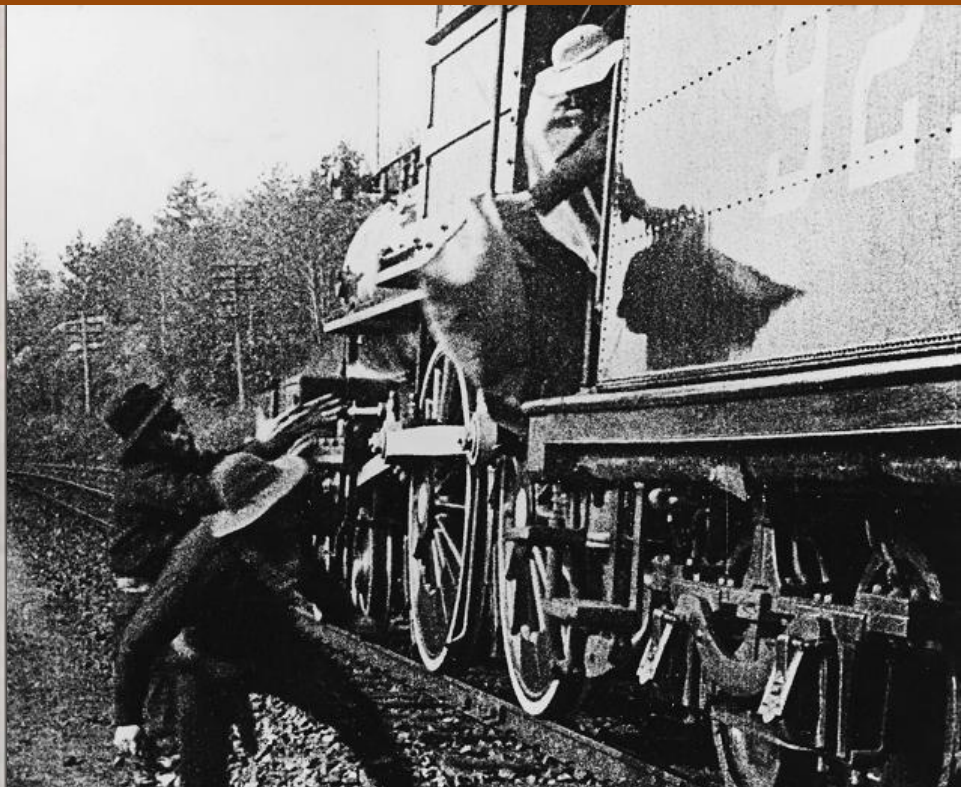
THE GREAT TRAIN



ROBBERY



TRADE
Thomas A. Edison
MARK





The Chinese-American Heritage Foundation honored the Great Event with this outstanding float in Pasadena's Tournament of Roses Parade on New Years Day.



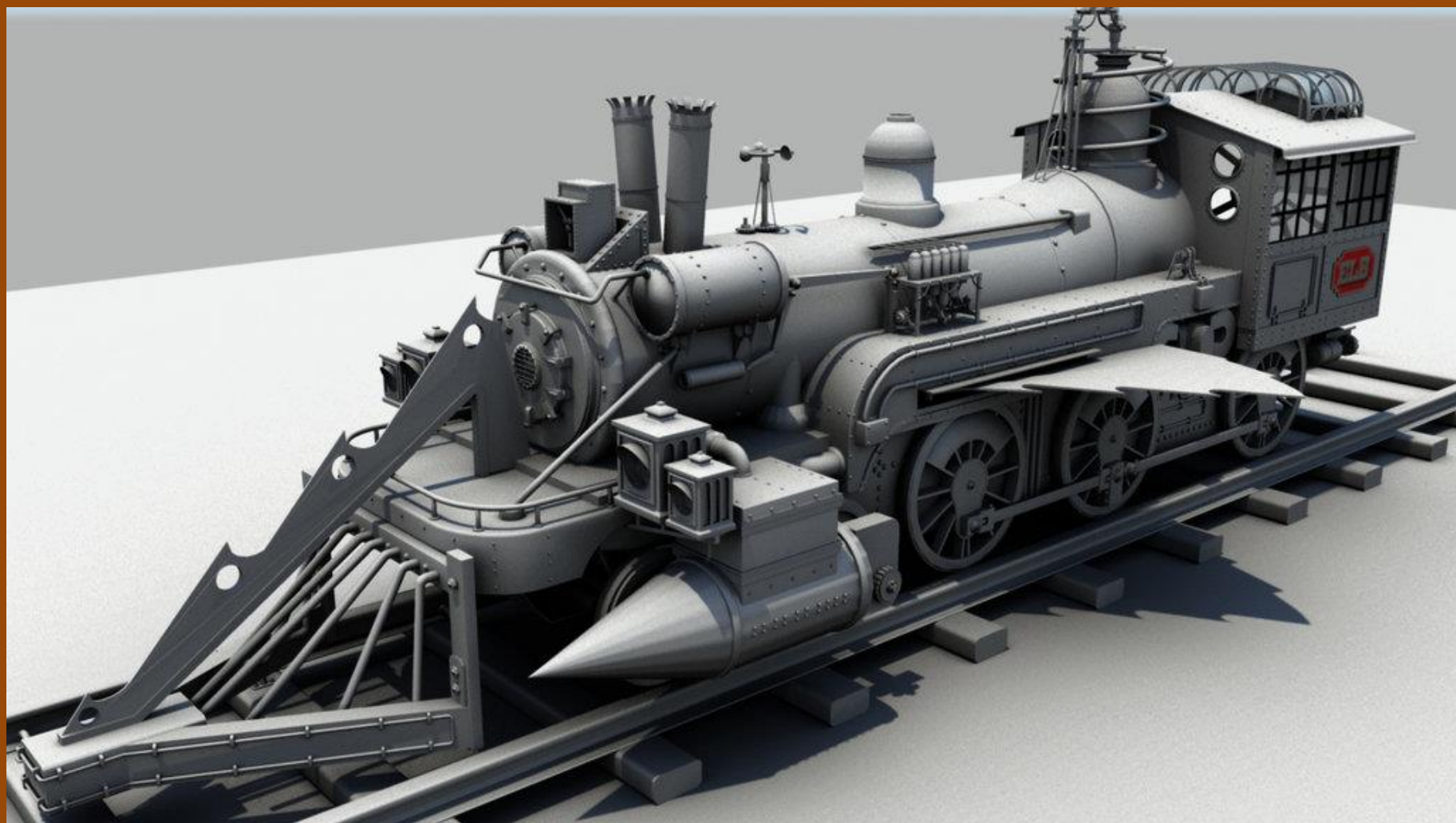


The Easter Express









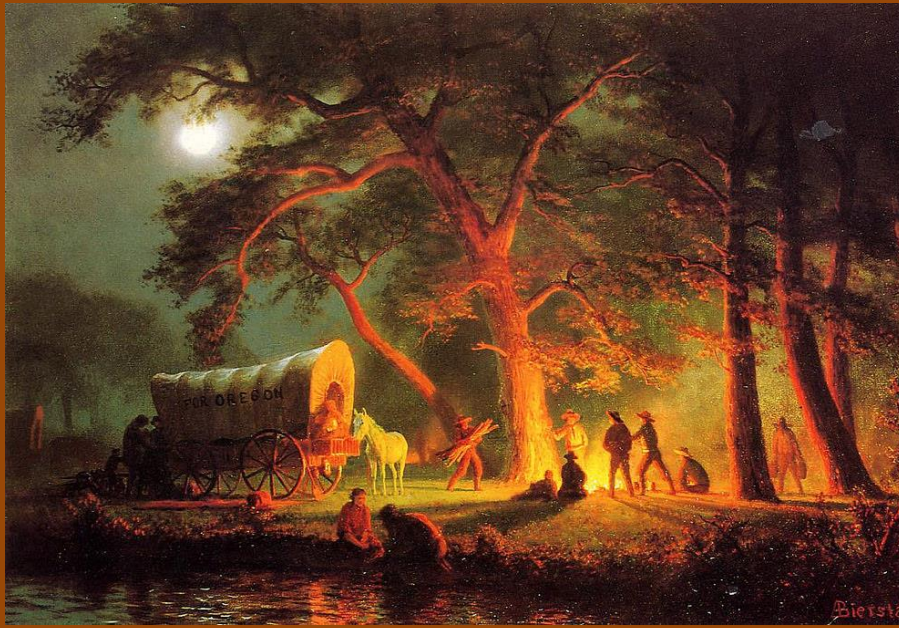


The Westward Movement Manifest Destiny of Americans to Occupy the Continent

















U.S. TERRITORIAL ACQUISITIONS



Trails West 1850



In 1850 U.S.
President Millard
Fillmore signed a
land grant for the
construction of
the Illinois
Central, making
it the first land-
grant railroad in
the United States
(2.6 m acres)

ILLINOIS CENTRAL RAILWAY.

*TRAINS LEAVE CHICAGO FROM THE GREAT CENTRAL DEPOT,
FOOT OF LAKE STREET.*

TWO DAILY EXPRESS TRAINS
Leave Morning (Sundays excepted) and Evening (Saturdays excepted),
running through from

CHICAGO TO ST. LOUIS, WITHOUT CHANGE OF CARS,
Connecting at St. Louis for Kansas City, Leavenworth, St. Joseph, Atchison,
Lawrence, Topeka, and all parts of the Southwest.

TIME AS QUICK AND FARE AS LOW AS BY ANY FIRST-CLASS ROUTE.

TWO DAILY EXPRESS TRAINS
Leave Morning (Sundays excepted) and Evening (Saturdays excepted),
running through from

Chicago to Cairo, without change of Cars,
Connecting at Cairo with Rail Lines and Steamers for Memphis, Vicksburg, Mobile, New Orleans,
and intermediate points; connecting at New Orleans for Galveston, Indianola,
and all parts of Texas.

***This is from 100 to 150 Miles the Shortest, and from 12 to 24 Hours the Quickest
Route from Chicago to all points South.***

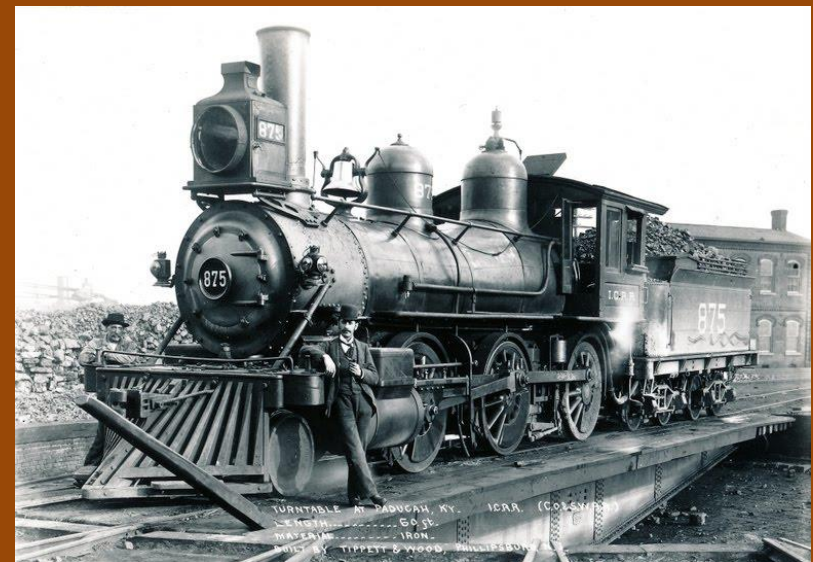
TWO DAILY TRAINS
Leave Morning (Sundays excepted) and Evening (Sundays excepted), for
Peoria, Canton, Warsaw, and Keokuk,
Connecting at Keokuk for Ottumwa, Eldysville, Pella, Monroe, and Des Moines.

***☞ A PASSENGER TRAIN leaves every afternoon (Sundays excepted), for Kantaker,
Champaign, and intermediate Stations.***

ELEGANT DRAWING-ROOM SLEEPING-CARS
For St. Louis, Cairo, Peoria, and Keokuk, attached to all Night Trains.

☞ BAGGAGE CHECKED THROUGH TO ALL IMPORTANT POINTS.
For Tickets and Information, apply at the Great Central Depot, Chicago, and at the principal
Railway Ticket Offices throughout the United States and Canada.

M. HUGHITT, General Superintendent.
W. P. JOHNSON, General Passenger Agent.



Illinois Central RR







As many as 10,000 workers at a time were engaged in building the railroad between 1851 and 1856. The 700-mile road—the longest in the world at the time it was completed—ran down the length of the state, from Chicago all the way to the southern tip of Illinois, at the meeting of the Ohio and Mississippi Rivers. It was extended all the way to New Orleans by 1882.

DIRECTLY SOUTH
FROM A COLD
TO A WARM CLIMATE
IN A FEW HOURS

ILLINOIS CENTRAL R.R.

**CENTRAL
I.C. R.R.
ROUTE**

To
CALIFORNIA
VIA
NEW ORLEANS

IN CONNECTION WITH THE
SUNSET ROUTE
SOUTHERN PACIFIC COMPANY

THE ONLY TRUE WINTER ROUTE

PULLMAN BUFFET SLEEPING CAR
connecting with Southern Pacific Company's famous
"Sunset Limited," from Chicago every Tuesday and
Saturday night. Through reservations to the coast.

THROUGH PULLMAN TOURIST CAR
from Chicago to San Francisco every Wednesday night.

Particulars of agents of connecting lines, or by
addressing A. H. HANSON, General Passenger Agent,
Illinois Central R. R., Chicago.

FOR CALIFORNIA!

DIRECT

EXTRAORDINARY INDUCEMENTS!!

THIRTY-FIVE DAYS TO GOLD REGIONS!

The "California Steam Navigation Co."

Will dispatch their first vessel from New York, the **YETI** and **SPLENDID**

STEAMSHIP!

NICARAGUA

DAVID JERROLD, Master, previously

On **FRIDAY, MARCH 23d, 1849,**

Via the River St. John and Lake Nicaragua, across the Isthmus of Darien.

Capt. BRIDGES, of the U. S. Topographical Engineers.

200 JACK ASSES!

The Quickest, Safest and Cheapest!!

Price of Passage Through Ninety Dollars!

To be paid in **WHEAT, Beans and Beef Steaks, Indian style.**

For further particulars apply on board, in the Port of South Street, No. 11, or to the undersigned Agents for the Company. Applications by mail, in sealed envelopes, must be paid, addressed to the Company's Agents.

HOBSON, BROTHERS & Co., 147 Wall Street, (opposite the Bankhead.)



PONY EXPRESS!

CHANGE OF
TIME!



REDUCED
RATES!

10 Days to San Francisco!

LETTERS

WILL BE RECEIVED AT THE

OFFICE, 84 BROADWAY,

NEW YORK,

Up to 4 P. M. every TUESDAY.

AND

Up to 2½ P. M. every SATURDAY,

Which will be forwarded to connect with the PONY EXPRESS leaving
ST. JOSEPH, Missouri,

Every WEDNESDAY and SATURDAY at 11 P. M.

TELEGRAMS

Sent to Fort Kearney on the mornings of MONDAY and FRIDAY, will connect
with PONY leaving St. Joseph, WEDNESDAYS and SATURDAYS.

EXPRESS CHARGES.

LETTERS weighing half ounce or under..... \$1 00

For every additional half ounce or fraction of an ounce 1 00

In all cases to be enclosed in 10 cent Government Stamped Envelopes,

And all Express CHARGES Pre-paid.

PONY EXPRESS ENVELOPES For Sale at our Office.

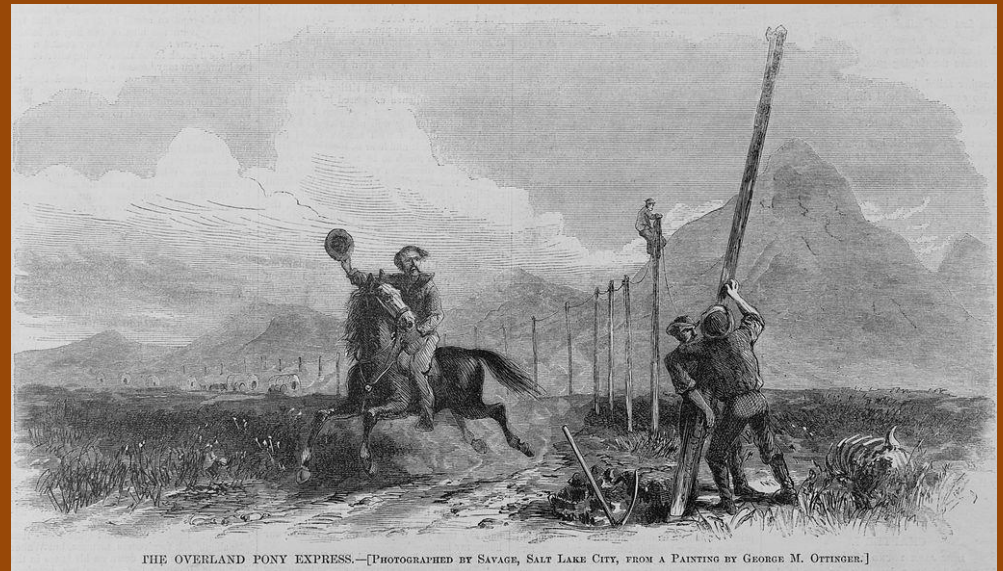
WELLS, FARGO & CO., Ag'ts.

New York, July 1, 1861.

SLOTE & JAMES, STATIONERS AND PRINTERS, 96 FULTON STREET, NEW YORK



Telegraph Act of 1860



THE OVERLAND PONY EXPRESS.—[PHOTOGRAPHED BY SAVAGE, SALT LAKE CITY, FROM A PAINTING BY GEORGE M. OTTINGER.]

Every 20 miles, both the UP and CP, planted a water tower and telegraph station.



THE FIRST TELEGRAPHIC MESSAGE FROM CALIFORNIA.

Homestead Act of 1862

\$10, \$1.25

PRODUCTS WILL PAY FOR LAND AND IMPROVEMENTS!

MILLIONS OF ACRES

View on the Big Blue, between Camden and Crete, representing Valley and Rolling Prairie Land in Nebraska.



A SECTIONAL MAP, showing exact location of our IOWA LANDS is sold for 30 Cents, and of NEBRASKA LANDS for 30 Cents.

IOWA AND NEBRASKA LANDS

FOR SALE ON 10 YEARS CREDIT
BY THE
Burlington & Missouri River R.R. Co.

AT 6 PER CT. INTEREST AND LOW PRICES.
Only One-Seventh of Principal Due Annually, beginning Four Years after purchase.
20 PER CENT. DEDUCTED FROM 10 YEARS PRICE, FOR CASH.

LAND EXPLORING TICKETS SOLD
and Cost allowed in First Interest paid, on Land bought in 30 days from date of ticket.
Thus our Land Buyers GET A FREE PASS in the State where the Land bought is located.
These TERMS are BETTER at \$5, than to pre-empt United States Land at \$2.50 per Acre.
EXTRAORDINARY INDUCEMENTS on FREIGHT and PASSAGE are AFFORDED TO PURCHASERS and THEIR FAMILIES.

Address **GEO. S. HARRIS, LAND COMMISSIONER,**
or **T. H. LEAVITT, Ass't Land Comm'r,** Burlington, Iowa.

Or apply to
FREE ROOMS for buyers to board themselves are provided at Burlington and Lincoln.

CIRCULARS are supplied GRATIS for distribution in ORGANIZING COLONIES and to induce individuals to emigrate WEST.

COMMERCIAL ADVERTISER PRINTING HOUSE, BUFFALO, N. Y.


346

IF YOU WANT A FARM OR HOME

"THE BEST THING IN THE WEST"

Atchison, Topeka & Santa Fe RAILROAD LANDS

IN SOUTHWEST KANSAS.



PRAIRIE **WOODLAND**

A START ON THE PRAIRIE. A START IN THE WOODS.

THE SAME PLACE AFTER SIX YEARS WORK AND PROFIT THE SAME PLACE AFTER TEN YEARS WORK AND PROFIT

Temperate Climate, Excellent Health, Pure and Abundant Water.

GOOD SOIL FOR WHEAT, CORN AND FRUIT.

The Best Stock Country in the World.

Or to For Full Information apply to
Agent, LAND COMMISSIONER,
A. T. & S. F. R. R., Topeka, Kas.

Auskunft erteilt, G. B. Schmidt, Deutscher Gen'l Agt., Topeka, Kan.

Knight & Leonard, Printers, Chicago.

2,000,000 FARMS of Fertile Prairie Lands
to be had Free of Cost

CENTRAL DAKOTA

30 Millions of Acres

YOU NEED A FARM!

CHICAGO AND NORTHWESTERN

HOW TO GET THERE

AT CHICAGO YOU CAN BUY TICKETS AT

BEAR IN MIND

Chicago & North-Western R'y.

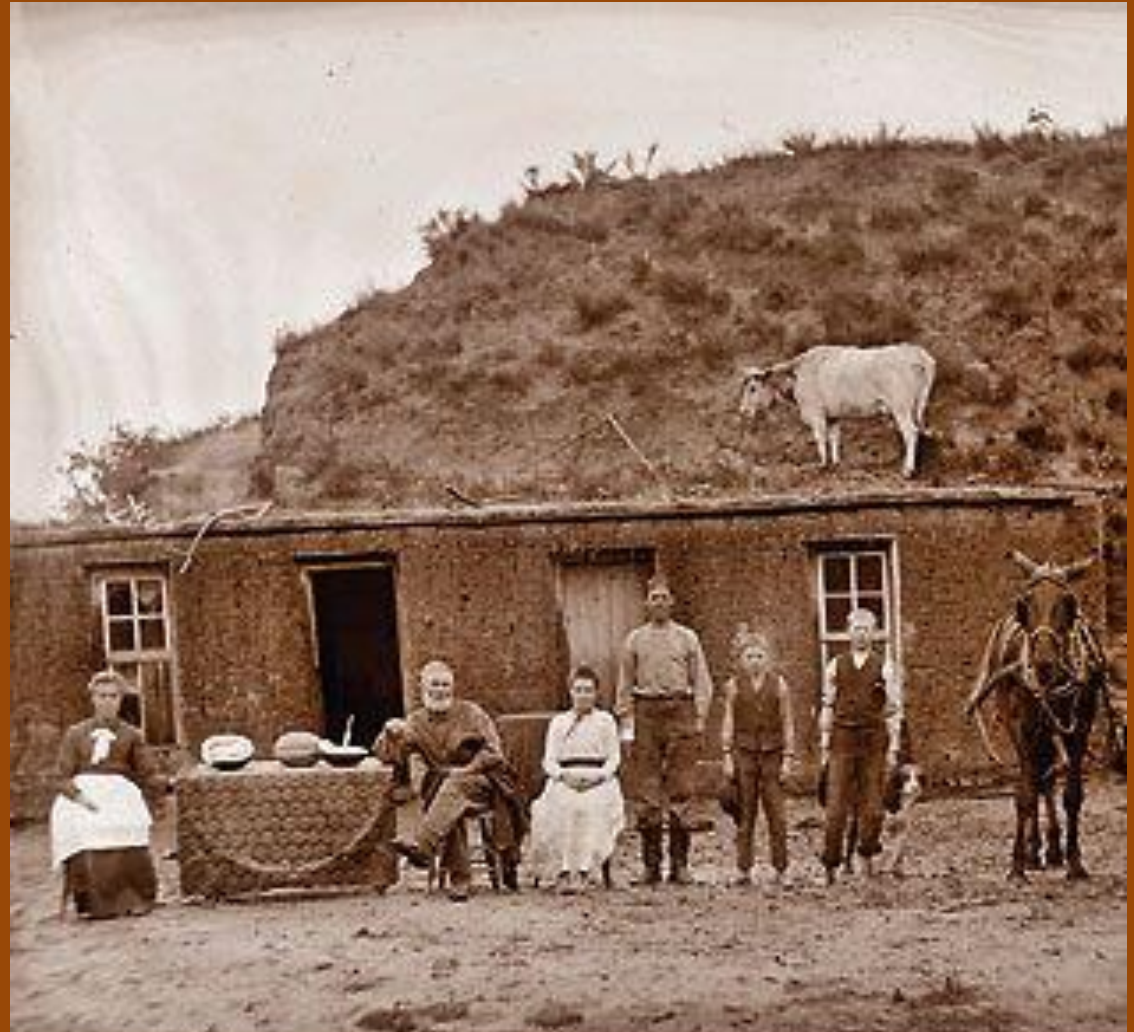
“A land no US citizen should be compelled to inhabit except as punishment for a crime”



“rain follows the plow”

Cheap Farms! Free Homes!!
ON THE LINE OF THE
Union Pacific
RAILROAD
The Great Trans-Continental Route from
Omaha to the Pacific Ocean.
A Road Short Direct from the Heartland of
12,000,000 ACRES
Of the best Farming and Mineral Lands in America.
3,000,000 ACRES CHOICE FARMING LANDS
On the line of this Great Highway to the
STATE OF NEBRASKA
The Great Western System, now the best, and most direct route to the Pacific Ocean, and the most reliable and comfortable mode of travel and transportation for men, women and children.
Colonies
GREAT INDUCEMENTS to SETTLERS with LIMITED MEANS
2,500,000 Acres Rich Government Lands
ATTENTION SOLDIERS!
Special Agent, United States Land Office, Department of the Interior, Office of the Commissioner of the General Land Office, Washington, D.C.
O. F. DAVIS, Land Commissioner,
U. P. R. & Co., Omaha, Nebraska.

US gov't was land rich, but cash poor







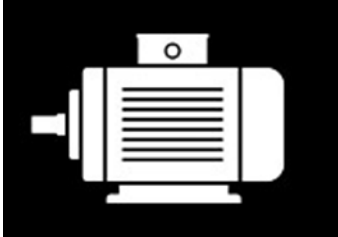
New York & Erie Railroad, 1832,
connecting Albany on the Hudson River to
Buffalo on Lake Erie, 447 miles in 1851



1853, Railroads connect New York City and Chicago - For over a century, this corridor was dominated by four major railroads: NY Central, Pennsylvania, Erie, B&O, and an aggregate of other roads that served as a fifth option, the Alphabet Route



New York and Chicago Railroad



Electric Powered

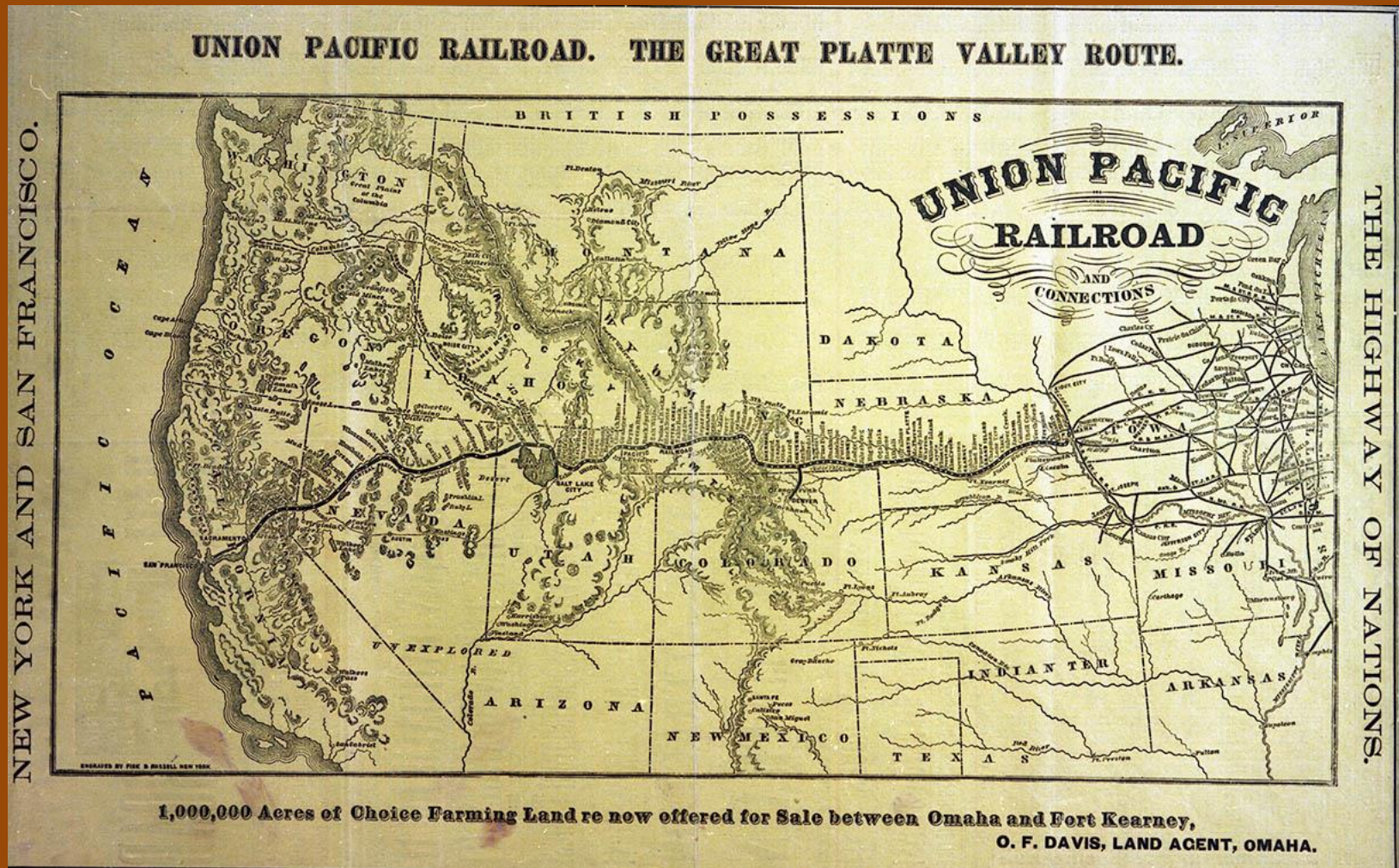


4 Hours, 48 Minutes



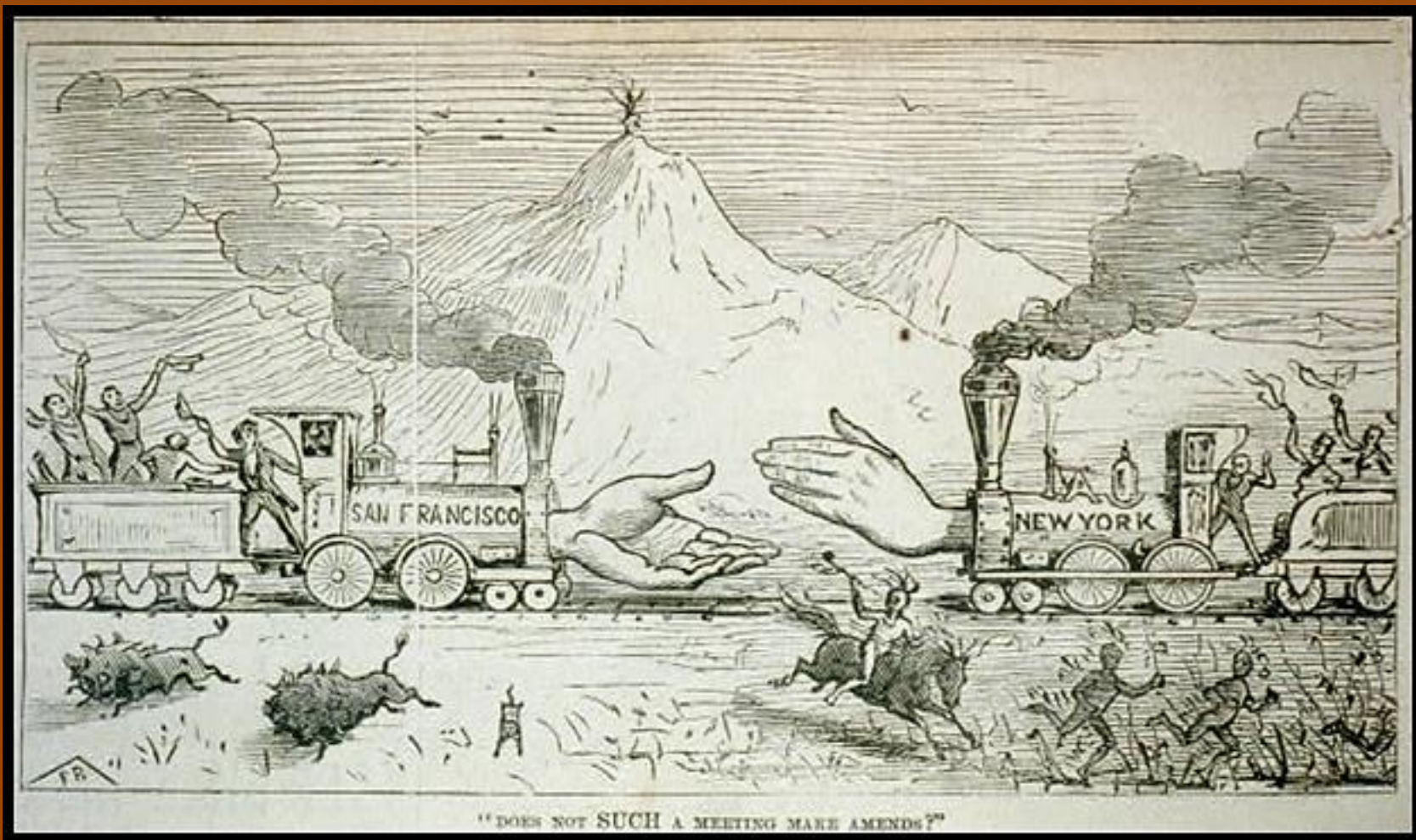
RR Men who
connected
NY and Chicago

The Pacific Railroad Act of 1862 and subsequent amendments



“Across the Continent, Westward the Course of Empire Takes Its Way”

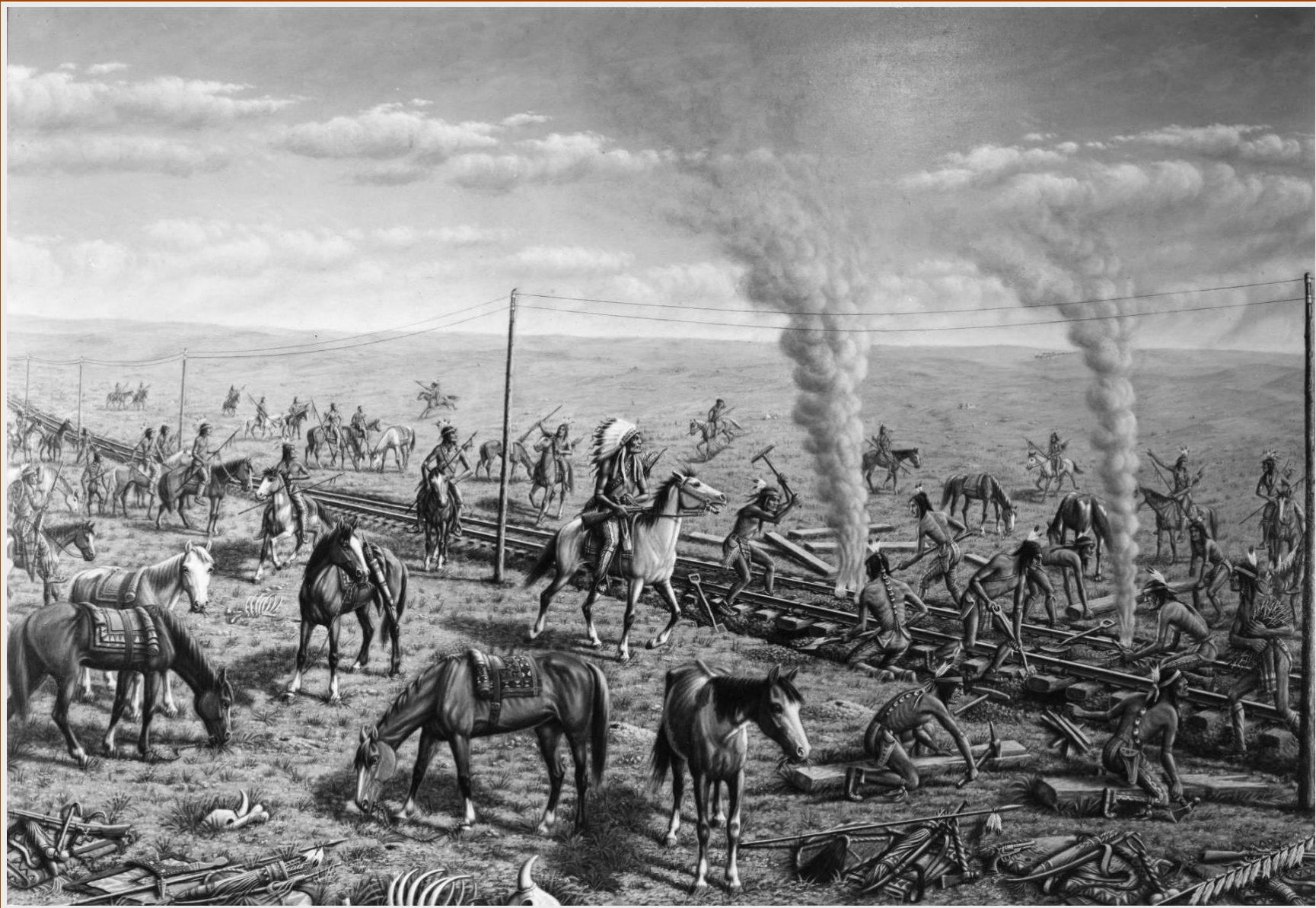




"DOES NOT SUCH A MEETING MAKE AMENDS?"

The Fort Laramie Treaty of 1851 recognized the vast territory between the Rockies and western Kansas as land belonging to 7 Plains Indian nations, in exchange for stopping their attacks on settlers on the Oregon Trail







CHEYENNE INDIANS ATTACKING A WORKING PARTY ON THE UNION PACIFIC RAILROAD, AUGUST 4, 1867.—[SKETCHED BY T. R. DAVIS.]





The UP recruited the Pawnees, a tribe friendly to the U.S. government to serve as a protection force against the Sioux. In return, railroad officials gave Pawnees free passage on their trains.



1855, the UP chartered as the Leavenworth, Pawnee, and Western RR (LP&W), 100 miles



Mormon leaders in Salt Lake worried that the railroad would encroach on the character of their society, and bring a proliferation of undesirable people moving to the Kingdom.



Federal Government Support for the Project



Each railroad company received a 400-foot right of way for the railroad track.

Land Grants: 10 square miles (6400 acres) for each mile of track laid, provided in ten sections of 10-mile strips, in a checkerboard pattern with five alternate sections on each side of the railroad. The federal government retained the other strips of land for sale to the public.

Material Rights: Each railroad had the right to timber and stone on public lands, to be used for construction of the railroad.

\$16,000 per mile for the “easy” work between Sacramento and the Sierra Nevada, and between Omaha and the Rocky Mountains;

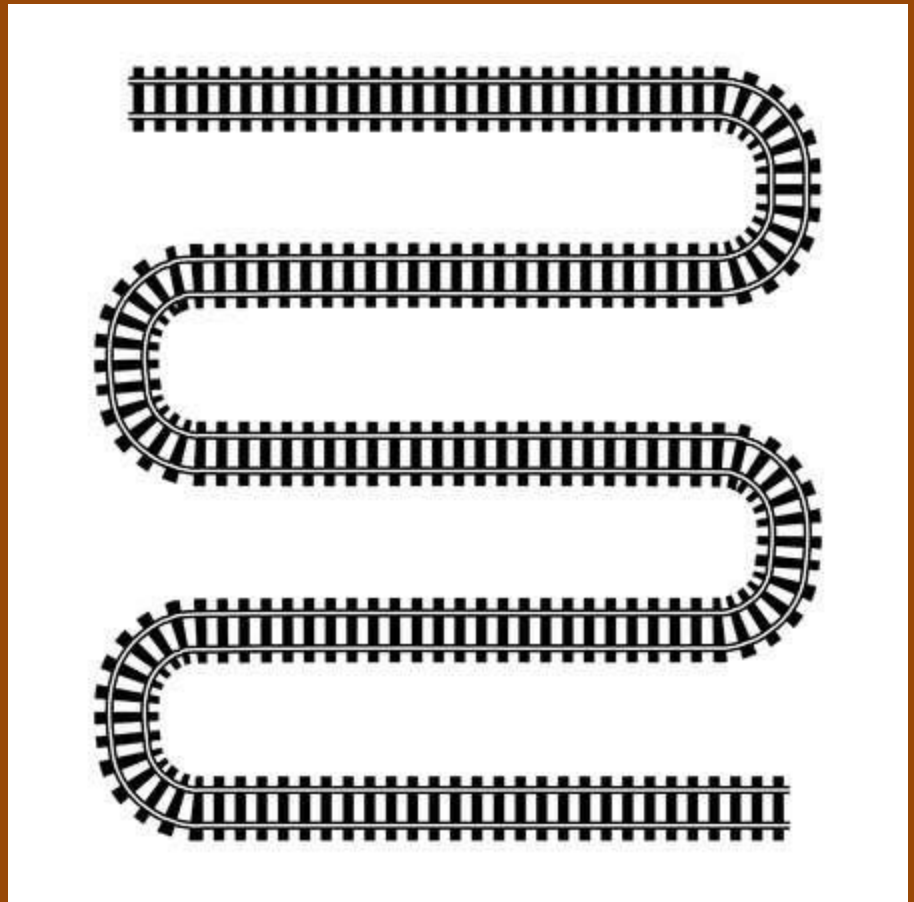
\$48,000 per mile for the mountains; and

\$32,000 per mile between the two mountain ranges

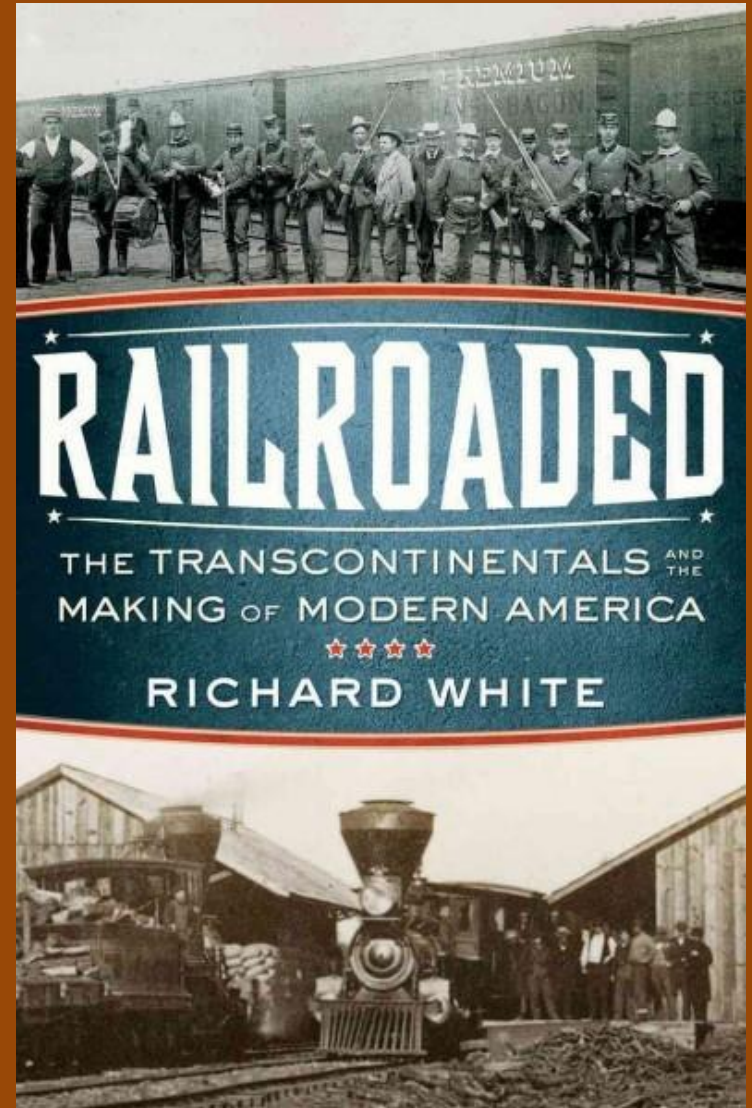
Forfeiture Provision: If the railroad was not completed by January 1, 1874, both companies forfeited to the federal the entire railroad



The railroads avoided any expensive engineering by keeping to the contour lines, even if that meant long detours and snakelike curves. Payment was by the mile, and no one had specified the route.



Credit Mobilier



ONE THOUSAND DOLLARS

INCORPORATED UNDER A SPECIAL ACT
OF THE LEGISLATURE OF NEBRASKA

The Credit Foncier of America

CAPITAL \$1,000,000.00 IN 100,000 SHARES
OF \$10.00 EACH

No. 10

Share

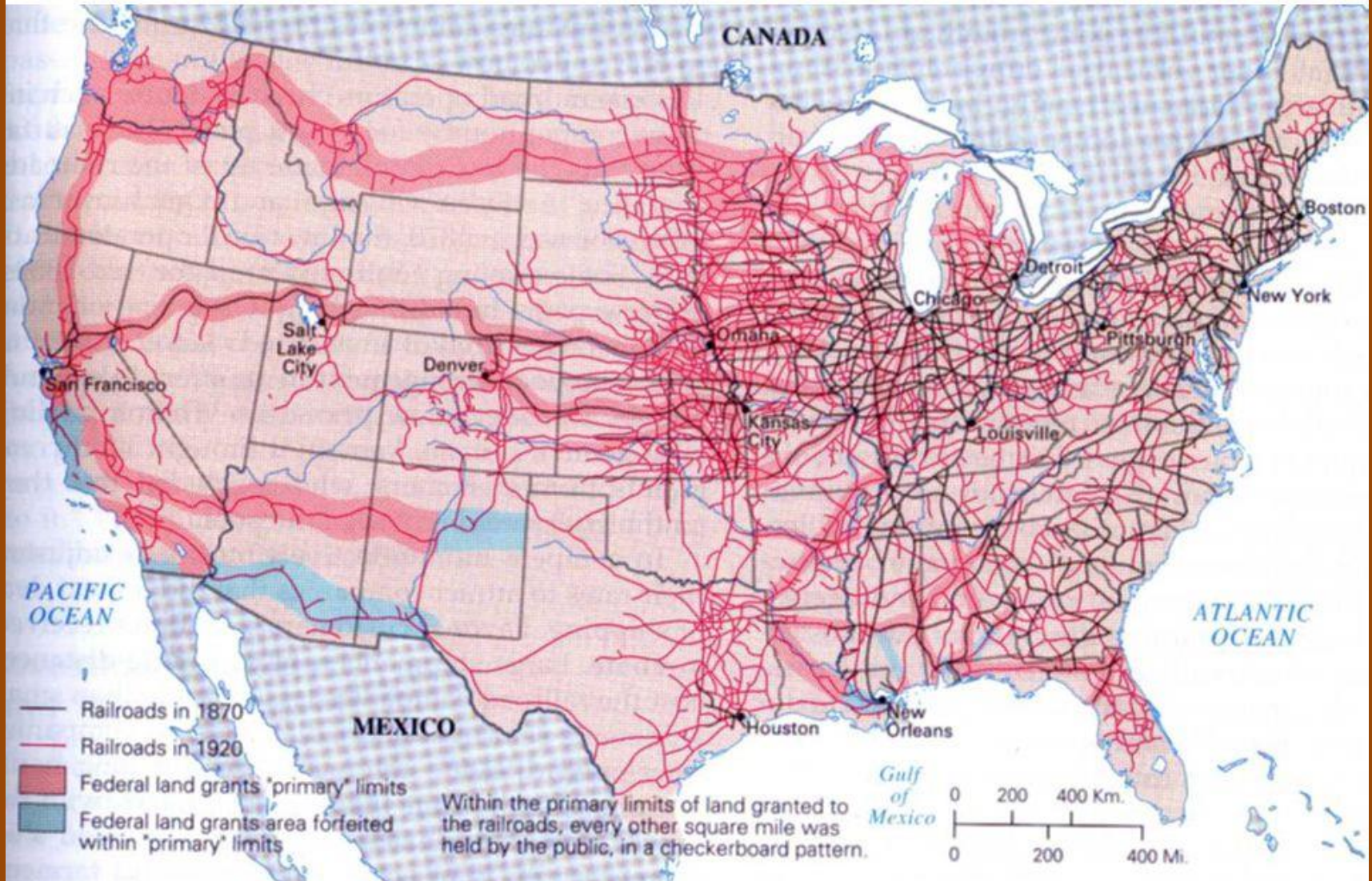
This Certifies that *Norward N. Jerome*
is entitled to ONE Share in the Capital Stock of
THE CREDIT FONCIER OF AMERICA transferable on the Books of the
Company in person or by Attorney at the office of the President
in the City of New York or at any Transfer Agency estab-
lished by the Company only upon surrender of this certificate.

*Witness the signing of the Charter & Statutes of the Company
this Eighth day of March 1887.*

N. O. P. Davis Secretary *John A. Davis* President



Railroad Land Grants



HOW THE PUBLIC DOMAIN HAS BEEN SQUANDERED

Map showing the 139,403,026 acres of the people's land—equal to

871,268 FARMS OF 160 ACRES EACH

Worth at \$2 an acre, \$278,806,052,

GIVEN BY

Republican Congresses to Railroad Corporations

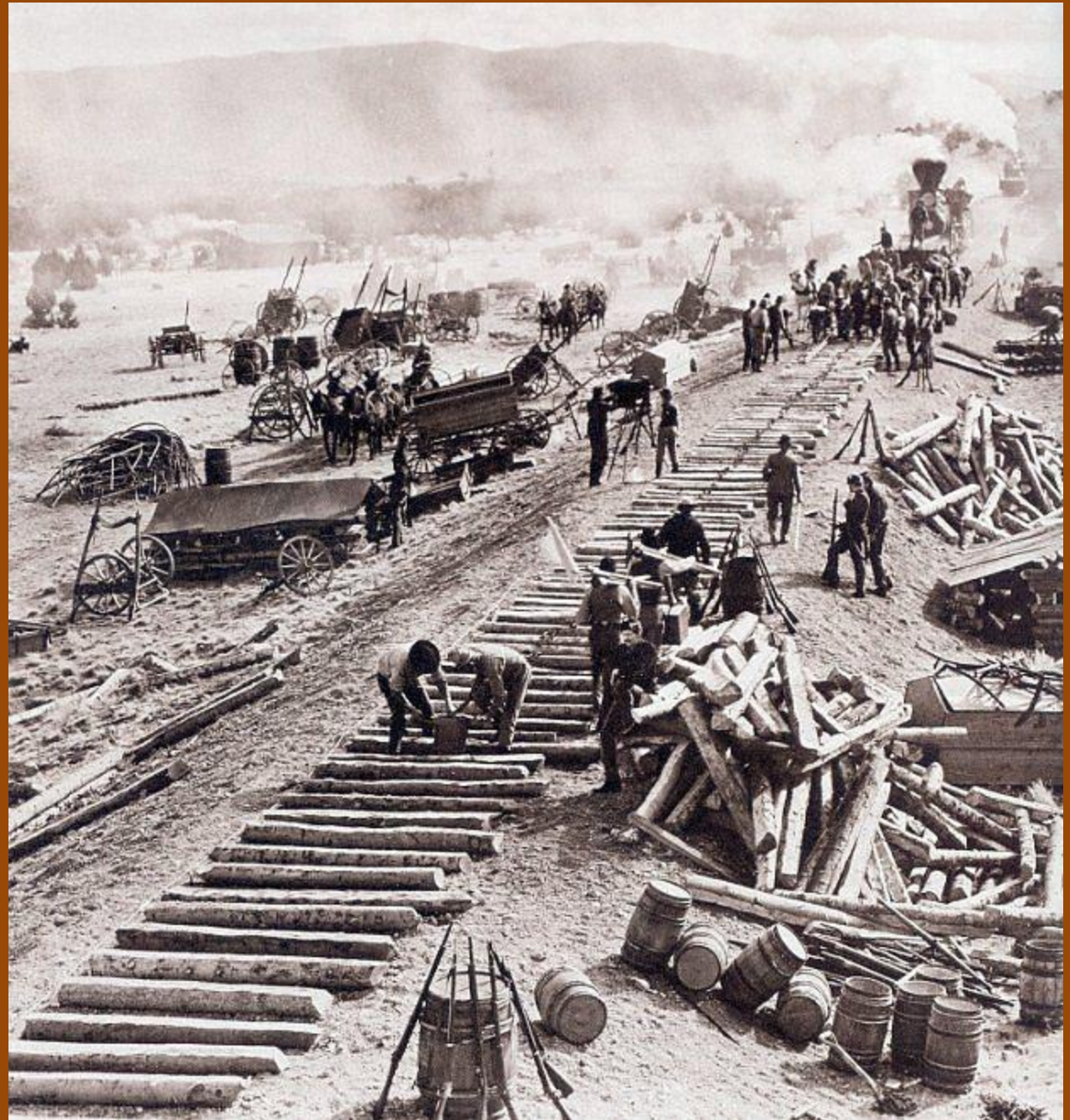
This is more land than is contained in New York, New Jersey, Pennsylvania, Ohio, and Indiana.



We believe that the public lands ought, as far as possible, to be kept as homesteads for actual settlers; that all unearned lands heretofore improvidently granted to railroad corporations by the action of the Republican party should be restored to the public domain; and that no more grants of land shall be made to corporations, or be allowed to fall into the ownership of alien absentees.

DEMOCRATIC PLATFORM, 1884.

Building the Transcon RR



Asa Whitney
envisioned a route
from Chicago and the
Great Lakes to
northern California,
paid for by the sale of
land to settlers along
the route
northern, central and
southern routes
Dept of War
expeditions and
explorations 1853-55

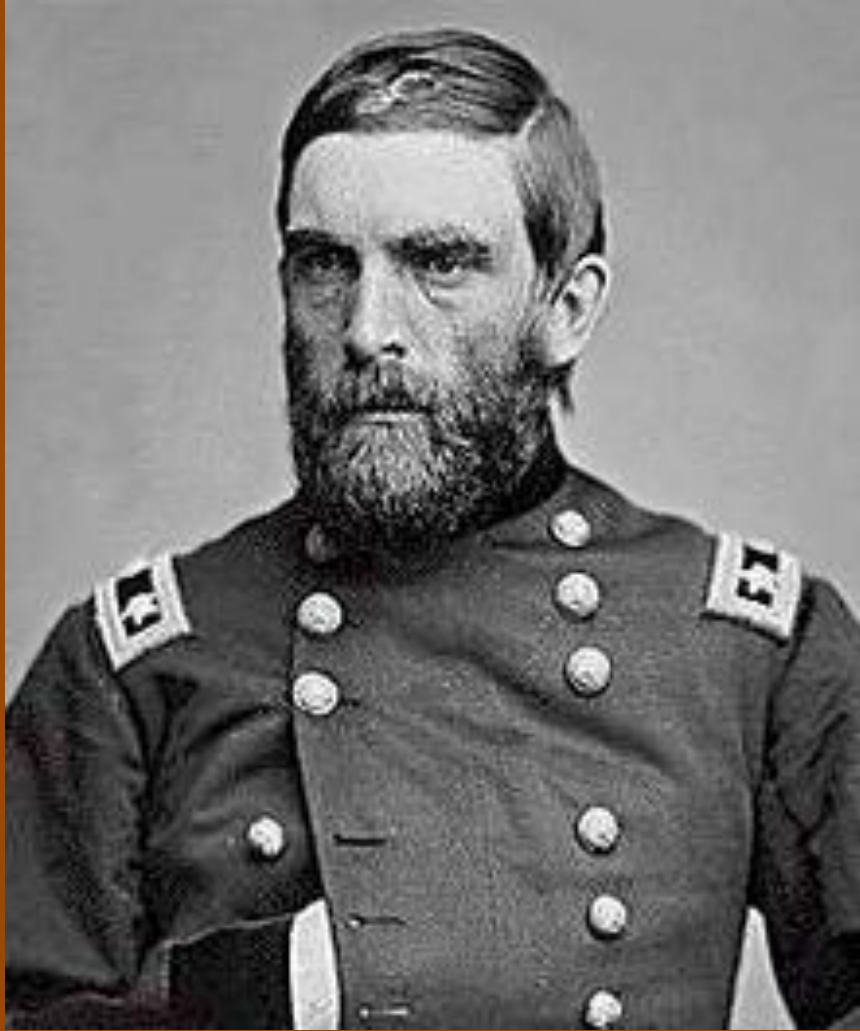
PROPOSAL
FOR
A CHARTER TO BUILD
A
RAILROAD
FROM
LAKE MICHIGAN TO THE PACIFIC OCEAN,
BY
DR. HARTWELL CARVER.

WASHINGTON:
PRINTED BY J. AND C. S. GIDEON.
1847.

“Crazy Judah” and the Big 4 of the Central Pacific RR 60 ft long map of route



UP Grenville Dodge, Thomas Durant



Jack Casement, James Storbridge



“Irish laborers were unreliable, drank a lot of whiskey, and worked only until the next pay day”

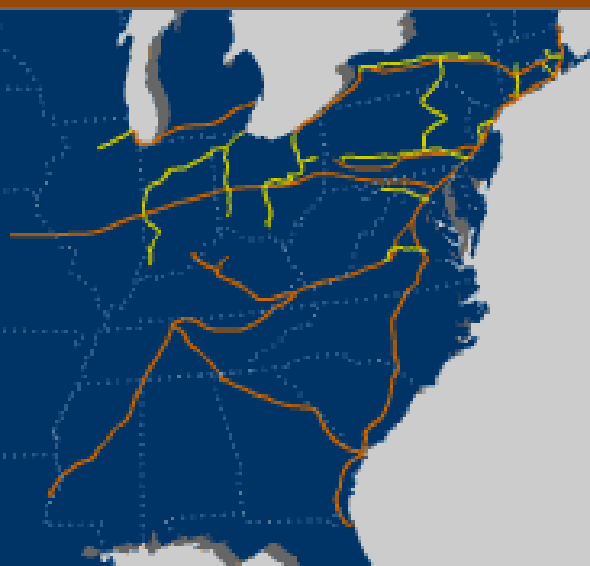
student composition



A meeting
of the
board of
Union
Pacific
Railroads
in a private
railway car

1830

- ROADS
- CANALS
- RAILROADS



1840

- ROADS
- CANALS
- RAILROADS



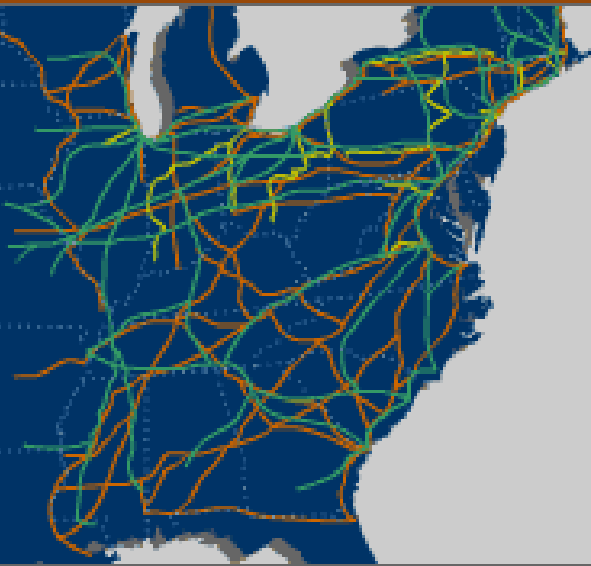
1850

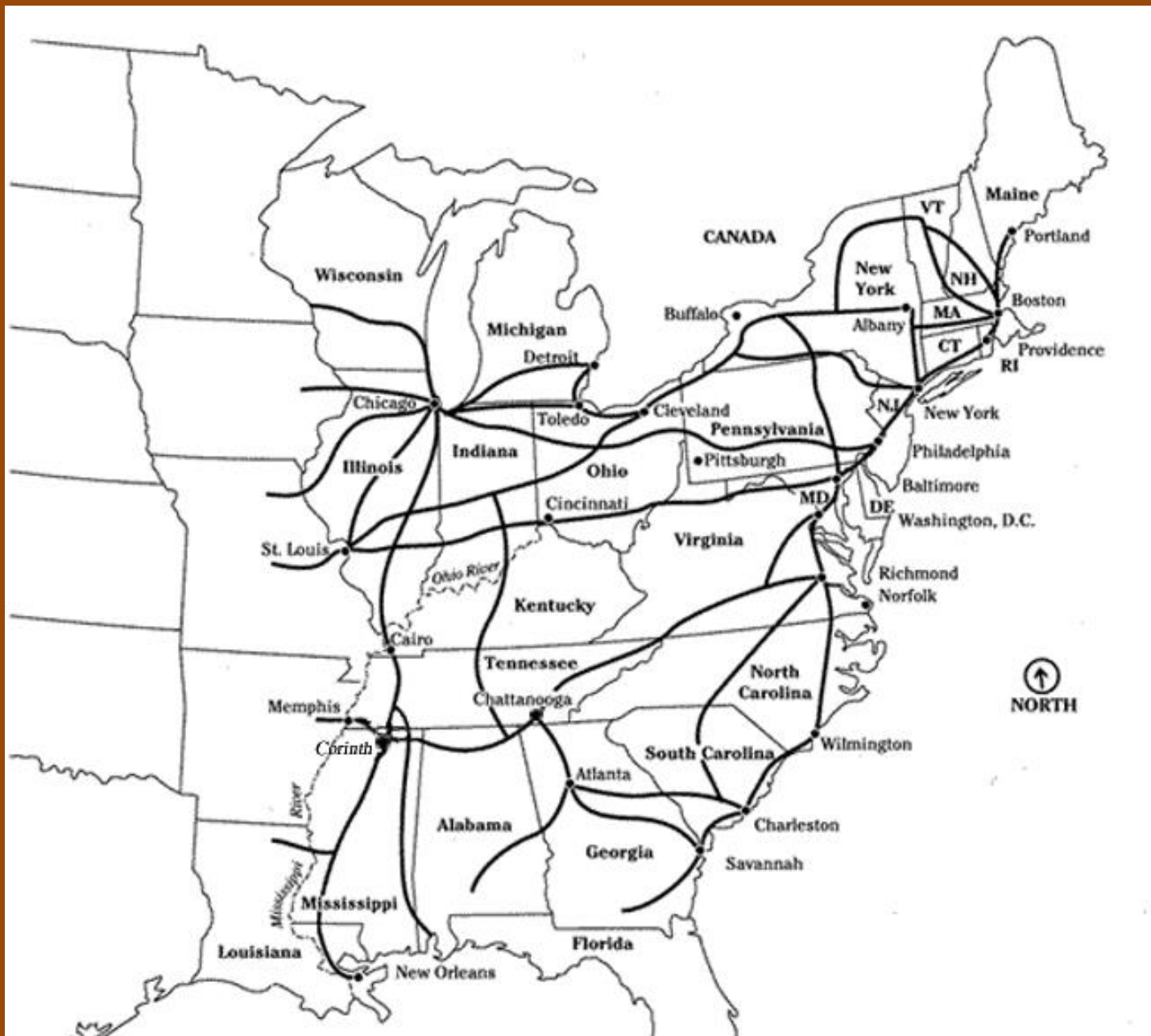
- ROADS
- CANALS
- RAILROADS



1860

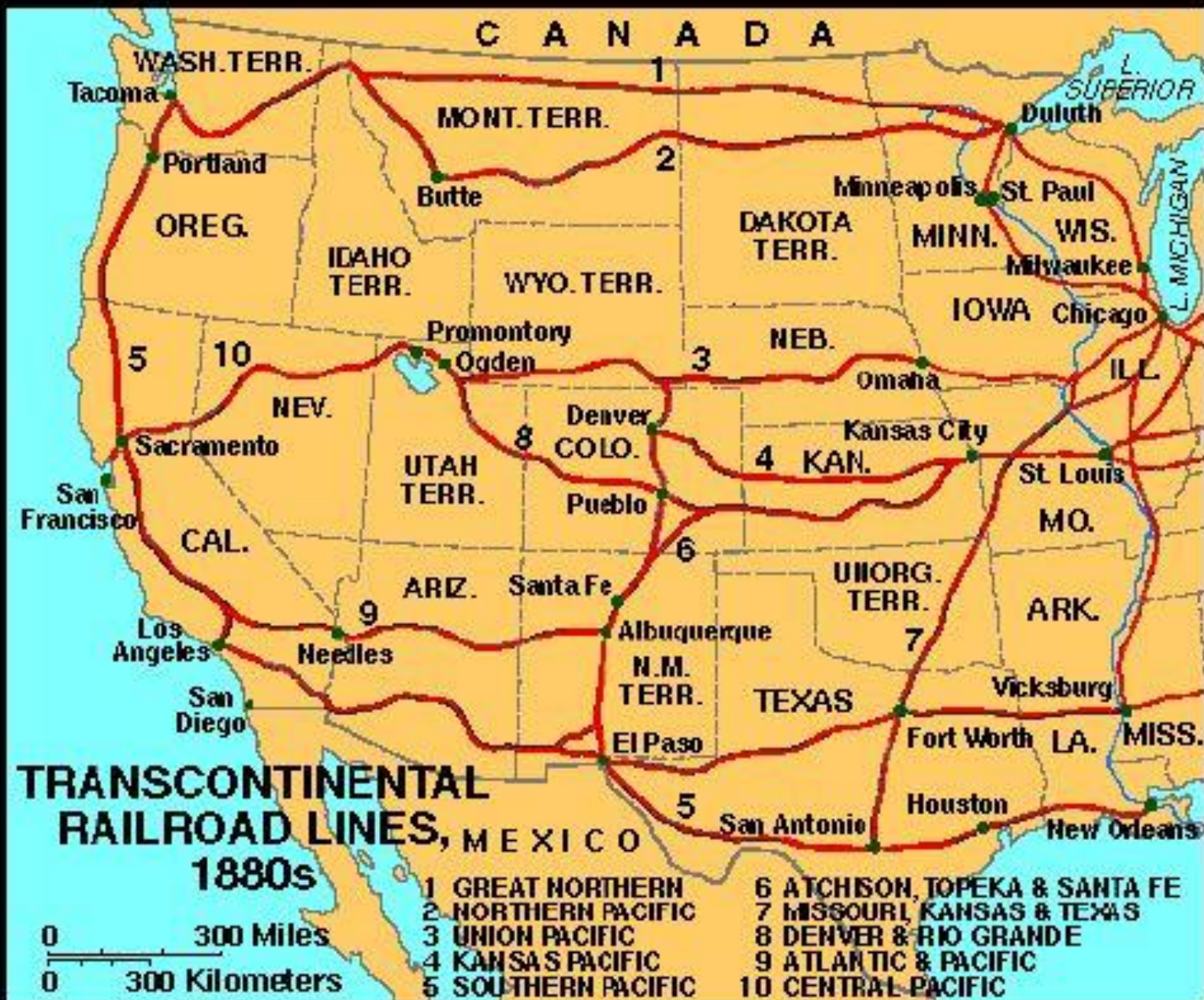
- ROADS
- CANALS
- RAILROADS

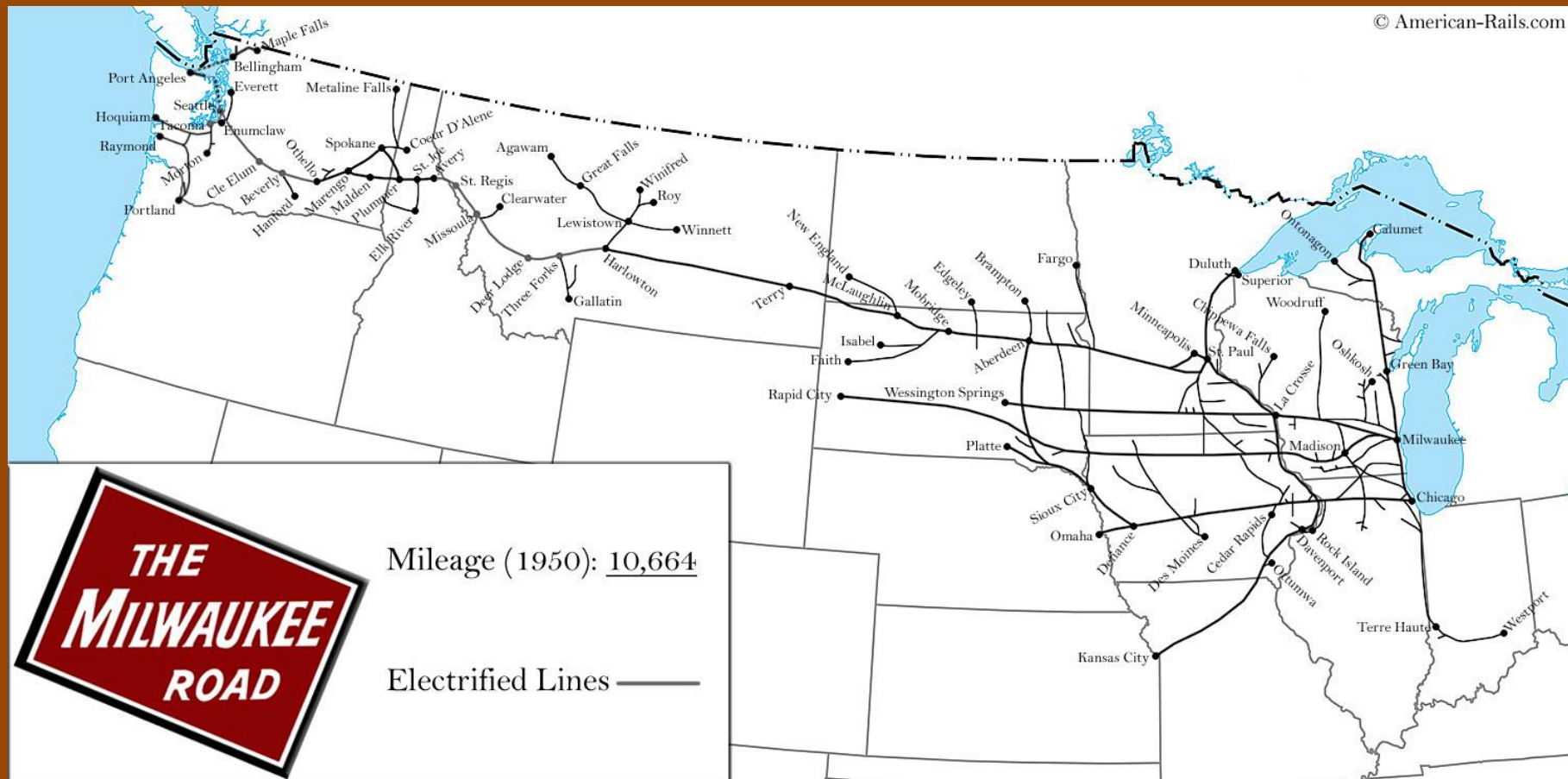






1870





Promontory Point, Utah

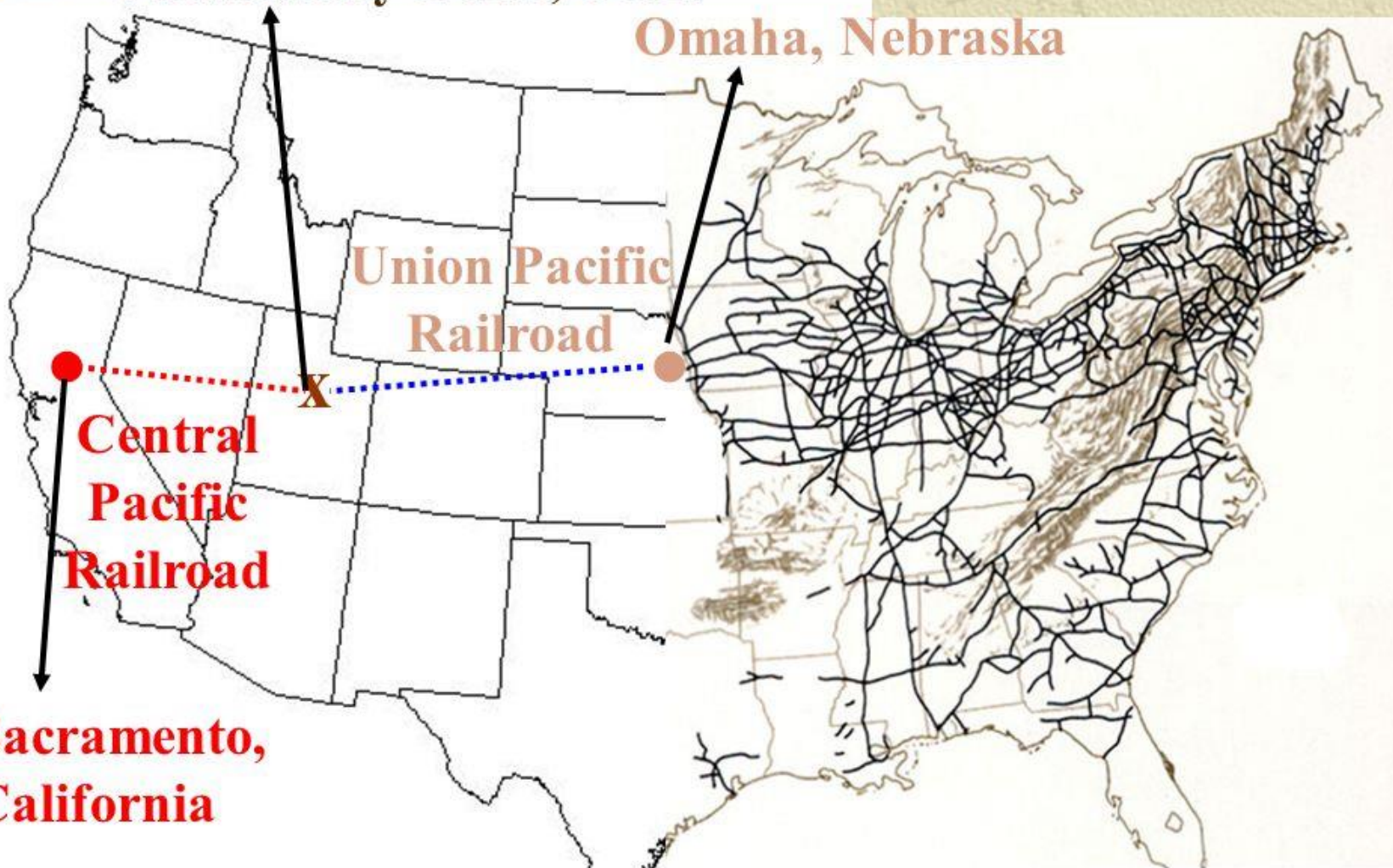
Omaha, Nebraska

**Union Pacific
Railroad**

**Central
Pacific
Railroad**

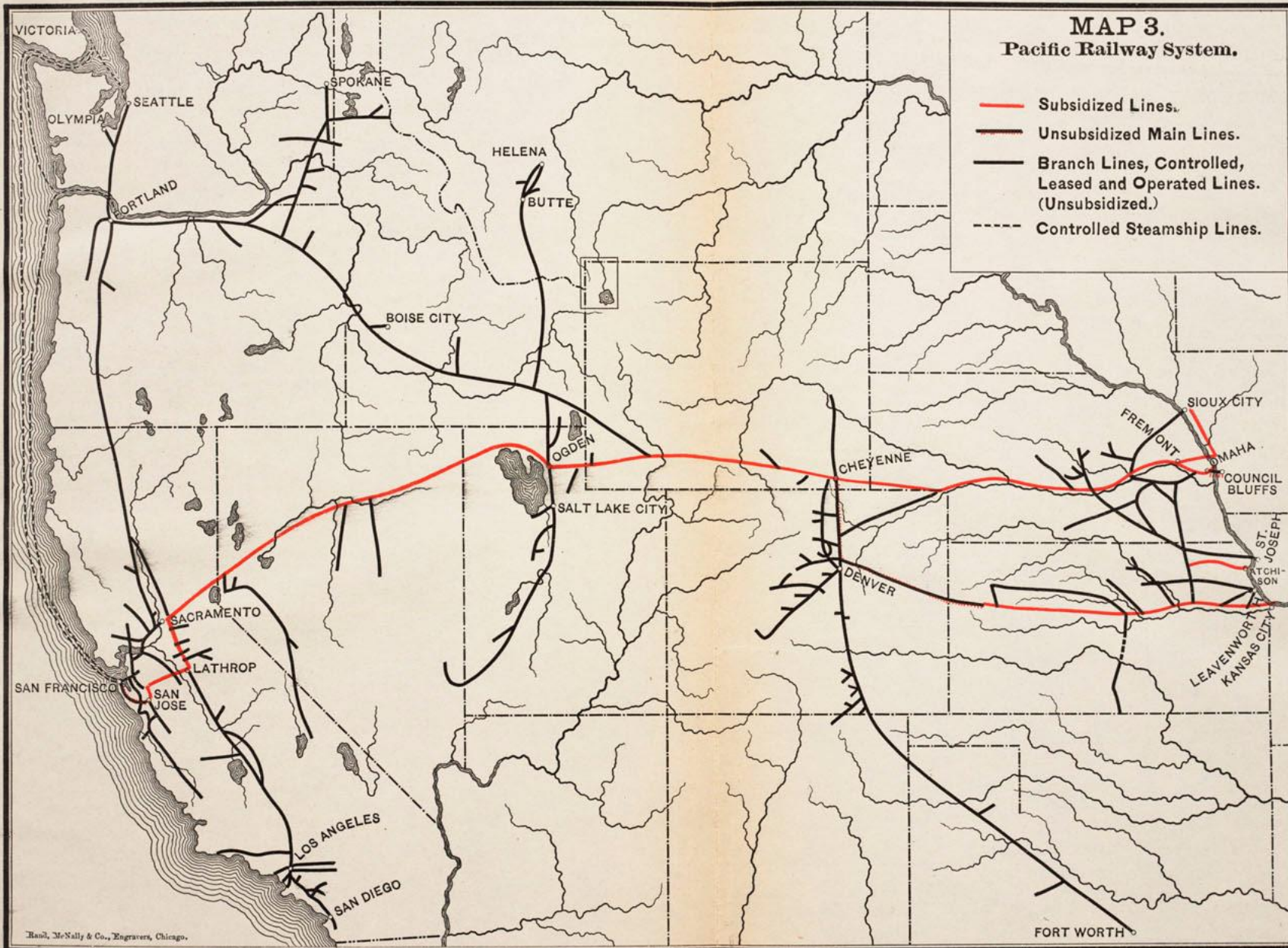
**Sacramento,
California**

Two companies, the Union Pacific and the Central Pacific, began building the first transcontinental railroad.



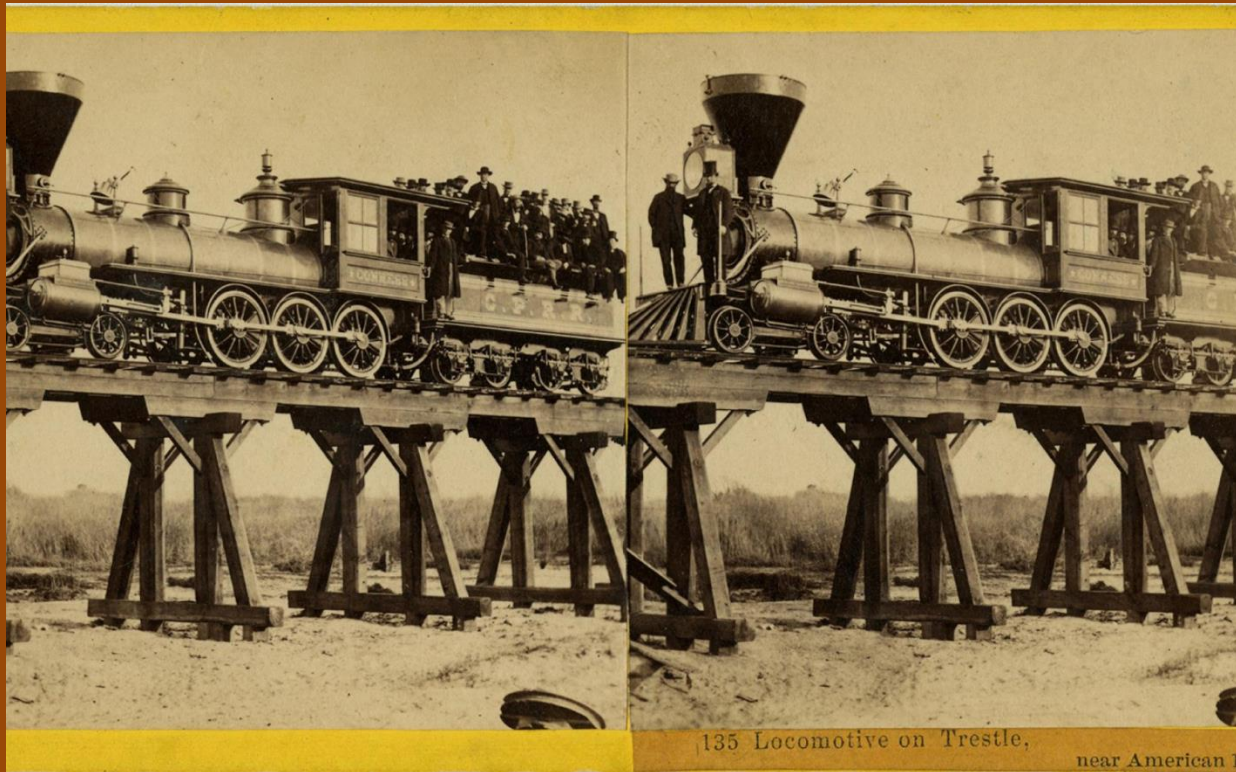
MAP 3.
Pacific Railway System.

- Subsidized Lines.
- Unsubsidized Main Lines.
- Branch Lines, Controlled, Leased and Operated Lines. (Unsubsidized.)
- - - - - Controlled Steamship Lines.

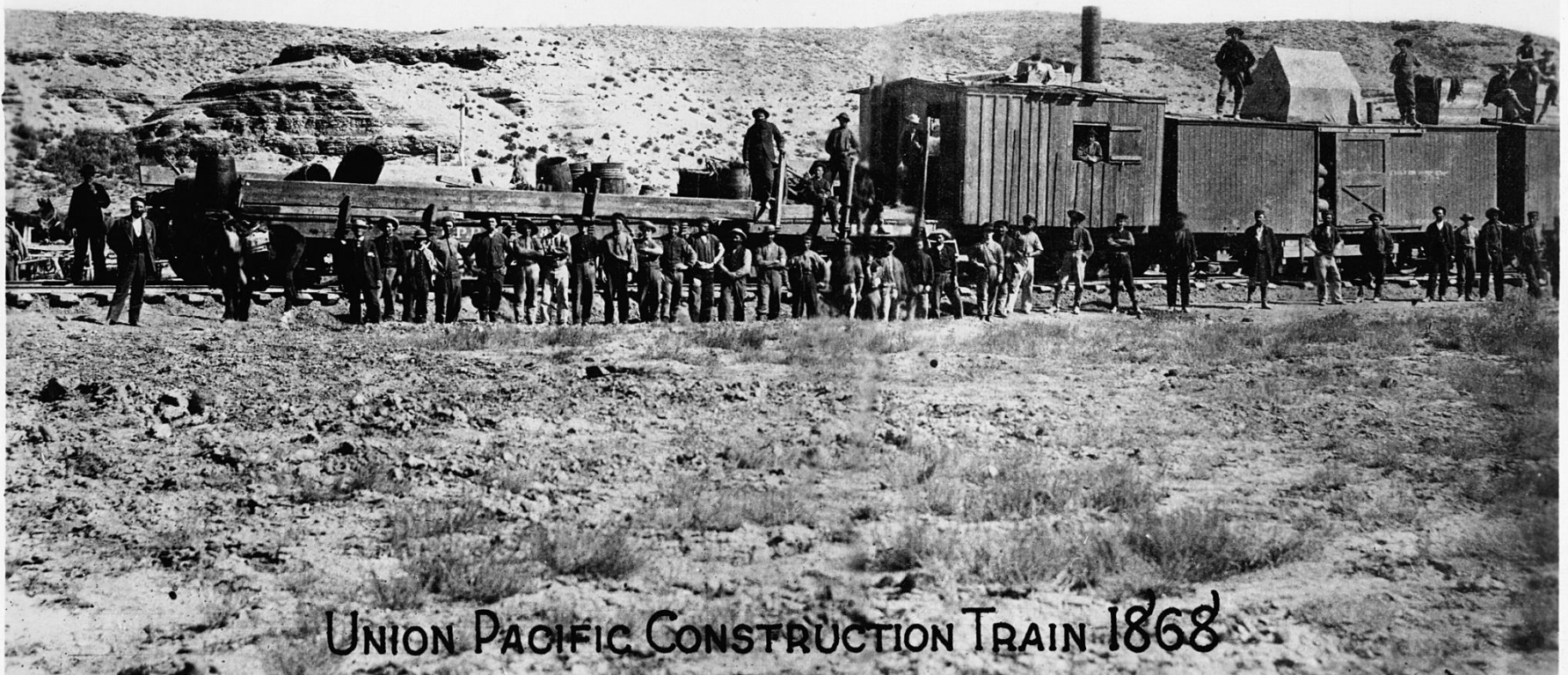


2 Photographers – one focused on the east-to-west progress of Union Pacific's line and one on west-to-east build-out for Central Pacific.

Their photographs helped persuade investors to support the endeavor, which was publicly and privately funded, and they provided instructional documentation as the railroads laid track and built bridges and tunnels.

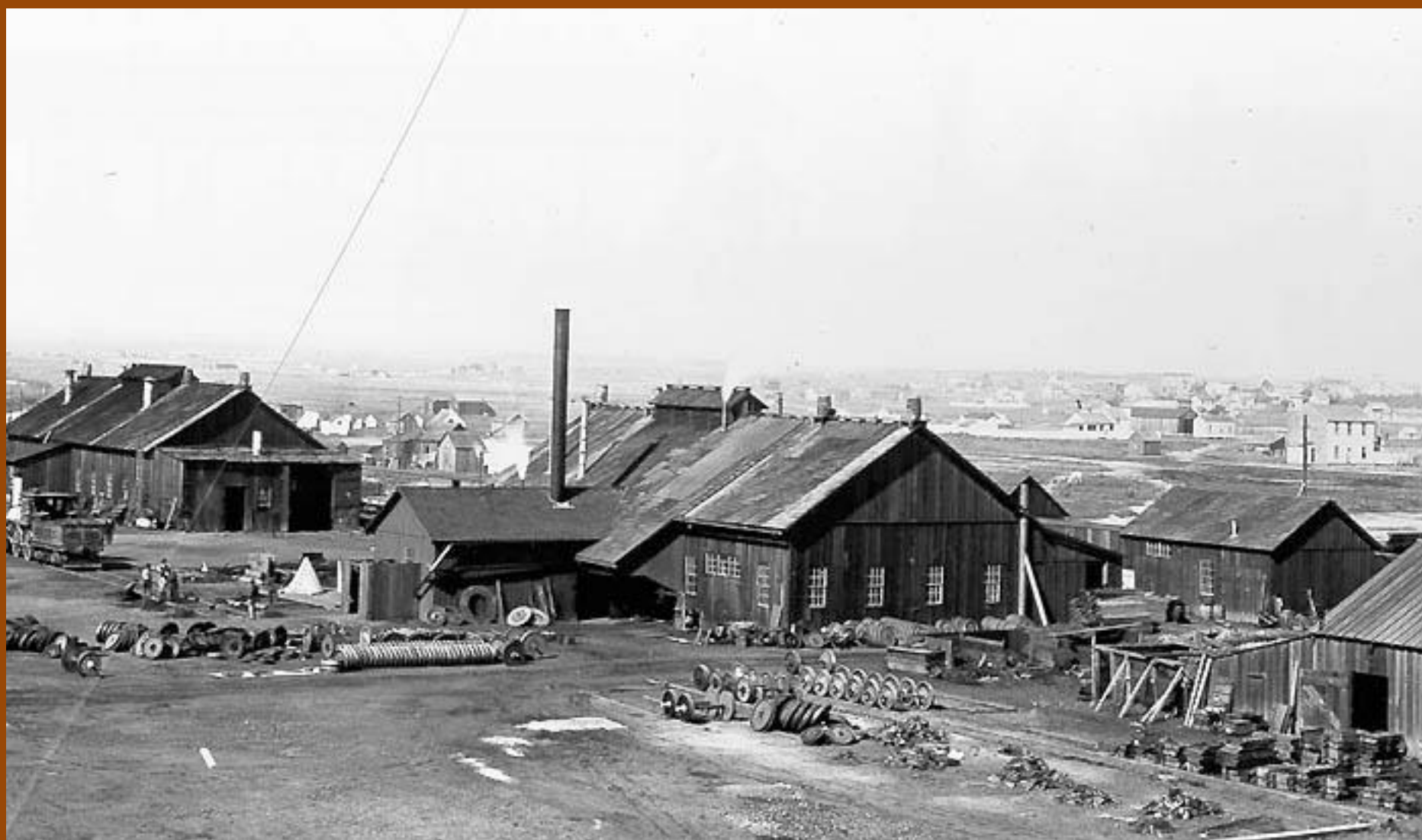


1,086 miles west, 690 miles east
roadbed of hard stone up to 3 ft deep,
400 rails per mile on 2,500 wooden ties,
fastened with 10 spikes



UNION PACIFIC CONSTRUCTION TRAIN 1868



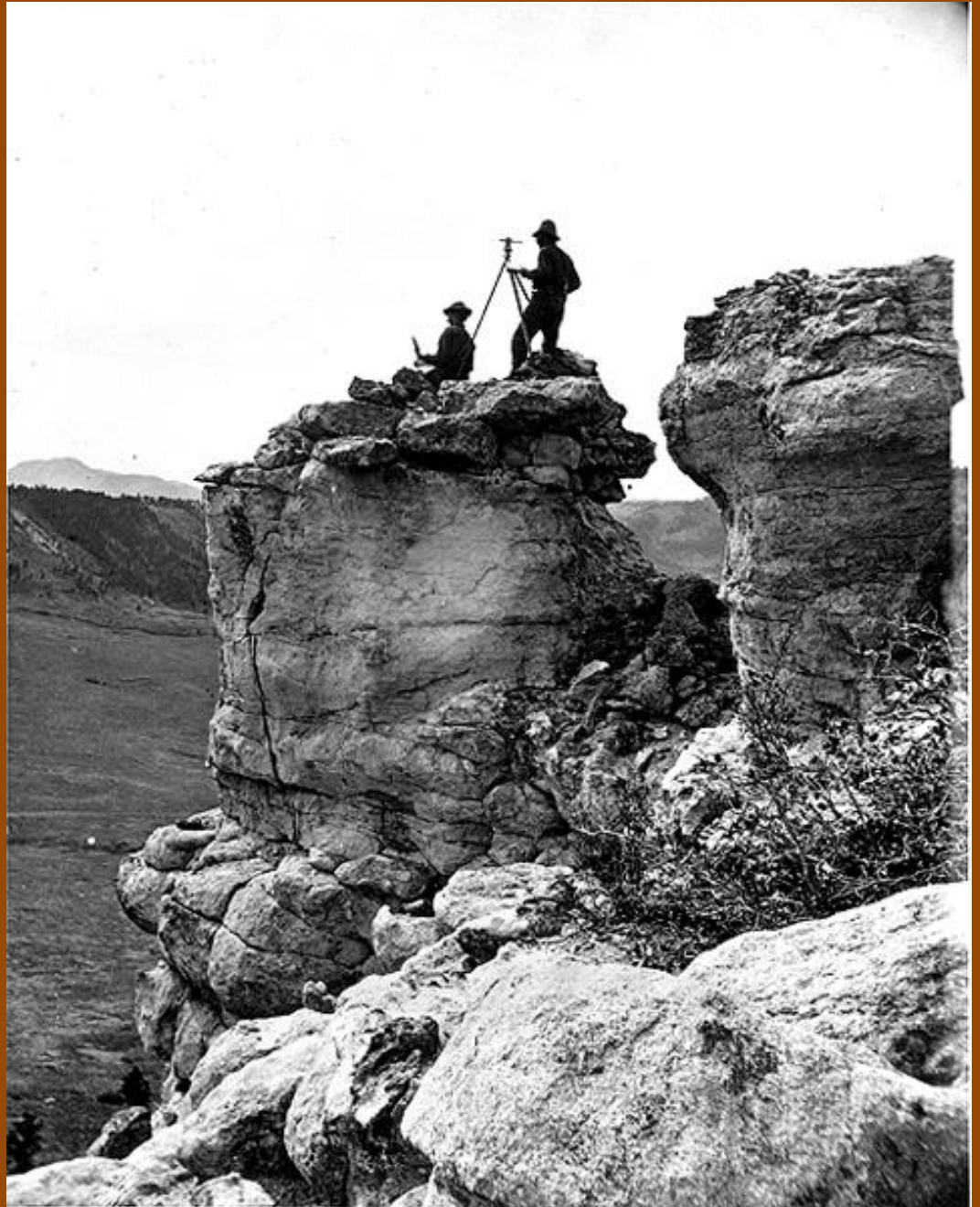




CENTRAL PACIFIC RAILROAD.



Surveyors





SURVEYING FOR THE CENTRAL PACIFIC RAILROAD IN HUMBOLDT PASS.





Transcontinental Railroad, 1863 - 1869



© 2008 Europa Technologies
Image © 2008 DigitalGlobe

© 2008 Google

Educational Material Non Commercial

Pointer 39°18'39.90" N 120°19'03.84" W elev 7531 ft

Streaming ||||| 100%

Eye alt 15108 ft

Some jobs like explosive work, tunneling, bridging, heavy cuts or fills were known to take longer than others, so the specialized teams were sent out ahead by wagon trains with the supplies and men to get these jobs done by the time the regular track-laying crews arrived.

DUTCH FLAT WAGON ROAD.

This new route over the Mountains, by way of Dutch Flat and Donner Lake, can now be traveled by Teams without load, and will be open for loaded Teams

JUNE 15th, 1864.

IT IS

**The Shortest, Best and
Cheapest Route to Wash-
oe, Humboldt and Reese
River.**

Its grade going East at no place exceeds ten inches to the rod, and it is wide enough for Two Teams to pass without difficulty. All teams coming West, without load, can travel the New Road FREE OF TOLL until further notice. All those taking loads at Newcastle, the terminus of the Central Pacific Railroad, three miles from Auburn, can travel the New Road going East, Free of Toll, up to July 1, 1864.

Teams starting from Virginia City will take the Henness Pass Road to Ingram's, at Sardine Valley, where the New Road turns off to the left.

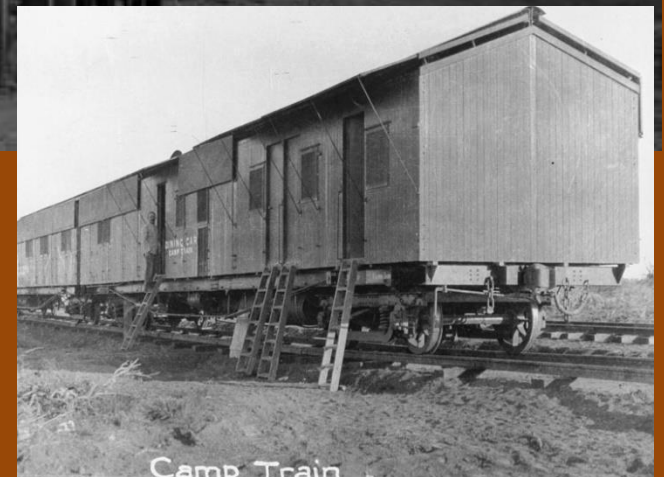
CHARLES CROCKER.

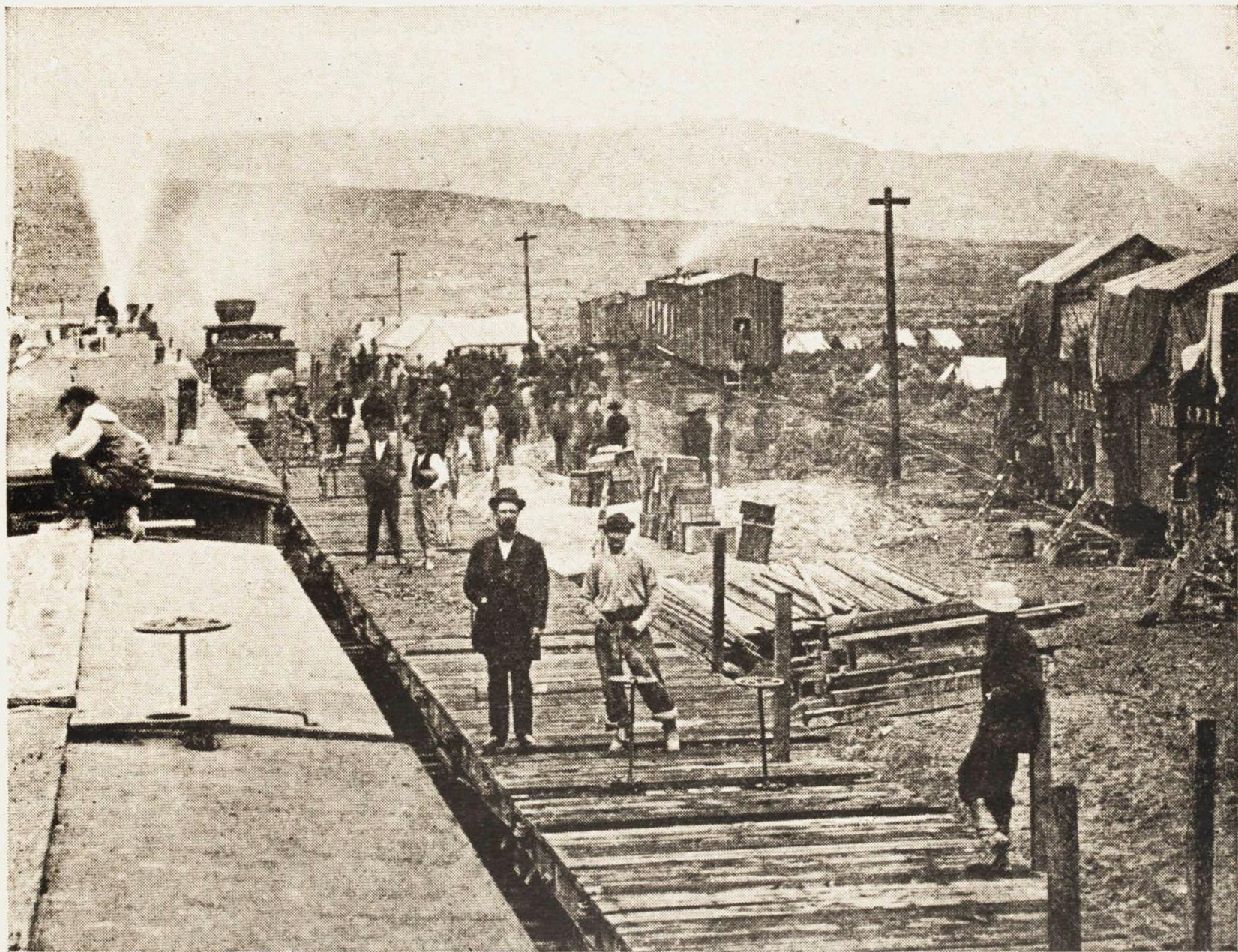
Sacramento, June 6, 1864

Pres't of the Co.

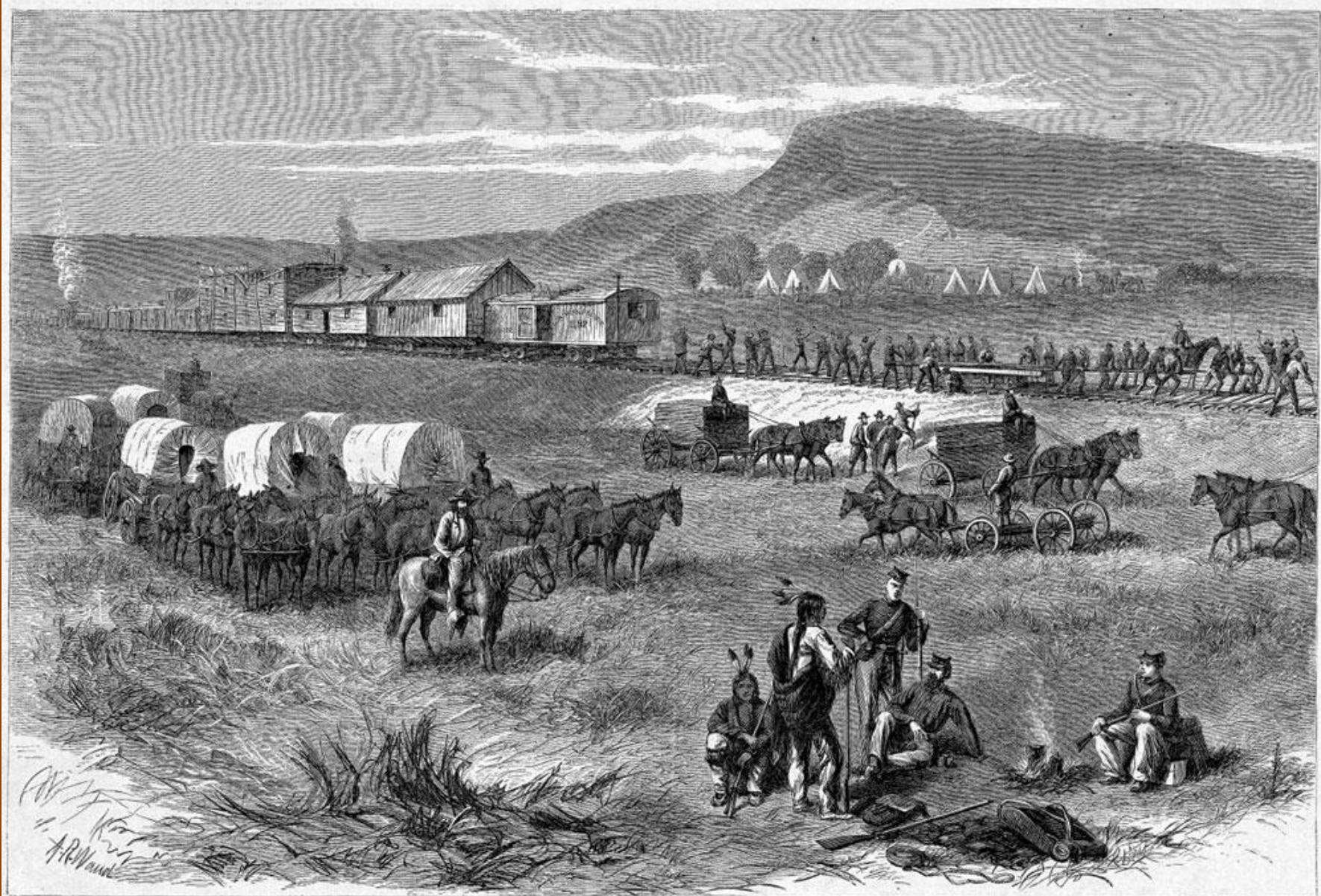




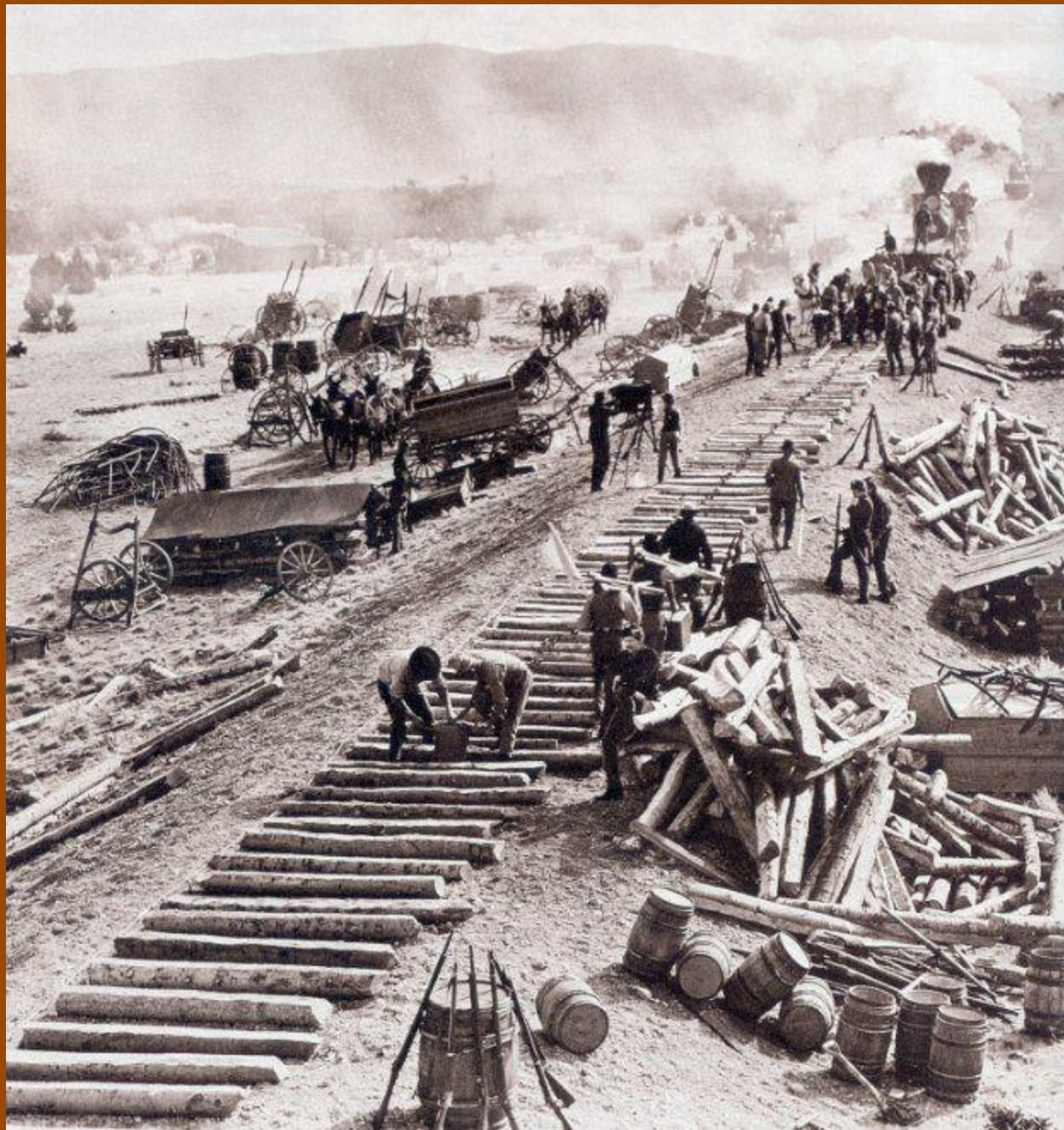




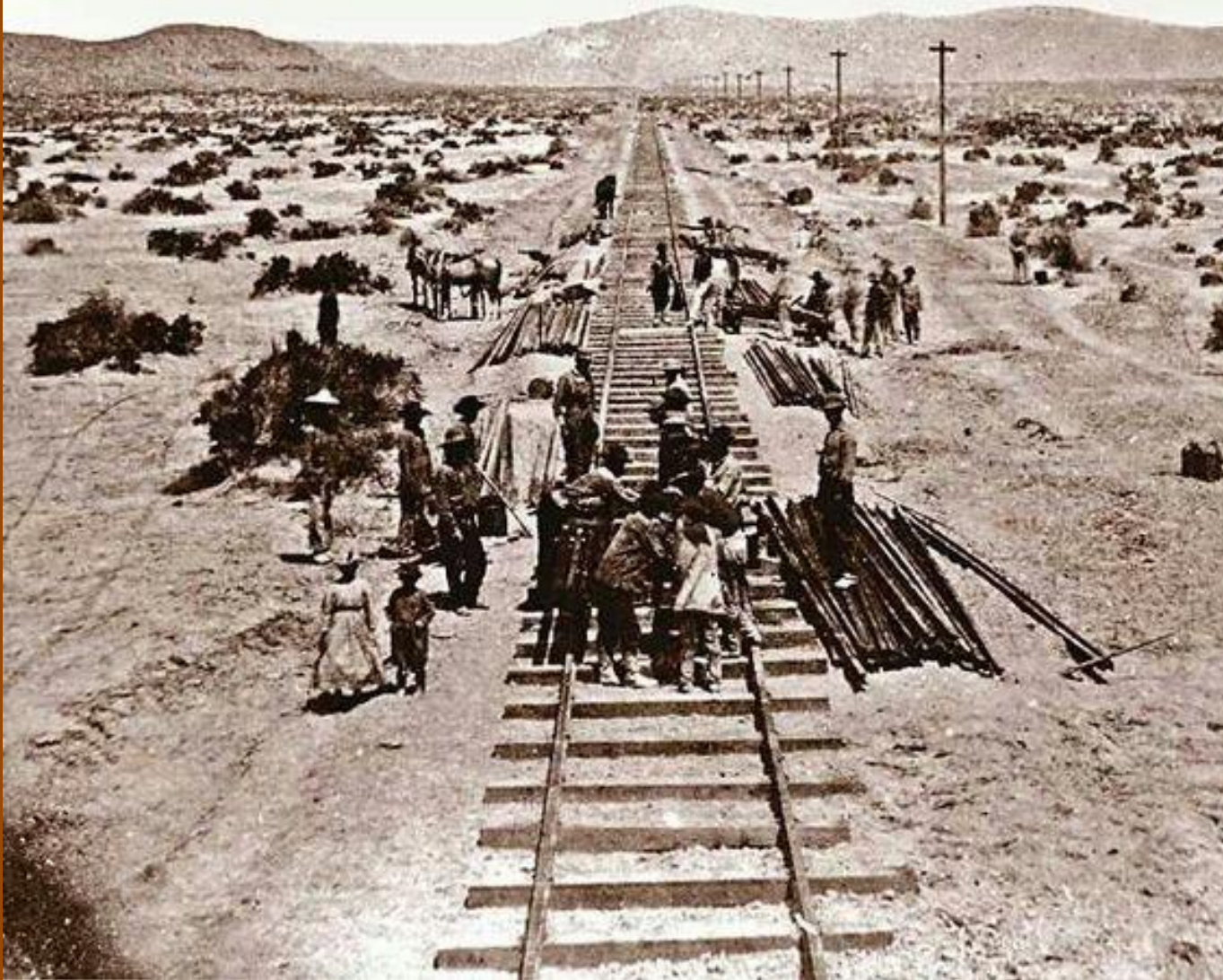




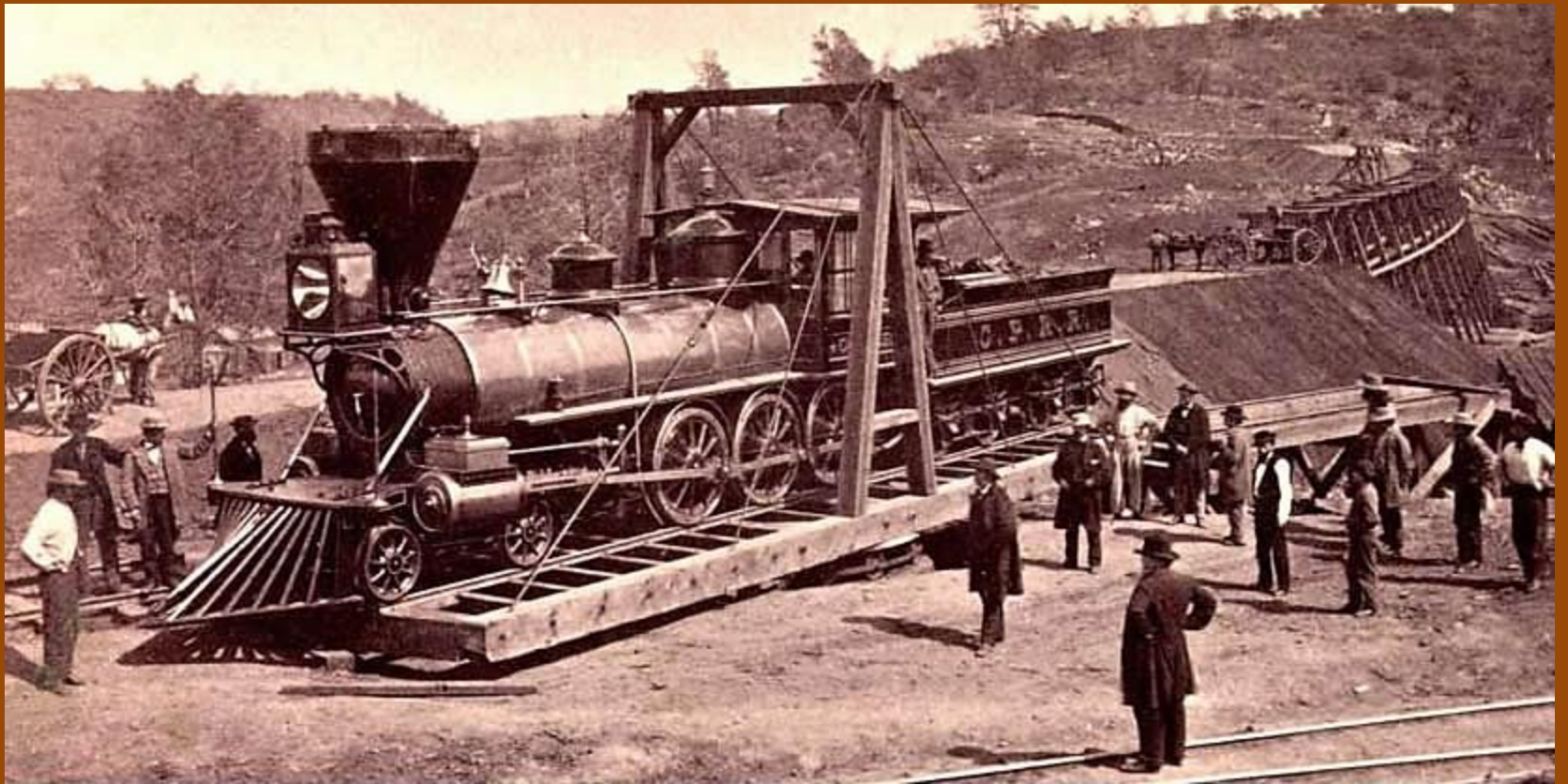
RAILROAD BUILDING ON THE GREAT PLAINS.—DRAWN BY A. R. WAUD.—[SEE PAGE 579.]



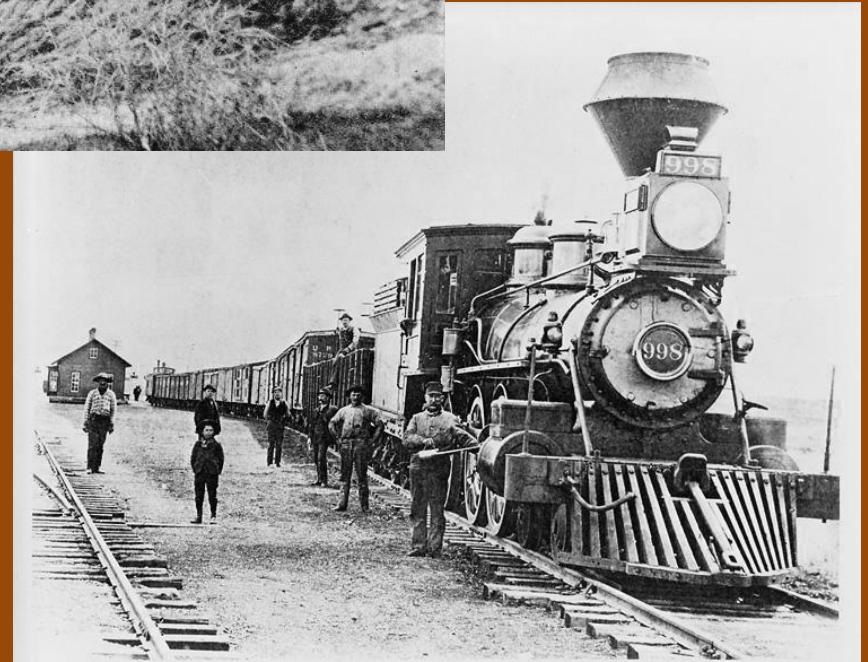
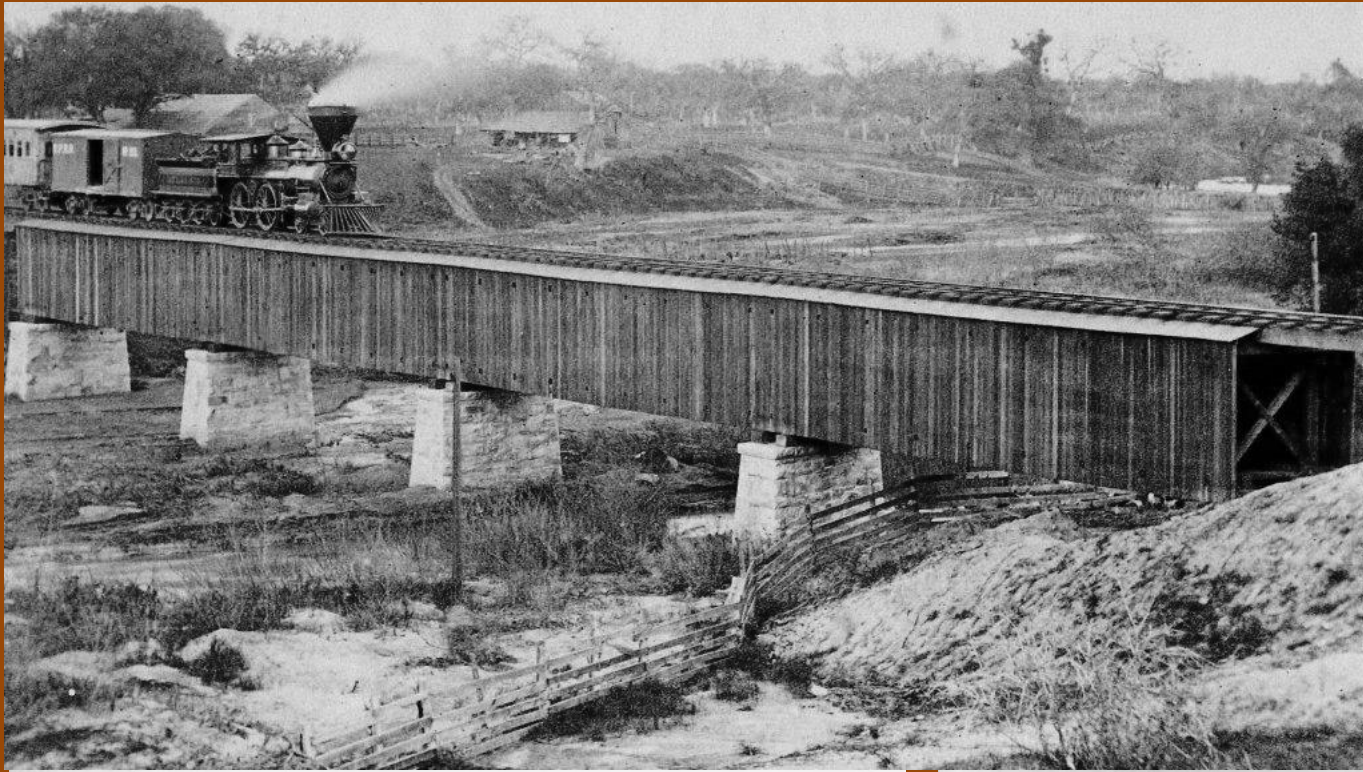
It took approximately 40 flatbeds of material
to build a mile of track









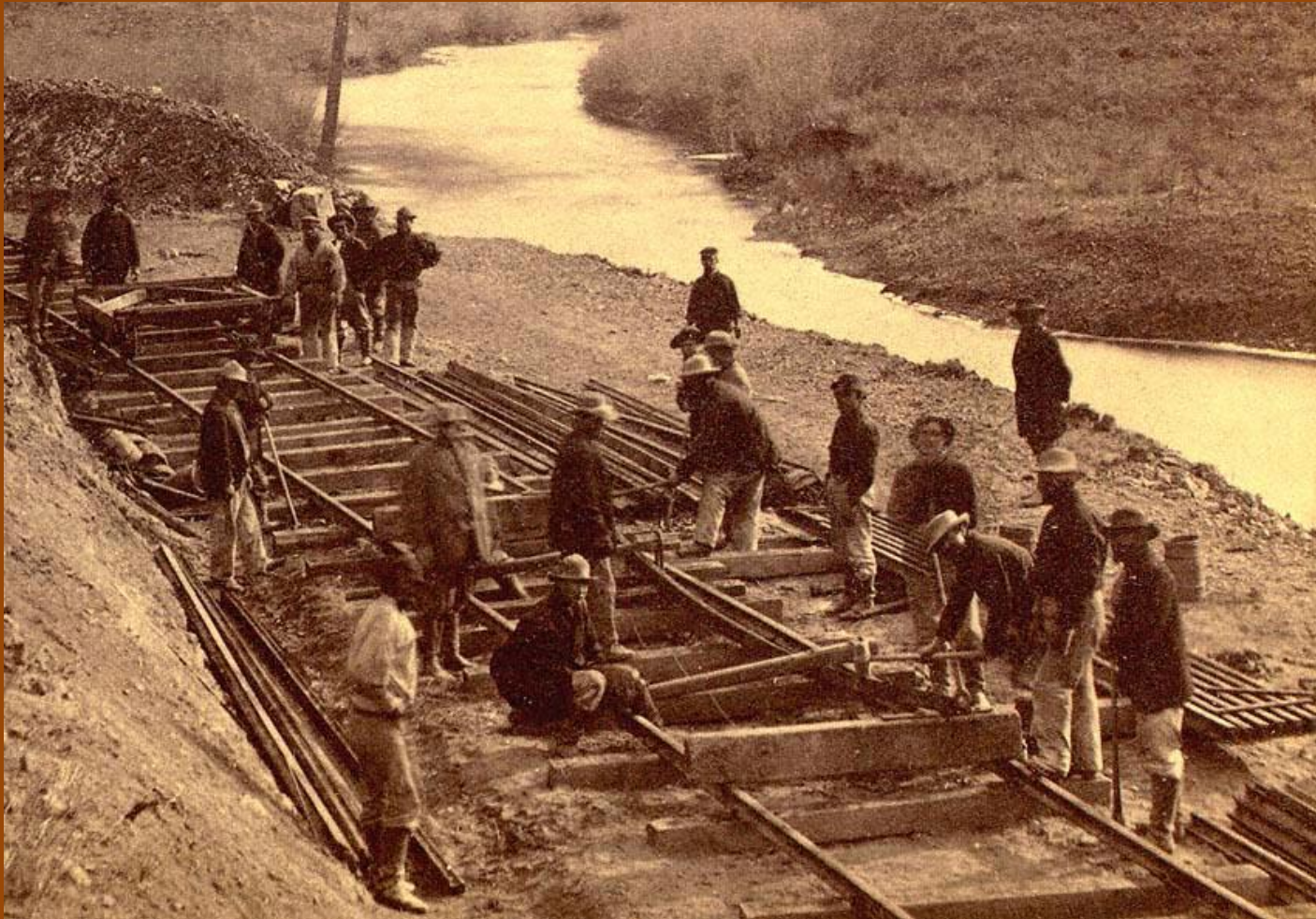


Each day began with supplies for 2 miles
of track





A track gang working a curving rail: 2 ties were placed on the tracks about 25' apart. The 32', 56 pound rail was laid on its side across these, and 6 or 8 men stood on the rail. Another man hit the rail with a hammer.



Photograph of Benton, Wyoming, existed only for 3 months in 1868. The tent city boasted a population of 3,000 people, and included 25 saloons, and five dance halls.



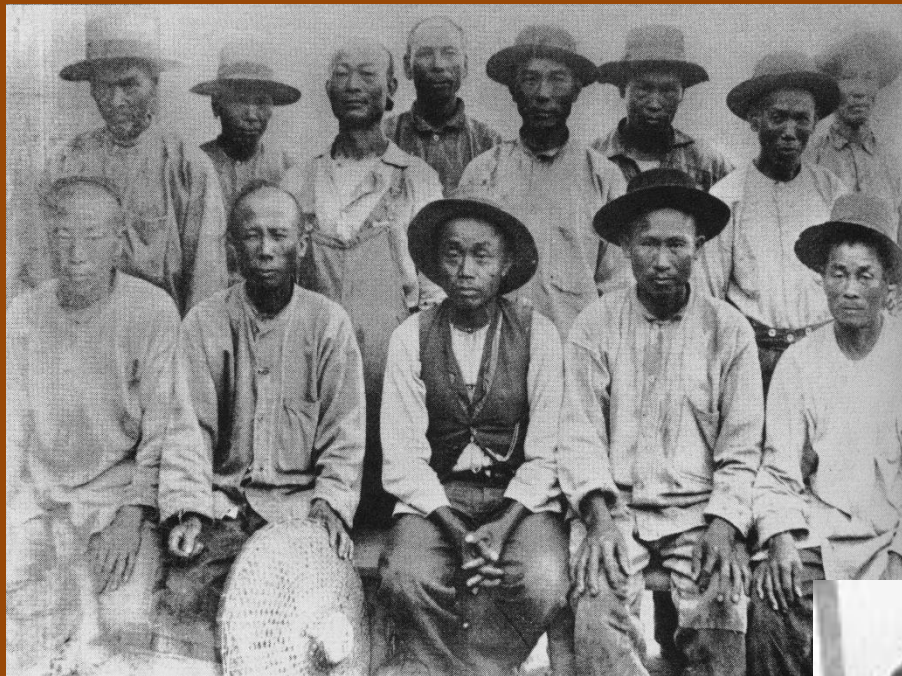
Here, “vice and crime stalk unblushingly in the midday sun,” one rail boss wrote to his wife



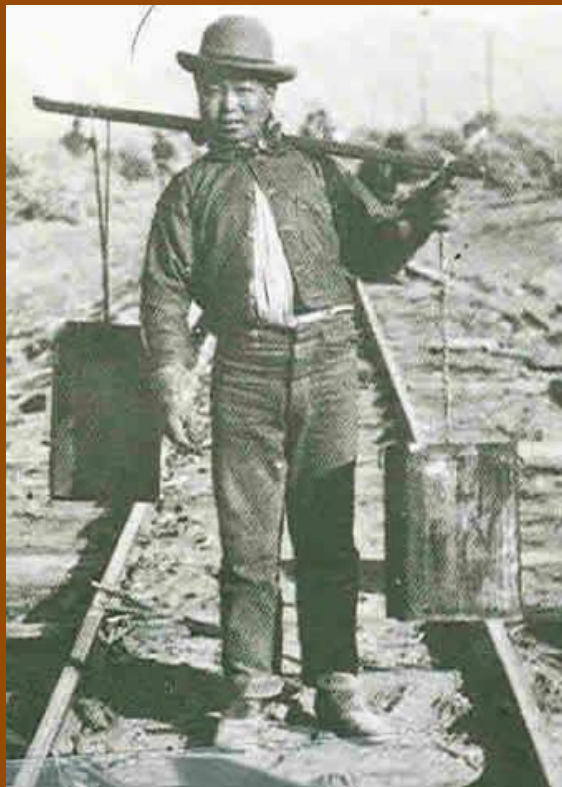


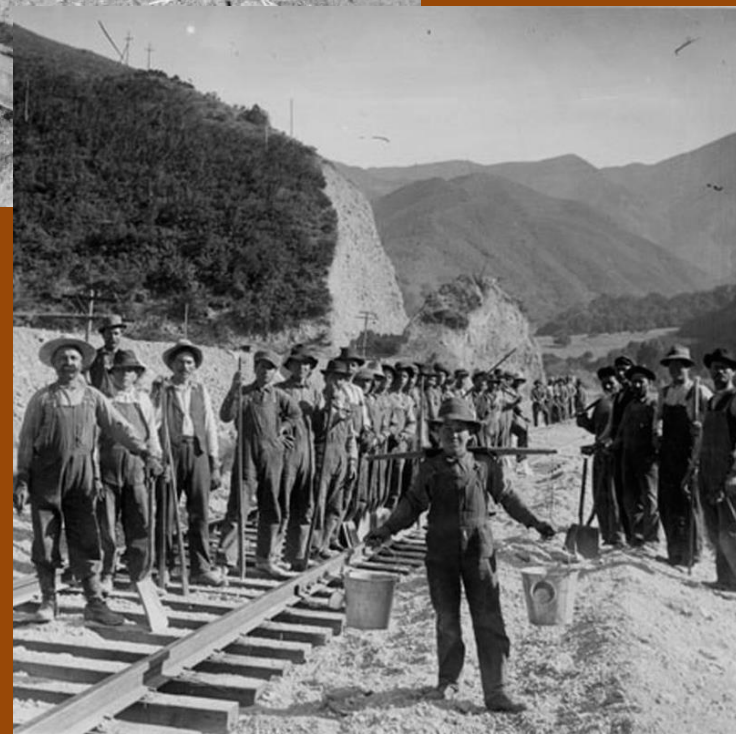
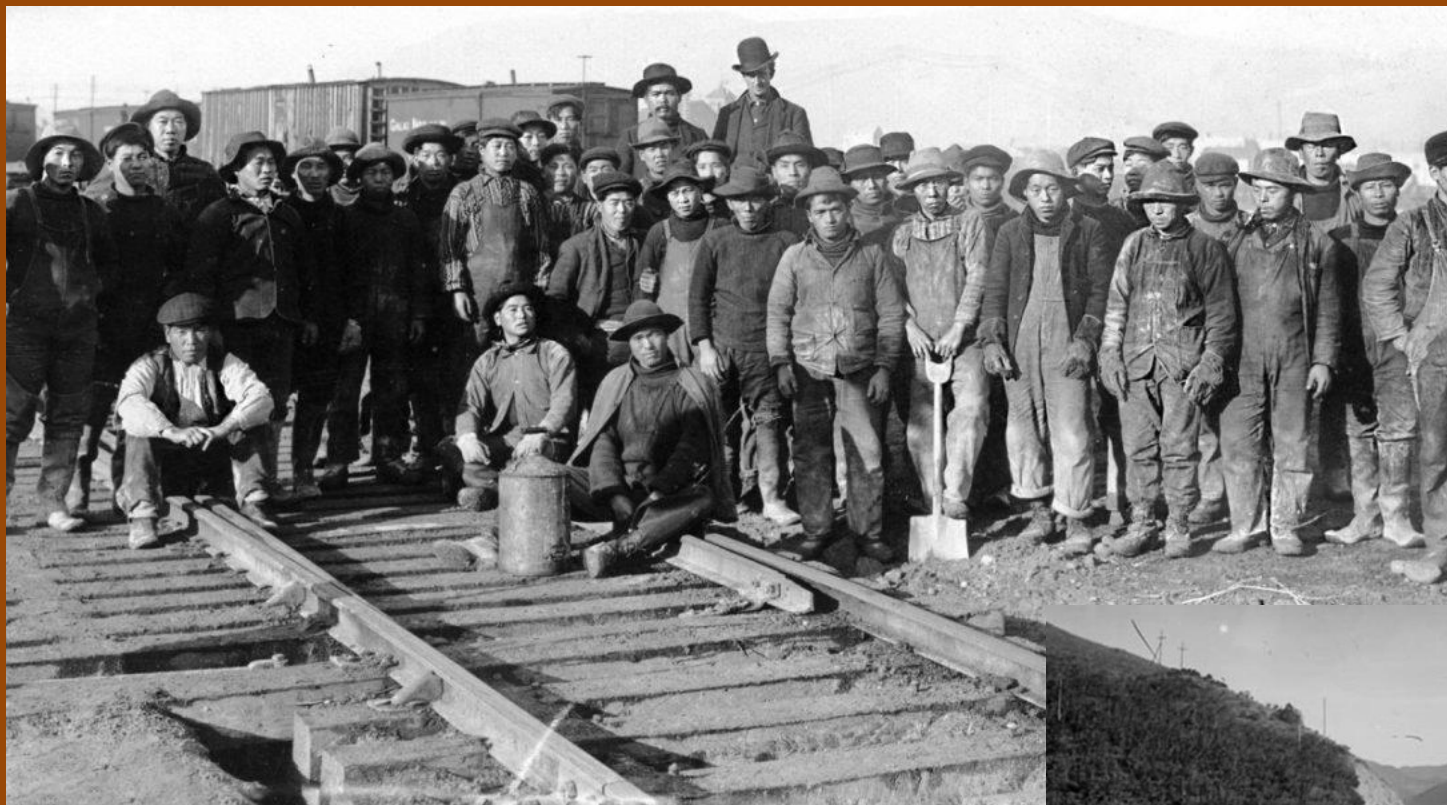
Celestials / Chinese on the CP

The proximity of Nevada's Comstock Lode on the eastern side of the Sierra Nevada worked against the Central Pacific's retention of white laborers, who often worked only long enough to earn money to pay the fare for the Dutch Flat Wagon Road to the east side of the Sierra. The prospect of striking it rich outweighed the certain monthly \$30 plus board for back-breaking work. To the Chinese, the lower wage of \$26 per month, with which they had to provide their own meals, looked brighter than the certain discrimination and harassment they could expect if they tried to compete with white miners in the silver mines.



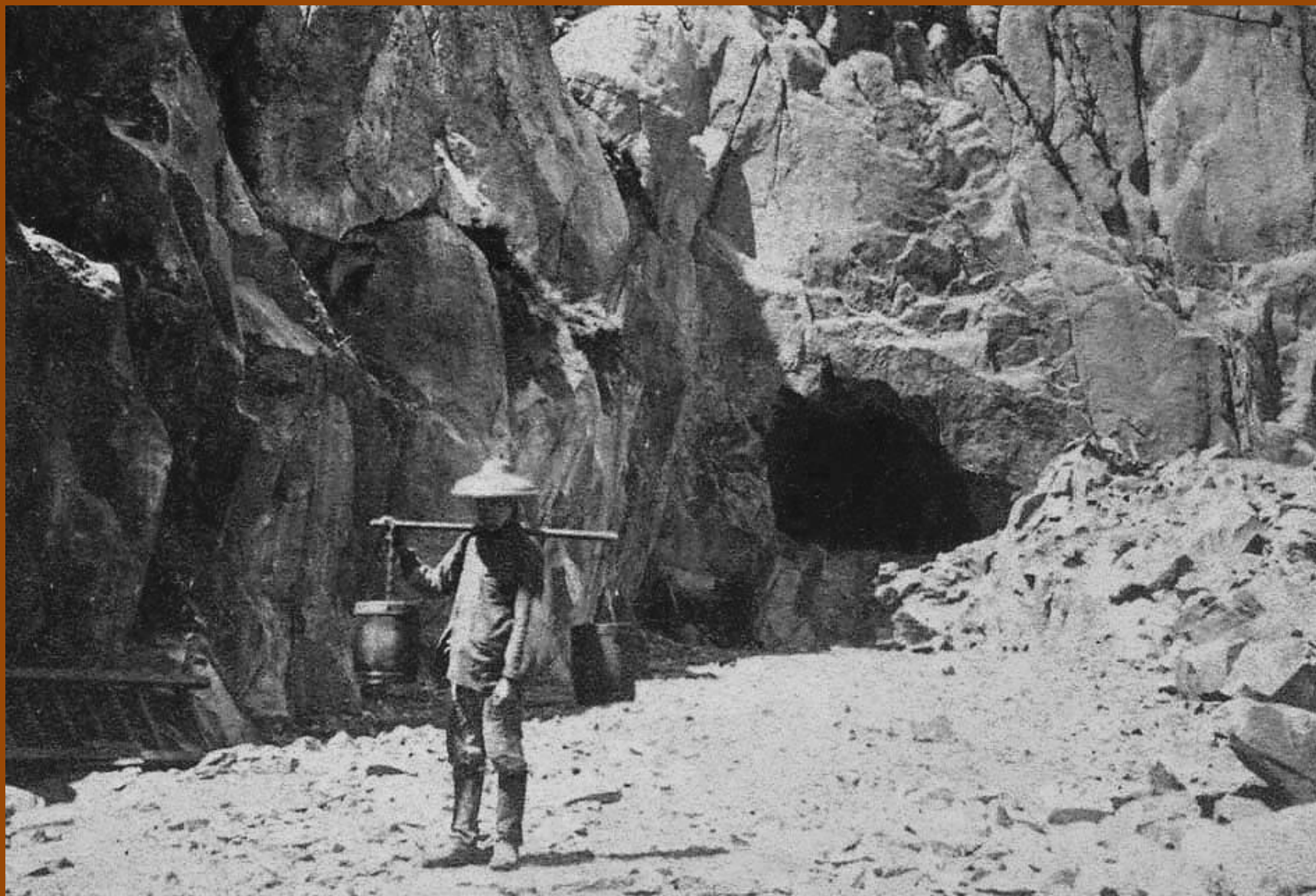














Special Challenges of the Western Leg

690 miles

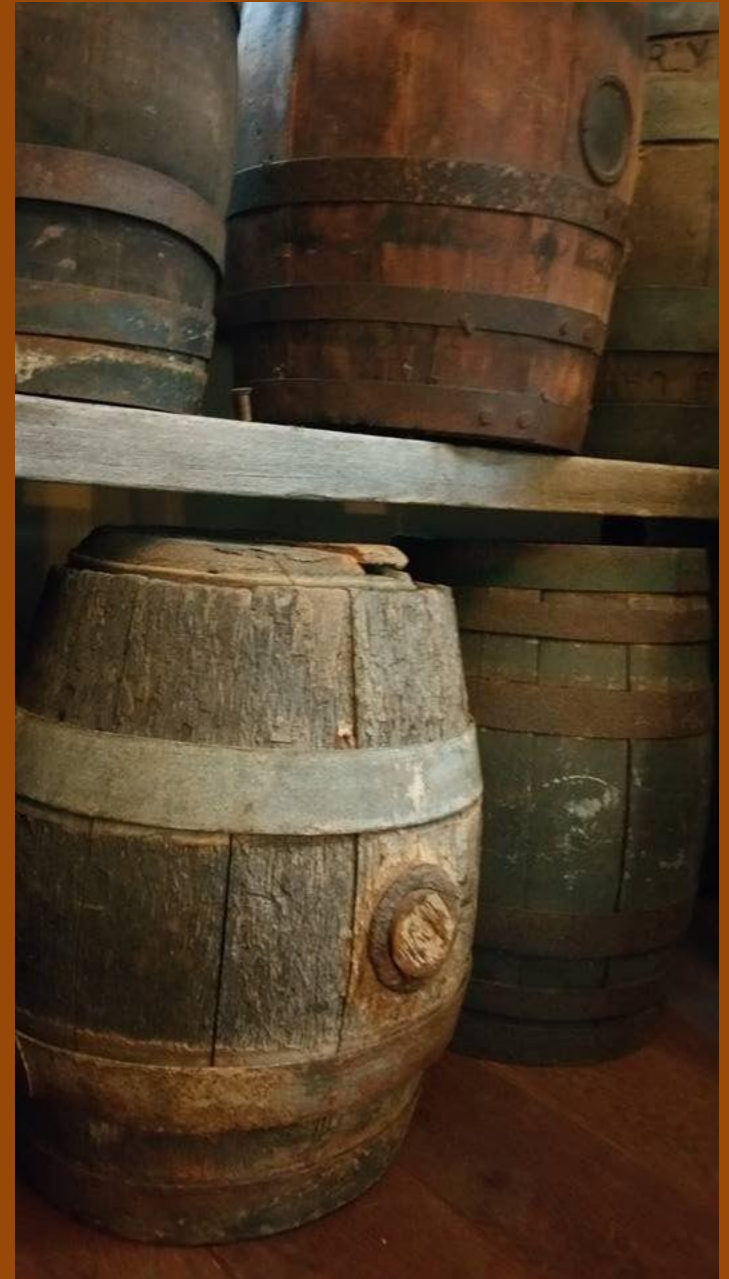
The Sierra Nevada Mountains peaks reach 7,000 to 14,000 feet, and trap the Arctic storms from the Pacific, with heavy snows, sometimes from October to June.

15 tunnels through granite

37 miles of snow sheds



500 pounds of blasting
powder a day used
more than most major
civil war battles





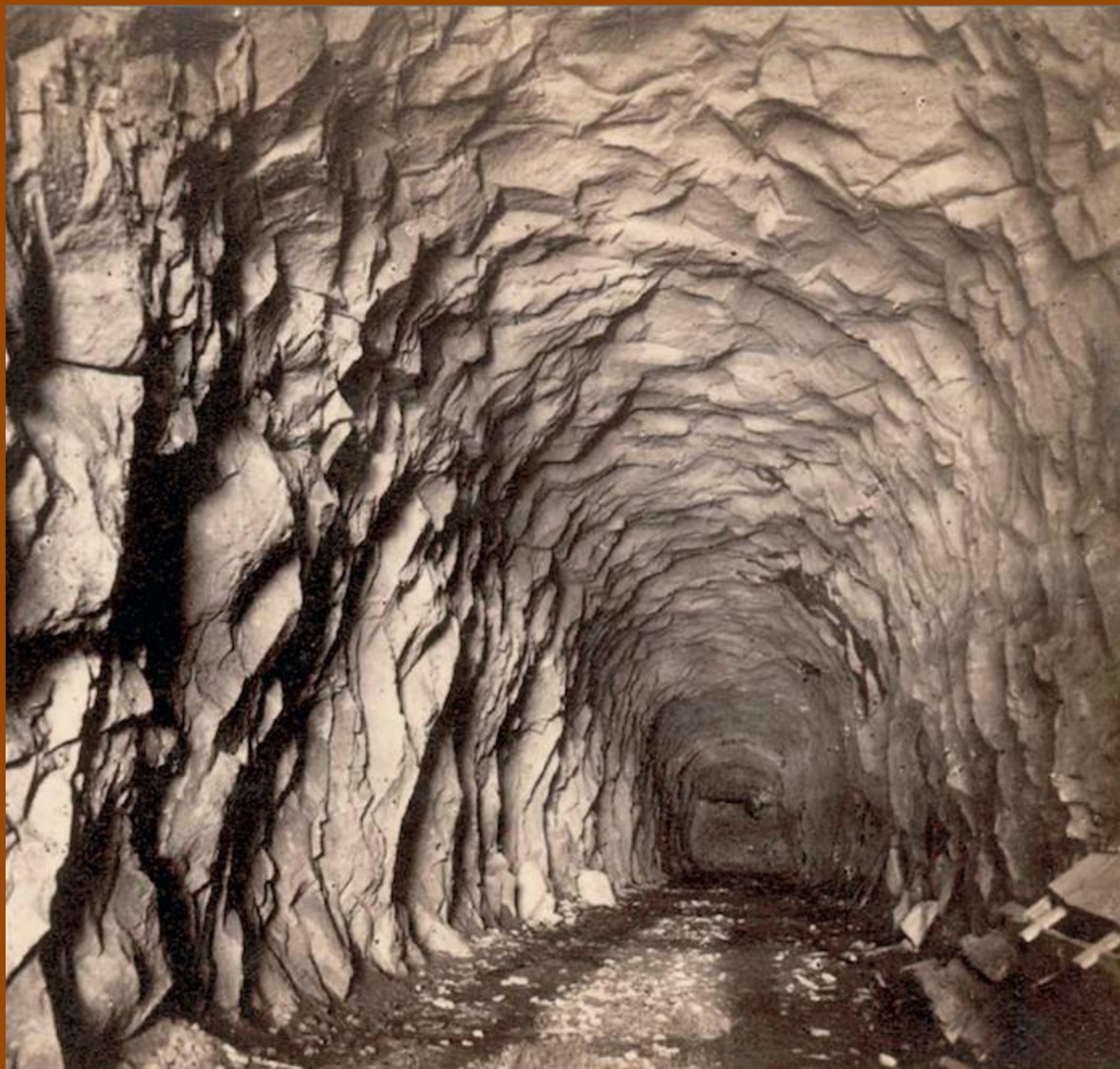


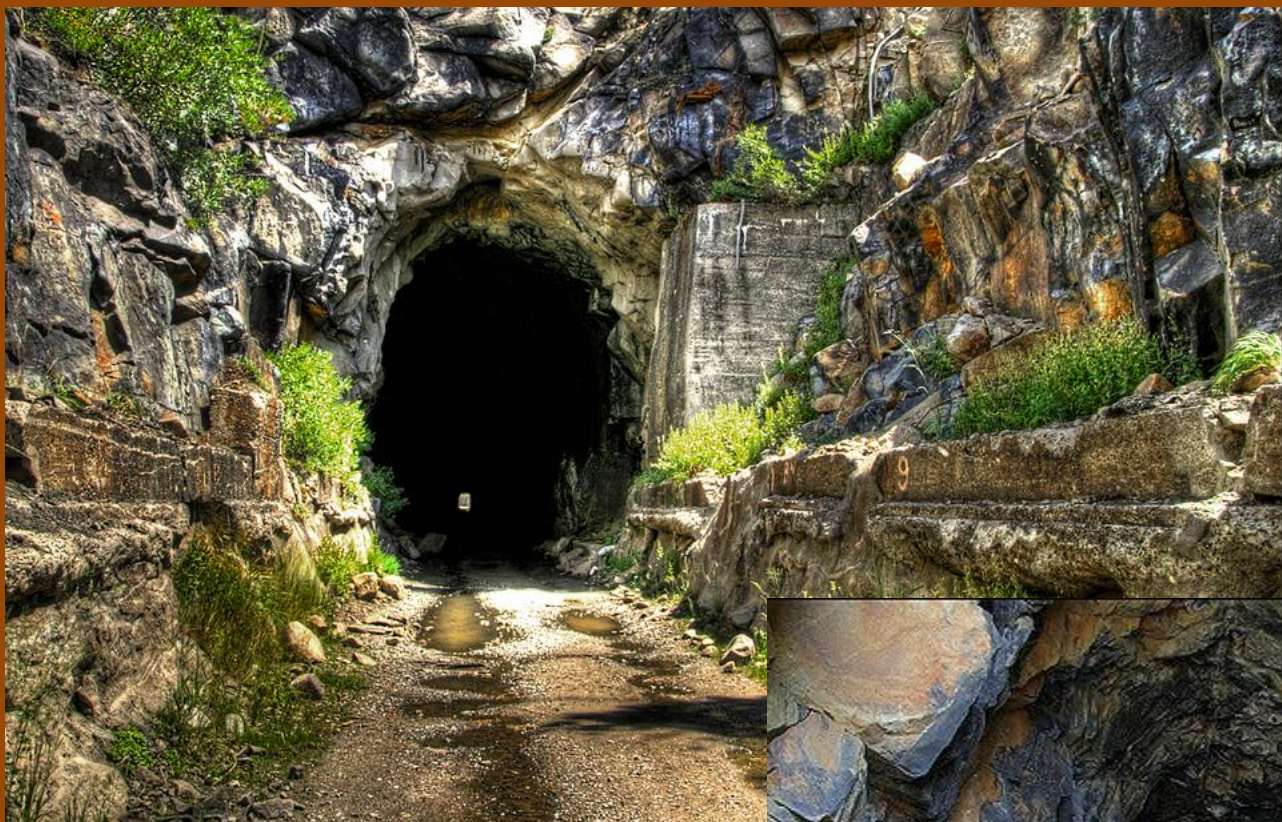


CHINA WALL OF THE SIERRA

CHARLES CROCKER, CONSTRUCTION CHIEF OF THE CENTRAL PACIFIC RAILROAD (CPRR), CONTRACTED FOR A WORKFORCE OF APPROXIMATELY 12,000 CHINESE LABORERS TO PUSH THE CRR TRACKS OVER ITS TRANS-SIERRA CROSSING ON ITS RACE EAST TO A MEET WITH THE UNION PACIFIC AT PROMONTORY, UTAH TERRITORY. A RAILROAD RETAINING WALL AND FILL, CONSTRUCTED OF SIERRA GRANITE, STAND SILENTLY ABOVE ON THE PASS AS A LASTING MONUMENT TO THESE ASIAN "MASTER BUILDERS" WHO LEFT AN INDELIBLE MARK ON THE HISTORY OF CALIFORNIA AND THE WEST.

DEDICATED AUGUST 11, 1984
TRUCKEE-DONNER HISTORICAL SOCIETY, INC.
CHIEF TRUCKEE CHAPTER NO. 3691
E. CLAMPUS VITUS





The laboring force was entirely composed of Chinamen with a "boss/translator"







Cuts and Fills



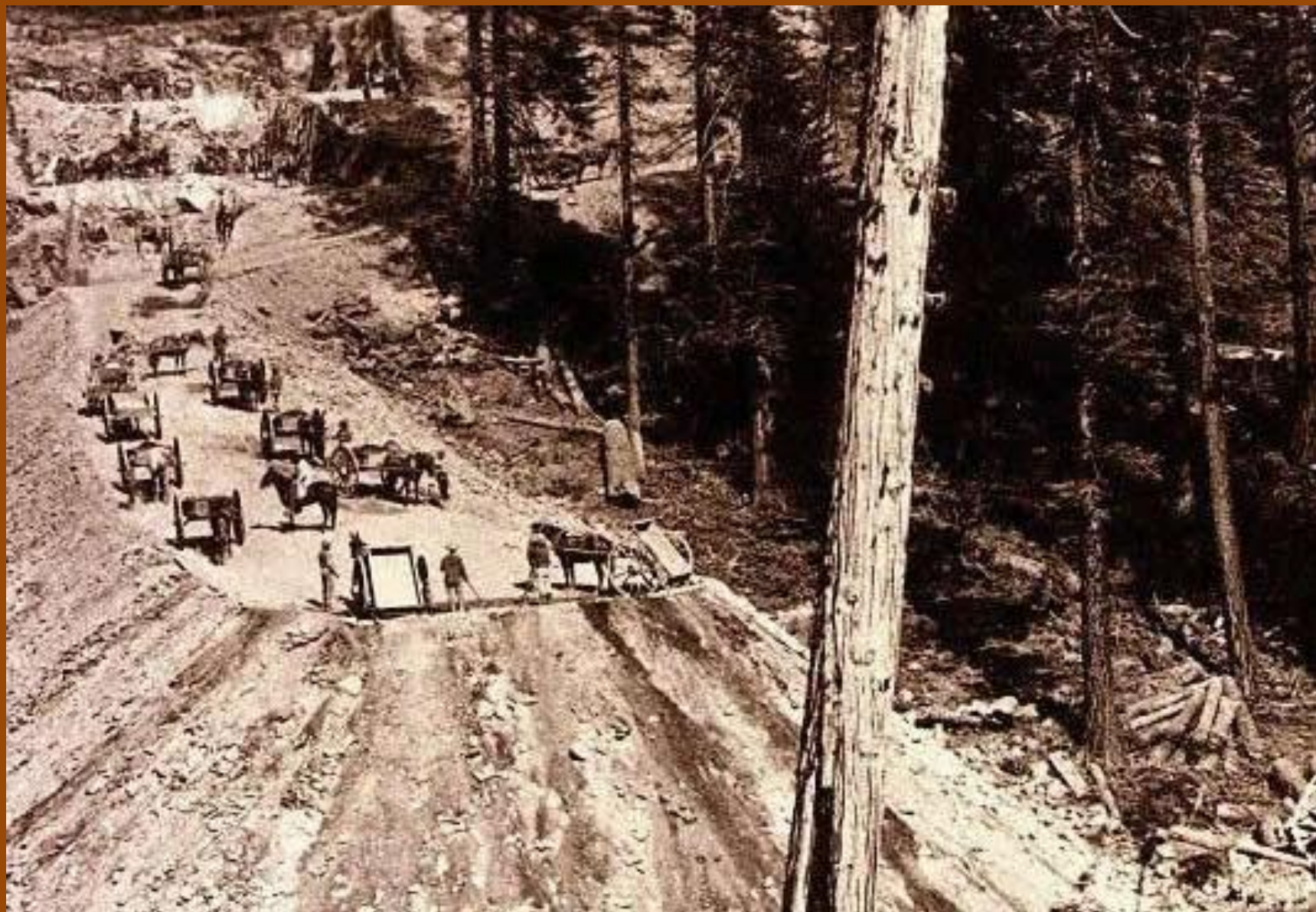




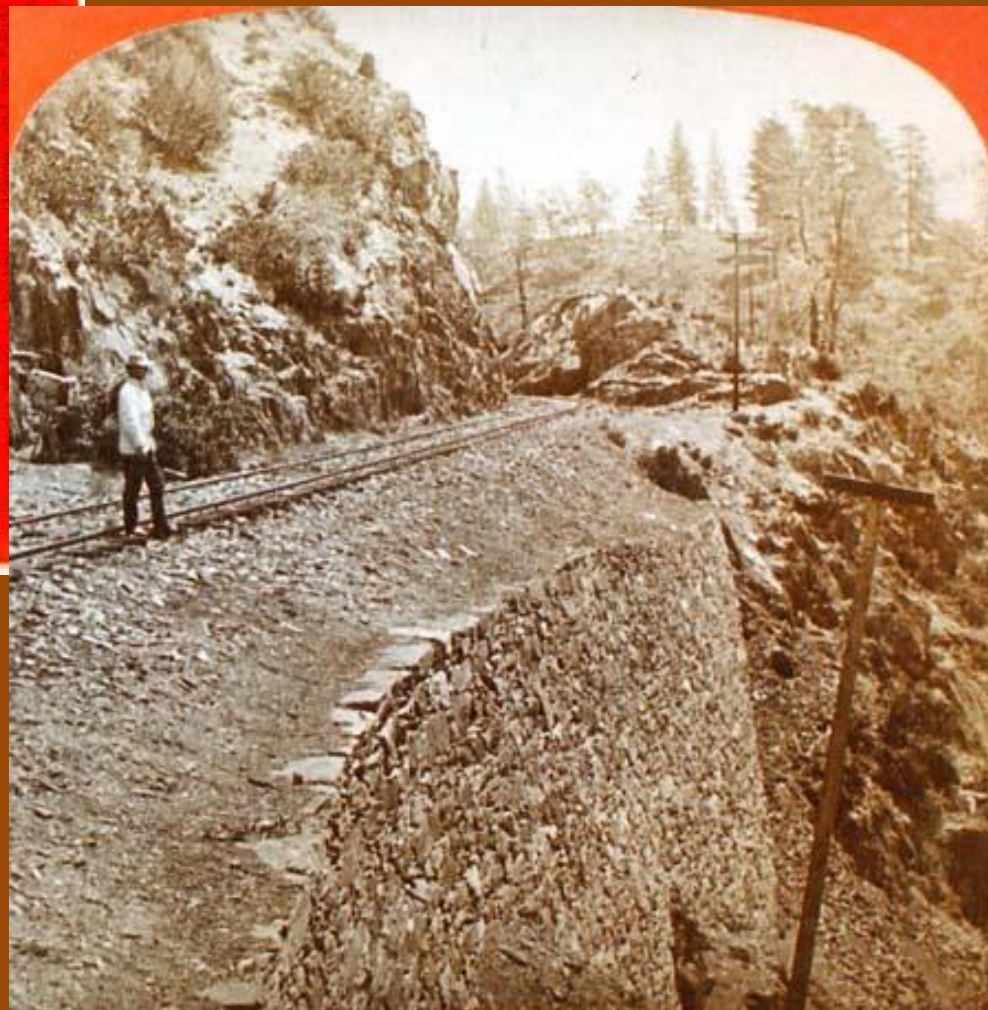
PLATE 4.

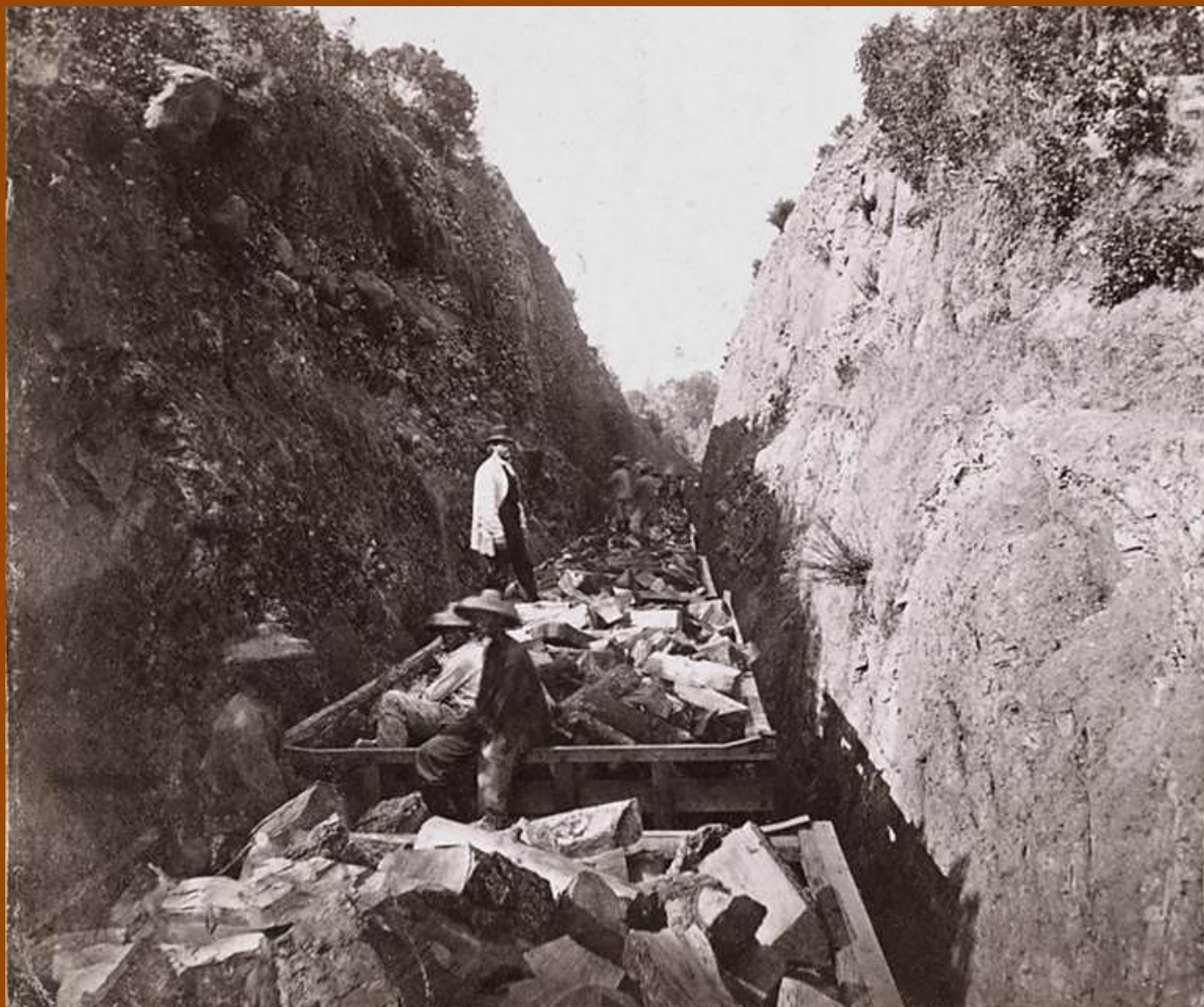
MALLOY'S CUT.







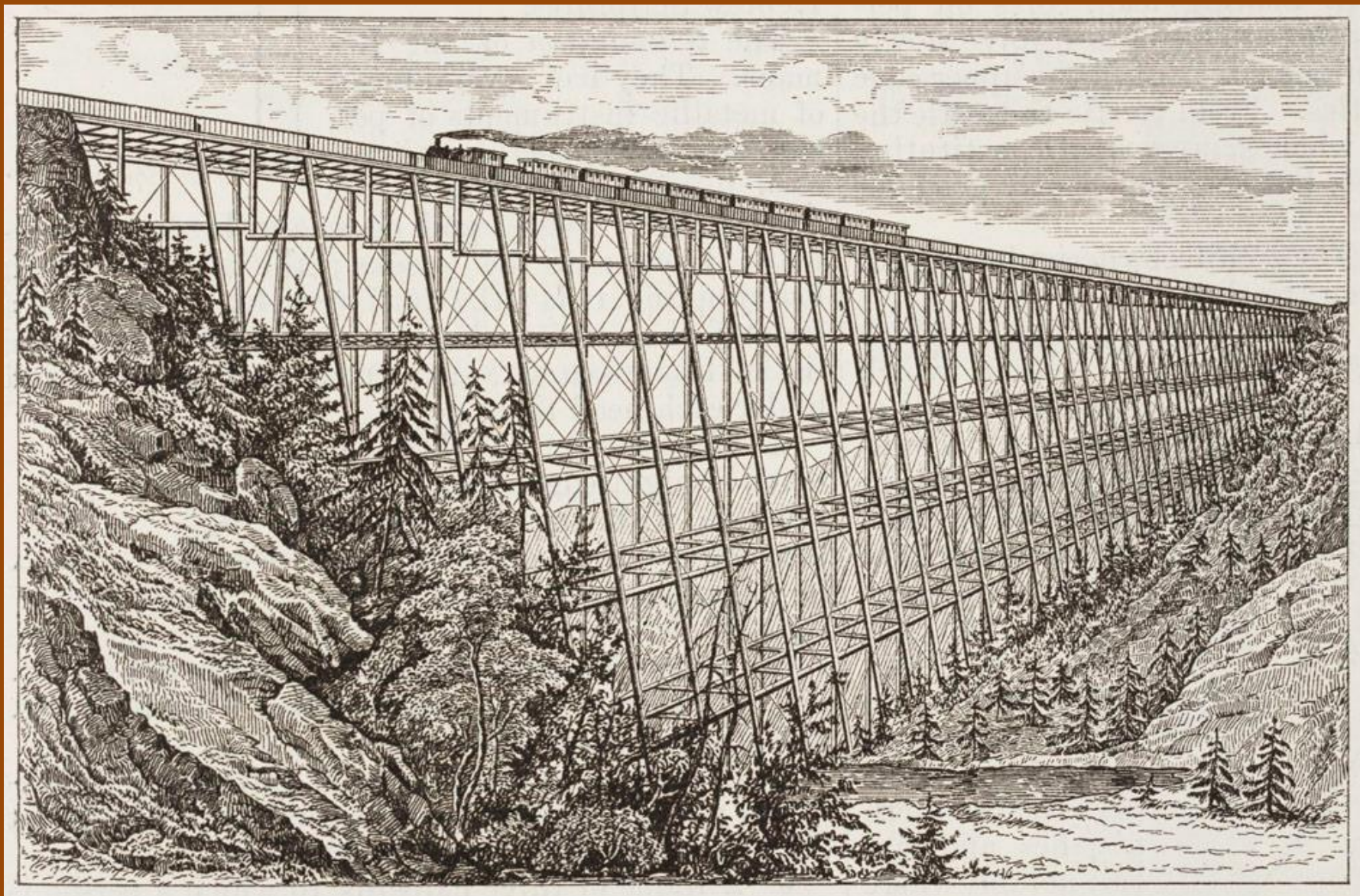




Trestles and Bridges











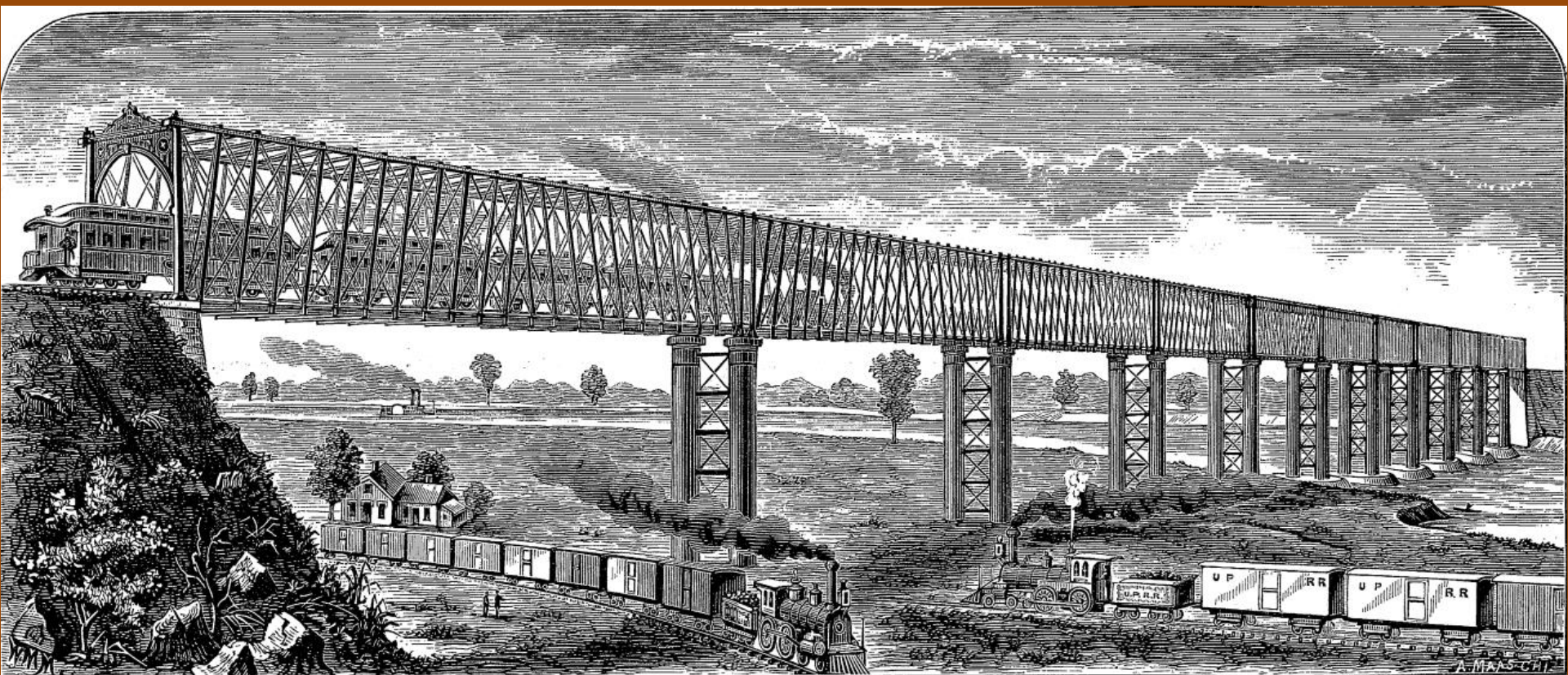
Prefabricated in Chicago, Ill., and shipped to Wyoming





Last Bridge, 1872, Missouri River, between Council Bluffs and Omaha, marked the true completion of the Transcontinental Railroad





Snowsheds and Galleries, 37 miles using 65 million board-ft. of timber

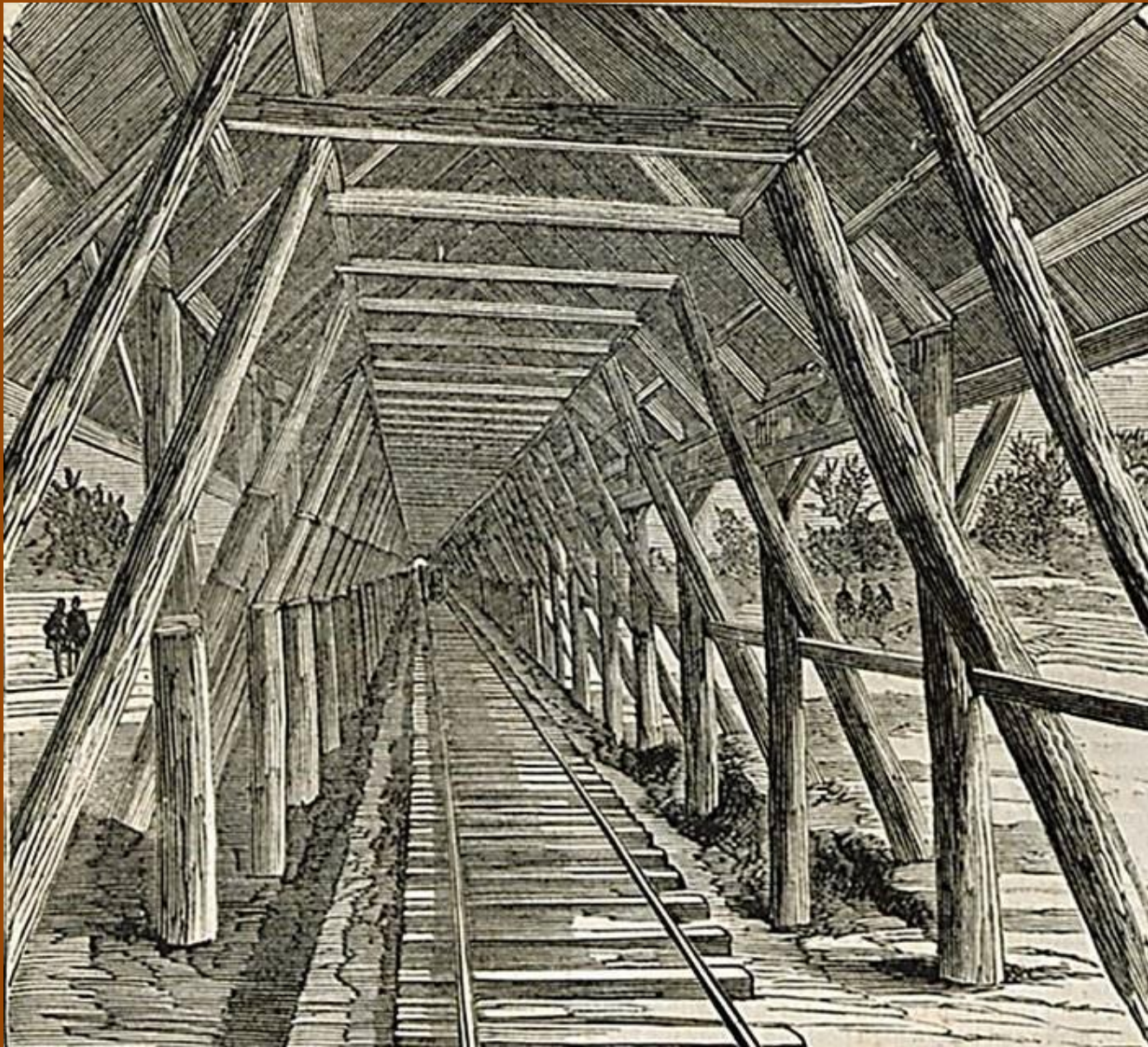


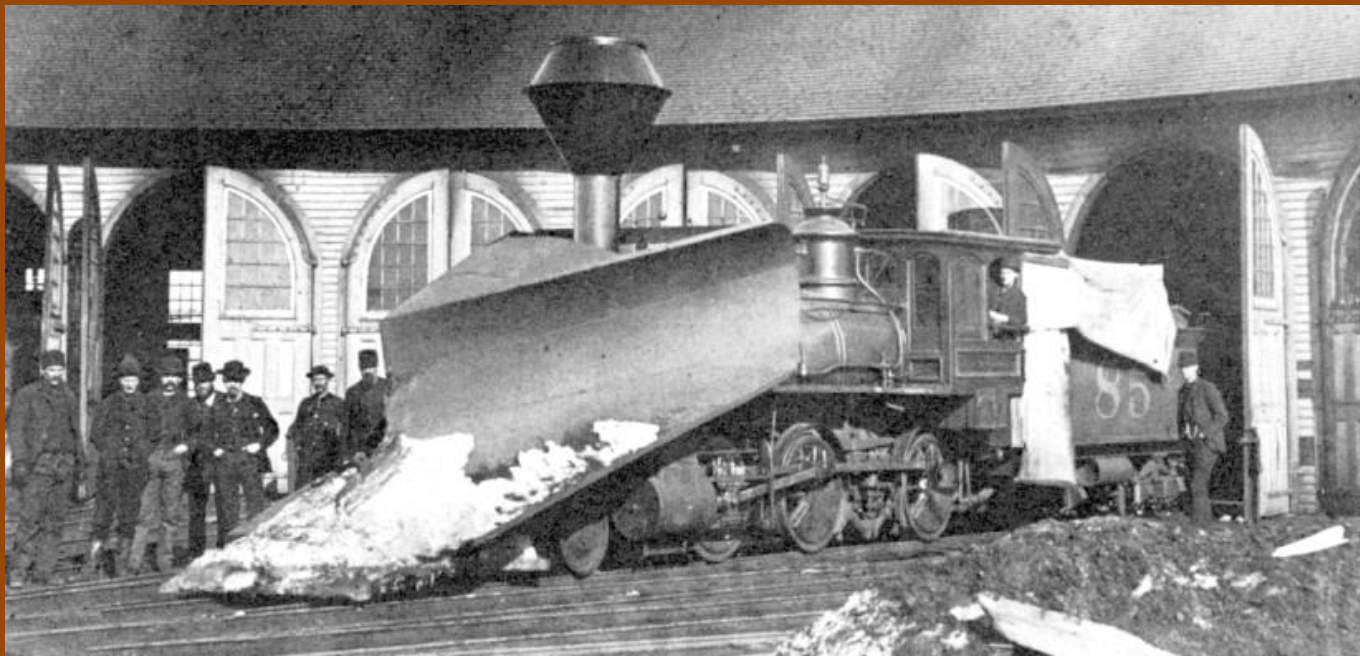


Approximately 4,500 men — half of CP's workforce — were occupied in clearing the tracks in the winters of 1866 and 1867



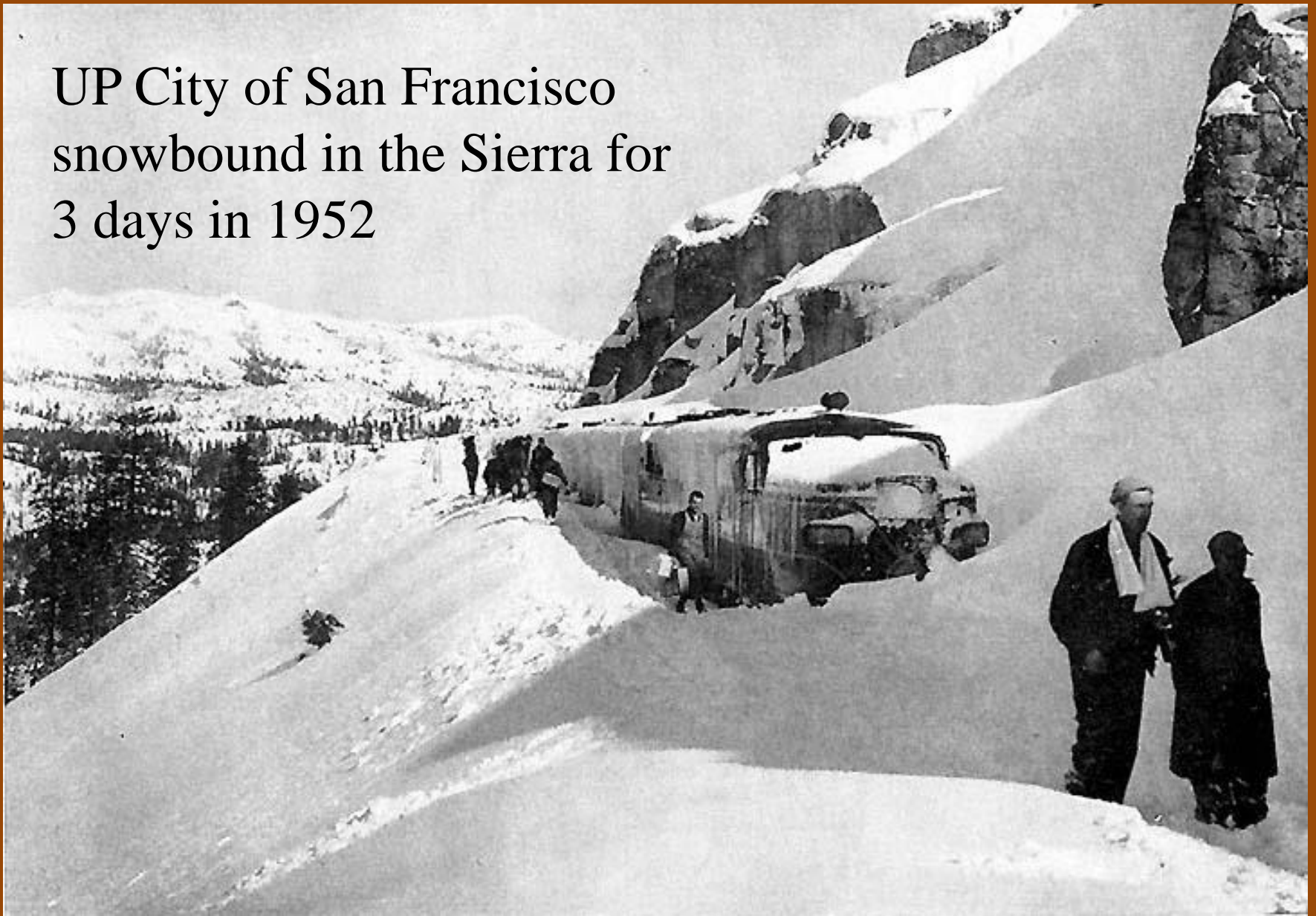








UP City of San Francisco
snowbound in the Sierra for
3 days in 1952





Thousand-Mile Tree



1869. MAY 10TH. 1869.

Great Event!

ATLANTIC TO THE PACIFIC

GRAND OPENING

UNION PACIFIC RAIL-ROAD

Via Omaha and Platte Valley.

OMAHA

BE THE ARRIVAL OF TRAINS FROM THE EAST.

THROUGH TO SAN FRANCISCO IN LESS THAN FOUR DAYS

ARRIVING THE PASSENGER OF THE WEST.

CONSIDER THE PLACING OF THE RAILROADS WILL BE A TRIP OVER THE ROCKY MOUNTAINS AND THE PACIFIC OCEAN.

LUXURIOUS CARS AND EATING HOUSES ON THE UNION PACIFIC R. R.

THE RAILROAD IS A LINE OF EATING HOUSES AND HOTELS. THE PASSENGER CARS ARE EQUIPPED WITH SEATING AND SLEEPING COMPARTMENTS. THE PASSENGER CARS ARE EQUIPPED WITH SEATING AND SLEEPING COMPARTMENTS.

GOLD, SILVER & OTHER MINERS

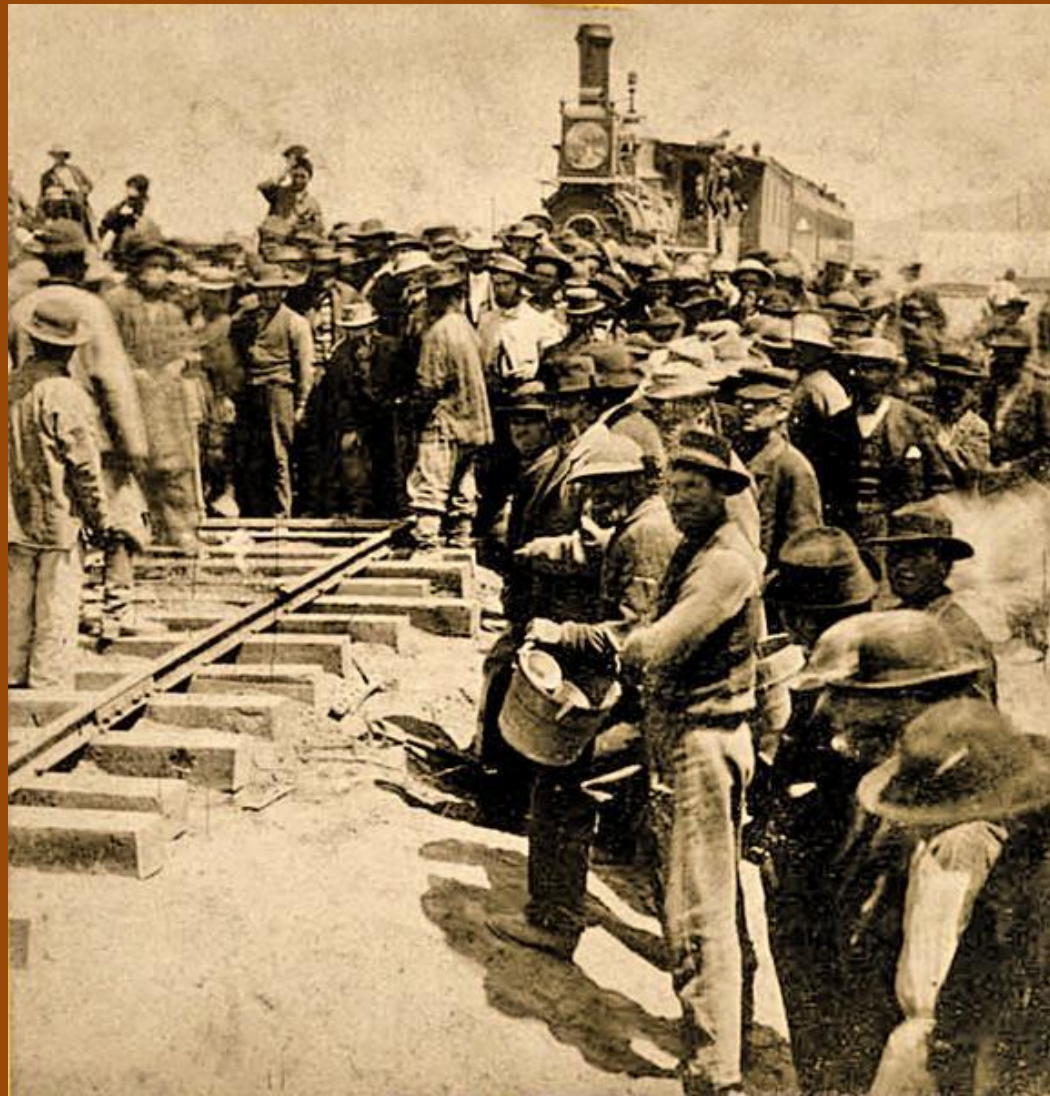
CALIFORNIA!

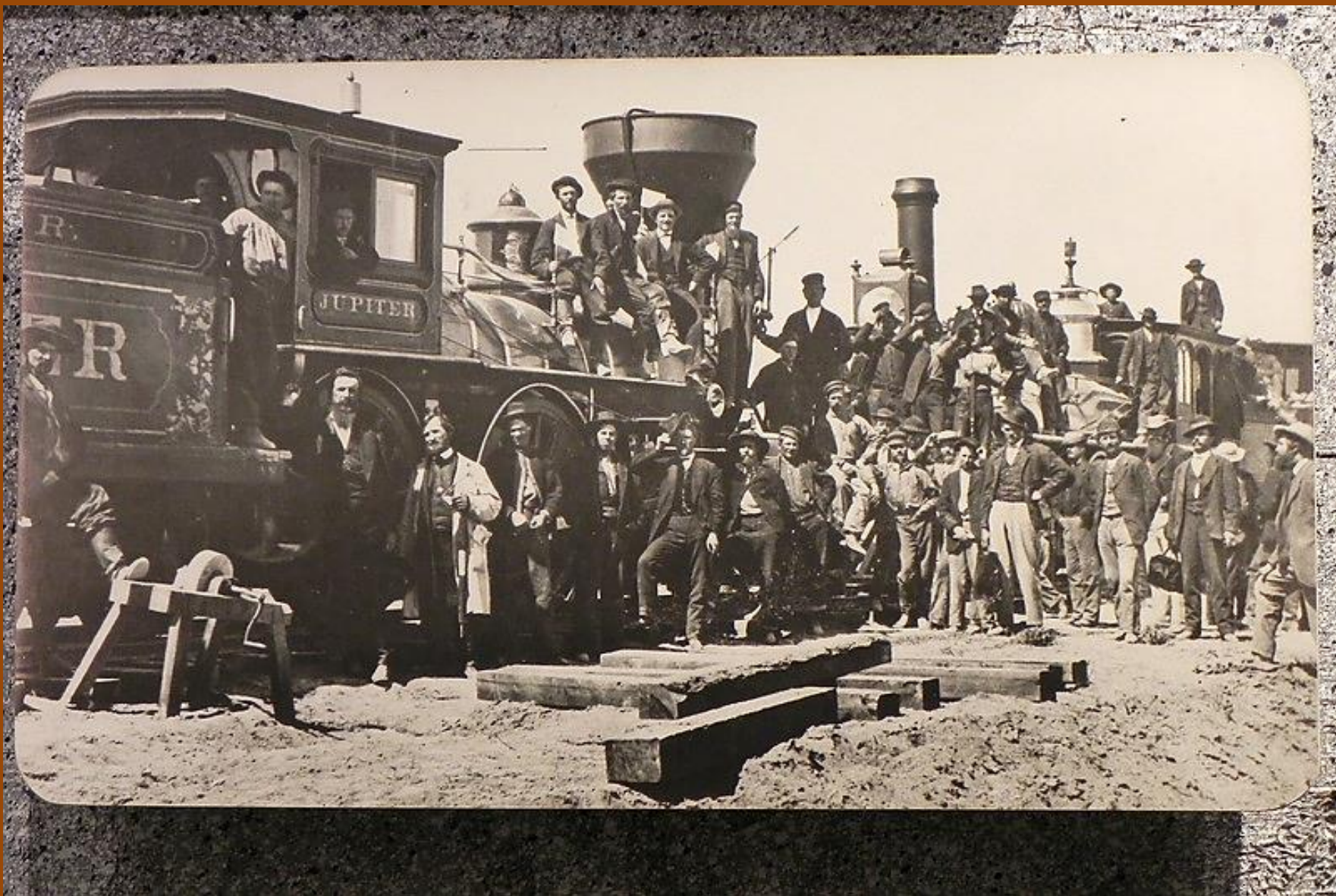
DENVER, CENTRAL CITY & SANTA FE.

At Ogden & Corralles De BILLY, VIRGINIA CITY, & LAKE CITY and LAUREL.

THROUGH TICKETS for sale at all principal Railroad Offices. Be sure that you read the PLATTE VALLEY or UNION PACIFIC RAILROAD.

A. S. JOHNSON, JAMES H. HARRIS, J. H. HARRIS, V. HARRIS.





The work crews hammered in an estimated 6.8 million spikes to 680,000 rails on 4.25 million ties, and at three strikes per spike, an estimated 20.4 million hard hits were made by trackmen swinging steel sledgehammers





“Done”

4 Ceremonial Spikes

were used during the festivities, 2 two golden spikes from California, 1 silver spike from Nevada, and 1 mixed ore/iron one to signify banding the country together. These spikes were never “pounded in” but rather they were “gently tapped” into a laurel wood railroad tie.

The last spike was wired to the transcontinental telegraph line so that Americans could listen as the actual final blows permanently linked East to West.

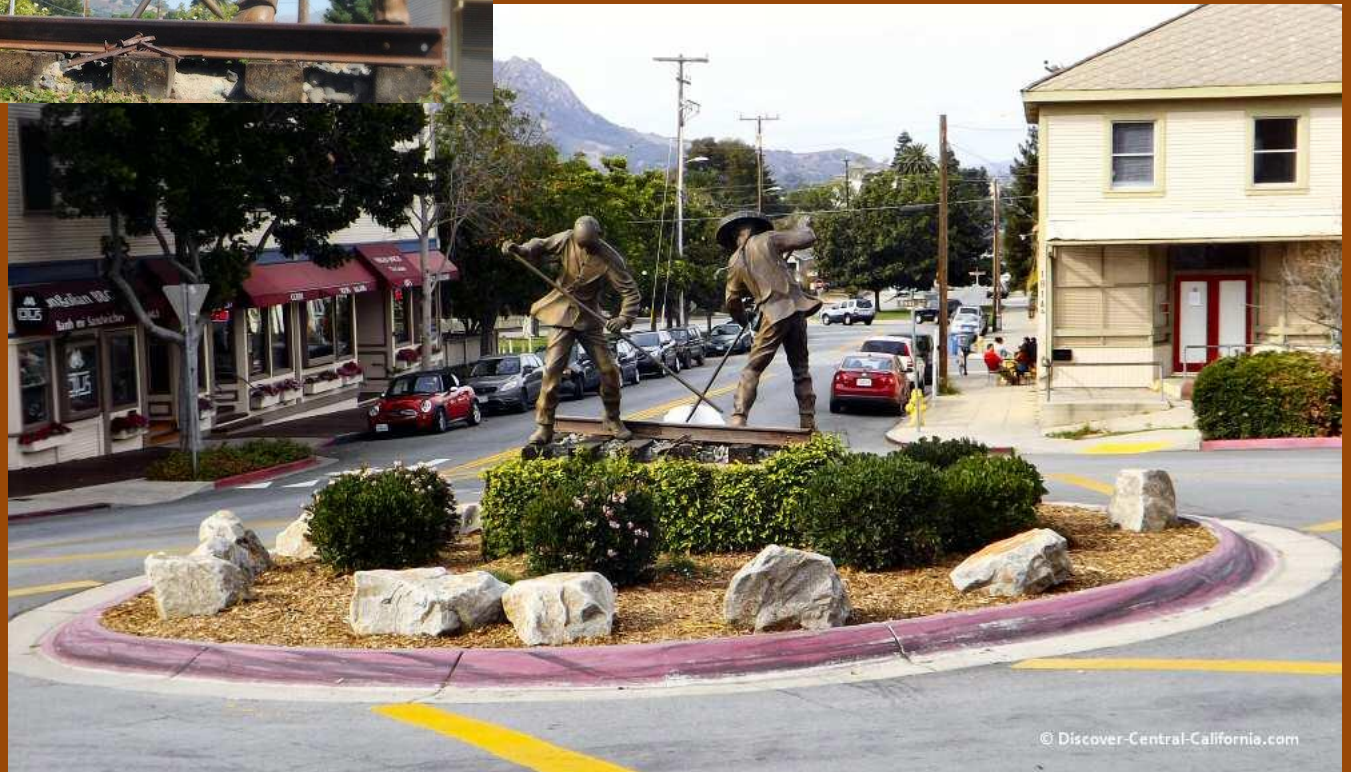


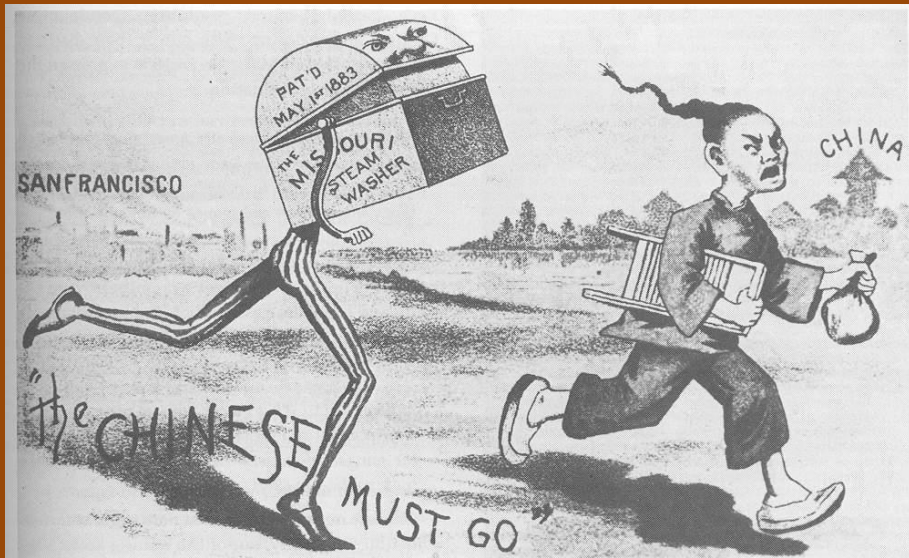
Three of the four original are displayed in museums. As for the fourth spike, the other gold one, it is theorized that a split-second Gold Rush ensued — in the crush of the crowd following the ceremony, an opportunistic bystander pried it loose.



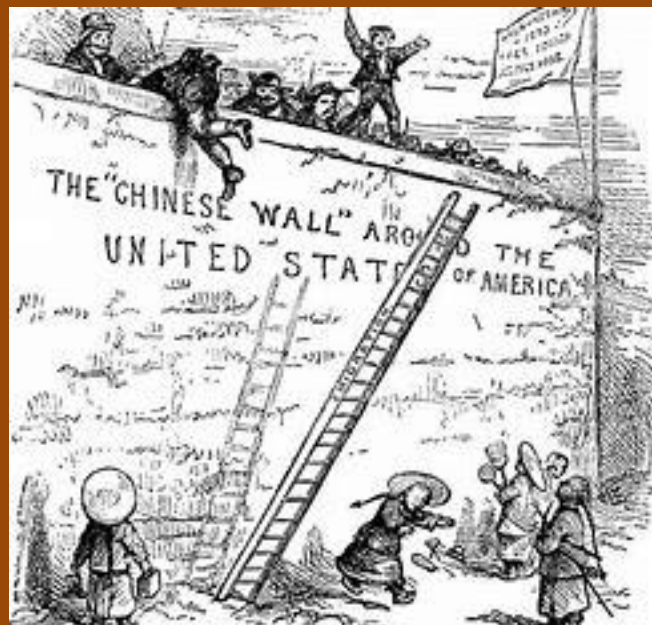
Iron Road Pioneers
sculpture
near the Amtrak station,
in San Luis Obispo

In Chicago
there was a
7 mile parade

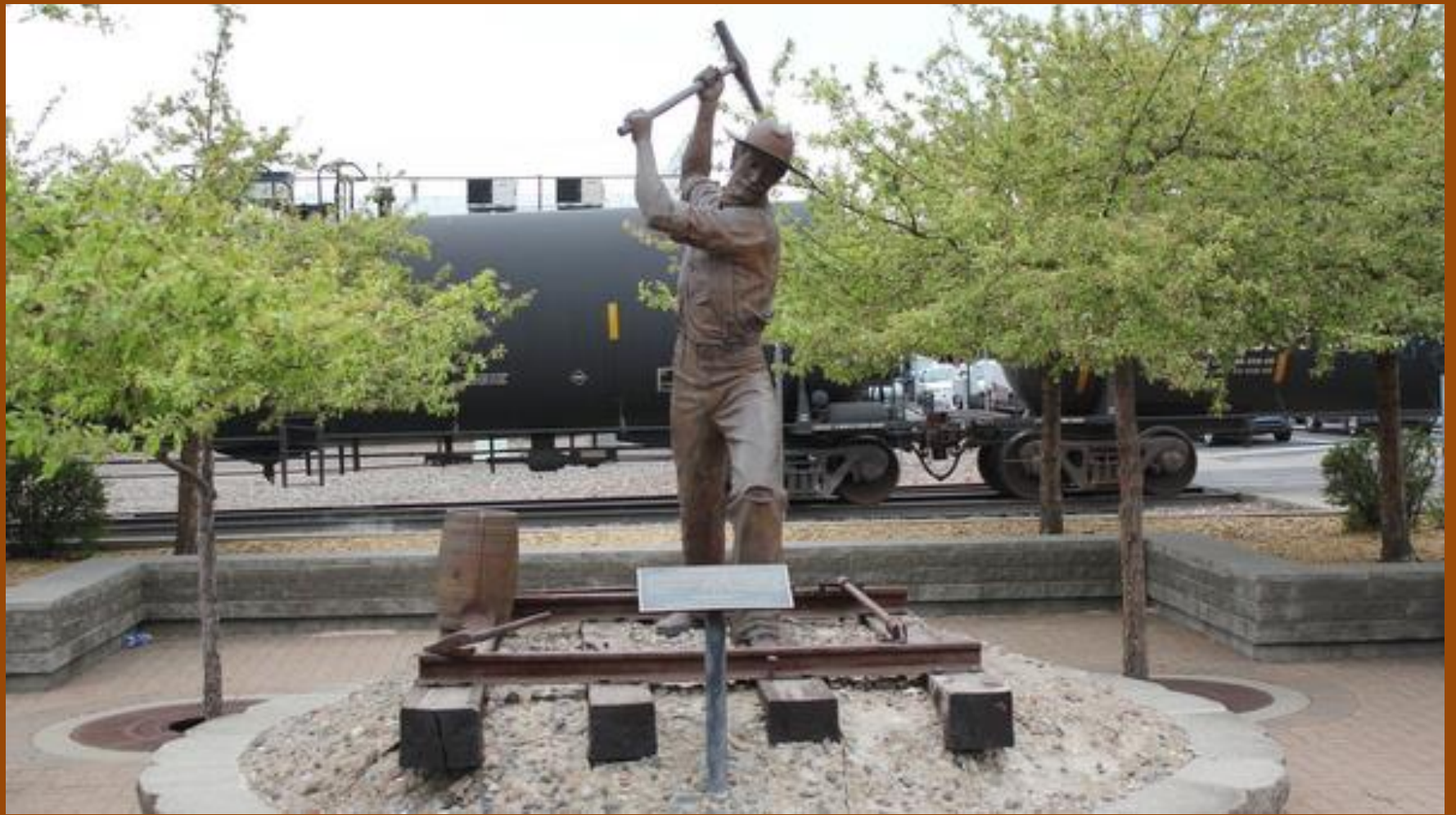




The anti-Chinese movement spread across the United States in the 1870s and 1880s.
(Library of Congress)



ANOTHER FIELD OF AMERICAN INDUSTRY INVADED BY THE CHINESE.
"No more Washee! Playee Base-ballee! Sallee out Gamc, allee same Melican man!"



1883 Northern and Southern Pacific Lines 1885 Canadian Pacific



A Trip West on the Transcontinental Railroad







Union & Central
PACIFIC
RAIL-ROAD LINE
TO
CALIFORNIA
Nevada, Oregon, Washington
 And all Trans-Pacific Points.

OMAHA,	Through the Fertile Farming Sections and Grand Stock Ranges of NEBRASKA, over the Union Division, Union Pacific Railway, to	CHEYENNE
ST JOSEPH,	Through NORTHERN KANSAS and SOUTHERN NEBRASKA, over the St. Joseph & Western Division of the Union Pacific Railway, to	OGDEN.
KANSAS CITY	Or LEAVENWORTH, over the Kansas Division, (formerly Kansas Pacific Ry.), through GEN- ERAL KANSAS, to Cheyenne and Ogden, via	DENVER.

Choice of Three Routes West from the Missouri River!

500 MILES THE SHORTEST ROUTE
SAN FRANCISCO
 PORTLAND
 AND ALL PORTS IN CALIFORNIA, OREGON, WASHINGTON AND BRITISH COLUMBIA.

PULLMAN AND SILVER PALACE DAY AND SLEEPING COACHES!
 Steel Bunk! Westinghouse Air Brakes! Miller Safety Platforms!
 ROTARY RECLINING-CHAIR CARS, through Kansas and Colorado.

AVOID ALL CIRCUITOUS ROUTES BY TAKING THE UNION & CENTRAL PACIFIC THROUGH LINE!

J. W. WIGGS, (Agent, Boston, Mass.) THOMAS L. SWINELL, (Agent, Portland, Ore.) E. E. GOODMAN, (Agent, Cheyenne, Wyo.) A. E. TOWNE, (Agent, San Francisco, Cal.)
 (Agent, Portland, Ore.) (Agent, Portland, Ore.) (Agent, Portland, Ore.) (Agent, Portland, Ore.)

M. T. DENNIS, New England Agent, 290 Washington St., Boston.

1869. **May 10th.** 1869.

GREAT EVENT
 Rail Road from the Atlantic to the Pacific
GRAND OPENING
 OF THE

Union Pacific
RAIL ROAD,
PLATTE VALLEY ROUTE.

PASSENGER TRAINS LEAVE
OMAHA
 ON THE ARRIVAL OF TRAINS FROM THE EAST.

THROUGH TO SAN FRANCISCO
 In less than Four Days, avoiding the Dangers of the Sea!

Travelers for Pleasure, Health or Business
 Will find a Trip over the New Route Healthy and Pleasant.

LUXURIOUS CARS & EATING HOUSES
 ON THE UNION PACIFIC RAIL ROAD.

PULLMAN'S PALACE SLEEPING CARS
 RUN WITH ALL THROUGH PASSENGER TRAINS.

GOLD, SILVER AND OTHER MINERS!
 Now is the time to seek your Fortune in Nebraska, Wyoming, Arizona, Washington, Dakota, Colorado, Utah, Oregon, Kansas, New Mexico, Idaho, Nevada or California.

CONNECTIONS MADE AT
CHEYENNE for DENVER, CENTRAL CITY & SANTA FE
 AT OGDEN AND COCKING FOR BEAVER, BUTTE CITY, VIRGINIA CITY, SALT LAKE CITY AND ARIZONA.

THROUGH TICKETS FOR SALE AT ALL PRINCIPAL RAILROAD OFFICES!
Be Sure they Read via Platte Valley or Omaha
 Company's Office 22 La Salle St., opposite City Hall and Court House Square, Chicago.
 CHARLES E. NICHOLS, Ticket Agent.

G. F. GILMAN, (Agent, Portland, Ore.) JOHN P. HART, (Agent, Portland, Ore.) J. H. DUD, (Agent, Portland, Ore.) W. SYDNEY, (Agent, Portland, Ore.)
 (Agent, Portland, Ore.) (Agent, Portland, Ore.) (Agent, Portland, Ore.) (Agent, Portland, Ore.)

UNION
AND
CENTRAL
PACIFIC
RAILROAD LINE

THE
GREAT AMERICAN
OVER-LAND ROUTE.

Read, McNally & Co., Printers and Engravers, Chicago.

TAKE THE
Only Direct Route,
THE OLD RELIABLE

UNION AND CENTRAL
PACIFIC R.R. LINE
OMAHA

SAVE 24 HOURS TIME
—AND—
FIVE HUNDRED MILES IN DISTANCE TO
San Francisco
AND ALL POINTS ON THE PACIFIC COAST.

SPEED! COMFORT!! SAFETY!!!
Steel Rails,
MILLER PLATFORMS, AIR BRAKES

J. W. MORSE, Gen'l Pass. Agent,	T. H. GOODMAN, Gen'l Pass. and Ticket Agt.
THOS. L. KIMBALL, Ass't Gen'l Manager.	A. N. TOWNE, General Superintendent.
UNION PACIFIC R'Y, Omaha, Nebraska.	CENTRAL PACIFIC R. R. San Francisco, Cal.

2-2-81—636 Jan.

Read, McNally & Co., Printers, Chicago.

UNION PACIFIC RAILROAD

TIME SCHEDULE No. 3

TO TAKE EFFECT

SUNDAY, NOVEMBER 4, 1866.

FOR THE GOVERNMENT AND INFORMATION OF EMPLOYEES ONLY.

Trains leave Omaha & Brady Island daily, Sunday excepted.

Bound West.		NAMES OF STATIONS.		Bound East.	
TRAIN No. 3.	TRAIN No. 1.			TRAIN No. 2.	TRAIN No. 4.
7.00 P. M.	1.30 P. M.	OMAHA.	mi	6.40 A. M.	12.20 P. M.
8.10 "	2.40 "	PAPILLON.	mi	5.50 "	11.30 A. M.
9.35 "	4.15 "	HEMLOCK.	mi	4.45 "	10.25 "
11.00 "	5.45 "	FREMONT.	mi	3.30 "	9.10 "
12.15 A. M.	7.00 "	NORTH BEND.	mi	2.30 "	8.05 "
1.25 "	8.15 "	NEELY CREEK.	mi	1.25 "	6.55 "
3.00 "	9.30 "	COLUMBUS.	mi	12.30 "	6.00 "
4.45 "	11.10 "	SILVER CREEK.	mi	11.10 P. M.	4.45 "
6.15 "	12.30 A. M.	LONG CREEK.	mi	9.30 "	3.30 "
7.45 "	2.00 " Arr.	GRAND ISLAND.	mi	7.40 "	2.10 "
8.00 "	2.10 " Dep.	GRAND ISLAND.	mi	7.30 "	2.00 "
9.30 "	3.40 "	WOOD RIVER.	mi	6.25 "	12.40 "
11.00 "	5.10 "	KELSO.	mi	5.00 "	11.00 P. M.
12.30 P. M.	6.40 "	ELM CREEK.	mi	3.30 "	9.30 "
2.05 "	8.10 "	PLUM CREEK.	mi	2.05 "	8.00 "
3.45 "	9.50 "	WILLOW ISLAND.	mi	12.45 "	6.35 "
5.15 "	11.30 "	BRADY ISLAND.	mi	11.30 "	5.20 "

REGULAR MEETING PLACES ARE INDICATED BY FULL FACED FIGURES.

SEE RULES ON BACK.



CENTRAL PACIFIC RAILROAD.

Sacramento, Oct 14 1869.

Pass H. A. Martine
to Promodory
West Pacific Ry Co
S. L. and Stanford

First Class Hotels and Eating Houses at Convenient Points on the Road.

UNION & CENTRAL PACIFIC R. LINE.

ONLY ALL RAIL ROUTE

ACROSS THE

American Continent.



C. G. HAMMOND, Gen'l Supt., U. P. R. R., Omaha, Neb.
FRANS. COLTON, Gen. Pass. Agt., "
A. N. TOWNE, Gen. Supt., C. P. R. R., Sacramento, Cal.
T. H. GOODMAN, Gen. Pass. Agt., "

OMAHA REPUBLICAN RAILROAD PRINTING HOUSE.

EVERY ATTENTION GIVEN TO THE COMFORT AND SAFETY OF PASSENGERS

UNION AND CENTRAL PACIFIC RAILROAD LINE



THE GREAT AMERICAN OVER-LAND ROUTE.

D. W. HITCHCOCK, Gen. Western Pass. Agt.,
W. H. MEAD, Ex. & Eastern Gen. Pass. Agt.,
Traveling Agent SAN FRANCISCO, CAL.

FRANK M. WELLS, JR.

BE SURE TO READ THIS!

The Union Pacific Railway company owns and operates nearly 4,000 miles of railway. It is the great arterial short line across the American continent, and offers its passengers a choice of fine up-to-date routes eastward from Cheyenne, Wyoming. It has been the mainstay of commerce in these great states and territories since its inception. It is everywhere the most favorite railway, and no passenger or express is spared in providing for the comfort and safety of its patrons. With its connecting lines, it passes through the great business belt of the Union, and forms the great connecting link between the two oceans and over its line passes the commerce of the two continents. Its rates are always as low as the lowest; its equipment is constantly improving; its equipment, management, and its appliances for the comfort and safety of passengers equal at all times to the best. Remember it is the Old Reliable Central Short Line. Buy your tickets via this line and take no other. Note the table below showing the actual difference in distance in favor of the Central and Union Pacific Railway Line.

THE OLD RELIABLE UNION AND CENTRAL PACIFIC RAILROAD LINE

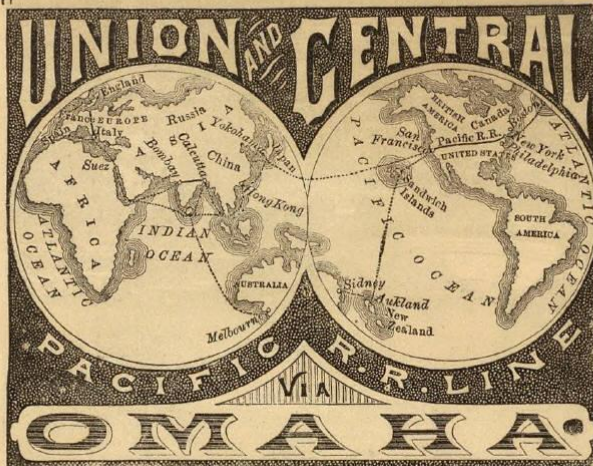
is the shortest route from San Francisco to the principal Eastern and Western Cities by from 250 to 525 Miles, as will be seen from the following table showing the actual difference in distance in favor of the Great Trans-Continental Line.

EASTERN CITIES.		MILES.
To BOSTON, shorter by	437	
To NEW YORK, shorter by	424	
To WASHINGTON, shorter by	386	
To CINCINNATI, shorter by	386	
To ST. PAUL, shorter by	535	
To CHICAGO, shorter by	477	
To ST. LOUIS, (via Kansas City) shorter by	351	
WESTERN CITIES.		MILES.
To OMAHA. The Only Line from the Coast.	251	
To KANSAS CITY, shorter by	312	
To ATCHISON, shorter by	319	
To DENVER, shorter by	370	
To FUELLO, shorter by	386	
To LEADVILLE, shorter by		
To ST. JOSEPH. The Only Line from the Coast.		

PASSENGERS SAVE
FROM 24 TO 42 HOURS IN TIME.
SHIPPERS SAVE 50 HOURS IN TIME ON FREIGHT, AND 24 HOURS ON EXPRESS.

The Old Reliable Line. Well Equipped Round-Bed. Comfortable Sleepers. Pullman and Buffet. Palace Day and Sleeping Coaches. Excellent Shoppers. Air Brakes. All Modern Improvements. Excellent Equipment. Picturesque Landscapes.

The Only Great Through All Rail Route
ACROSS THE CONTINENT,
 IS THE



226 MILES SAVED
 BY TAKING THIS ROUTE TO
SALT LAKE CITY, SACRAMENTO,
SAN FRANCISCO,
 AND ALL POINTS IN THE

Sandwich Islands, Australia, New Zealand,
JAPAN, CHINA & INDIA
 From CHICAGO and Eastern Cities.

135 Miles the SHORTEST Route from
INDIANAPOLIS.

117 Miles the SHORTEST Route from
CINCINNATI.

25 Miles the SHORTEST Route from
ST. LOUIS AND KANSAS CITY.

FIVE HOURS the QUICKEST Route
FROM CHICAGO TO

DENVER, COLORADO,
NEW MEXICO AND ARIZONA.

Excursions to DENVER and SALT LAKE, in parties of 20 or more, and to CALIFORNIA and back, can be arranged by addressing
W. C. THOMPSON, **THOS. L. KIMBALL,**
Ass't G. T. A. *Gen'l Ticket Agent, OMAHA.*

Rand, McNally & Co., Printers, Engravers, etc., 108 West Randolph St., Chicago.

Pullman's Palace Cars



Are the **FINEST DAY and SLEEPING COACHES**
 in the World.

Are the **FINEST DAY and SLEEPING COACHES**
 in the World.

These cars are so constructed as to combine the convenience and elegance of a private parlor by day, and the comforts of a well-furnished bed chamber by night—clean bedding, thick hair mattresses, thorough ventilation, etc., etc. Conductors and porters accompany each car, to provide for the wants of passengers.

DOUBLE BERTHS.

New York to Chicago or St. Louis,.....	(currency,) \$5 00
Chicago or St. Louis to Omaha,.....	3 00
Omaha to Ogden,.....	2 00
Ogden to San Francisco,.....	6 00

DENVER PACIFIC R. R. TIME TABLE.

Fit.	Exp.	M.	Going N'th. STATIONS.	Going S'th.	Exp.	Fit.
	A.M.		Leave.	Arrive.	P.M.	P.M.
7 15	8 10		..... Denver,.....	6 30	4 50	
	8 20	2	..... Outer Depot,.....	6 15		
	9 00	19	..... Hughes,.....	5 30		
	9 30	32	..... Johnson,.....	4 57		
	10 06	48	..... Evans,.....	4 17		
11 45	10 16	52	..... Greeley,.....	4 05	12 05	
	10 50	66	..... Pierce,.....	3 28		
	11 23	86	..... Carr,.....	2 40		
	11 55	96	..... Summit Siding,.....	2 10		
4 30	12 25	106	..... Cheyenne,.....	1 45	6 40	
P.M.	P.M.		Arrive.	Leave.	P.M.	A.M.

J. J. T. BALL, General Agent, U. P. R. R., Denver, Col.

UTAH CENTRAL R. R. TIME TABLE.

Pass.	Pass.	Ac'n	M.	Going N'th. STATIONS.	Going S'th.	Pass.	Pass.	Ac'n
A.M.	P.M.	P.M.		Leave.	Arrive.	A.M.	P.M.	A.M.
5 00	2 45	5 30		..... Salt Lake City,.....	10 00	7 30	7 46	
5 28	3 13	6 07	9	..... Wood's Crossing,.....	9 33	7 03	7 10	
5 36	3 21	6 18	11	..... Centerville,.....	9 24	6 54	6 59	
5 53	3 38	6 41	15	..... Farmington,.....	9 11	6 41	6 30	
6 12	3 67	7 11	20	..... Kaysville,.....	8 51	6 21	6 13	
7 00	4 45	8 15	36	..... Ogden,.....	8 00	5 30	5 00	
A.M.	P.M.	P.M.		Arrive.	Leave.	A.M.	P.M.	A.M.

A. H. EARLE, General Agent U. P. R. R., Ogden, Utah.

AMERICAN RAILWAY



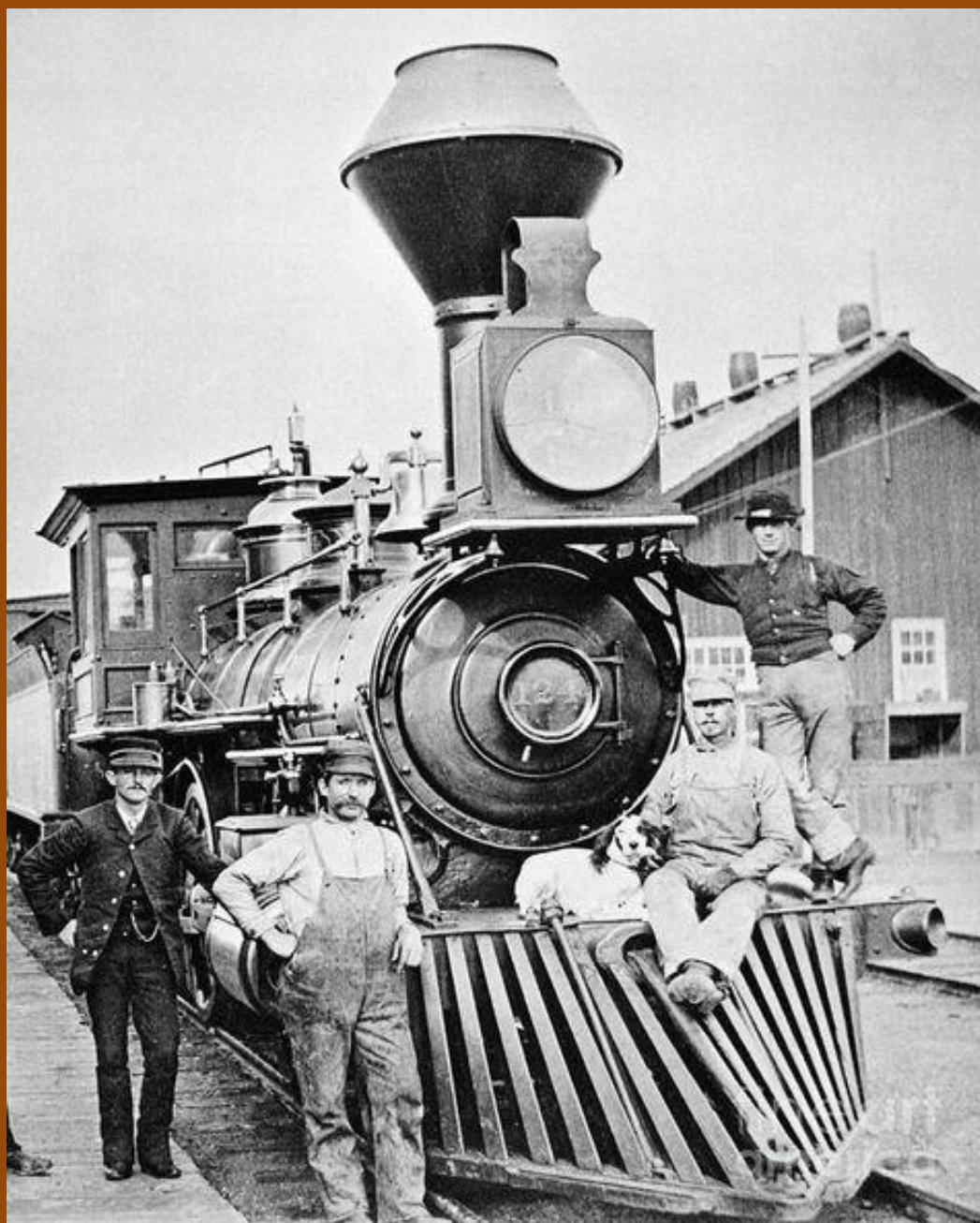
J.W. ORR N.Y.

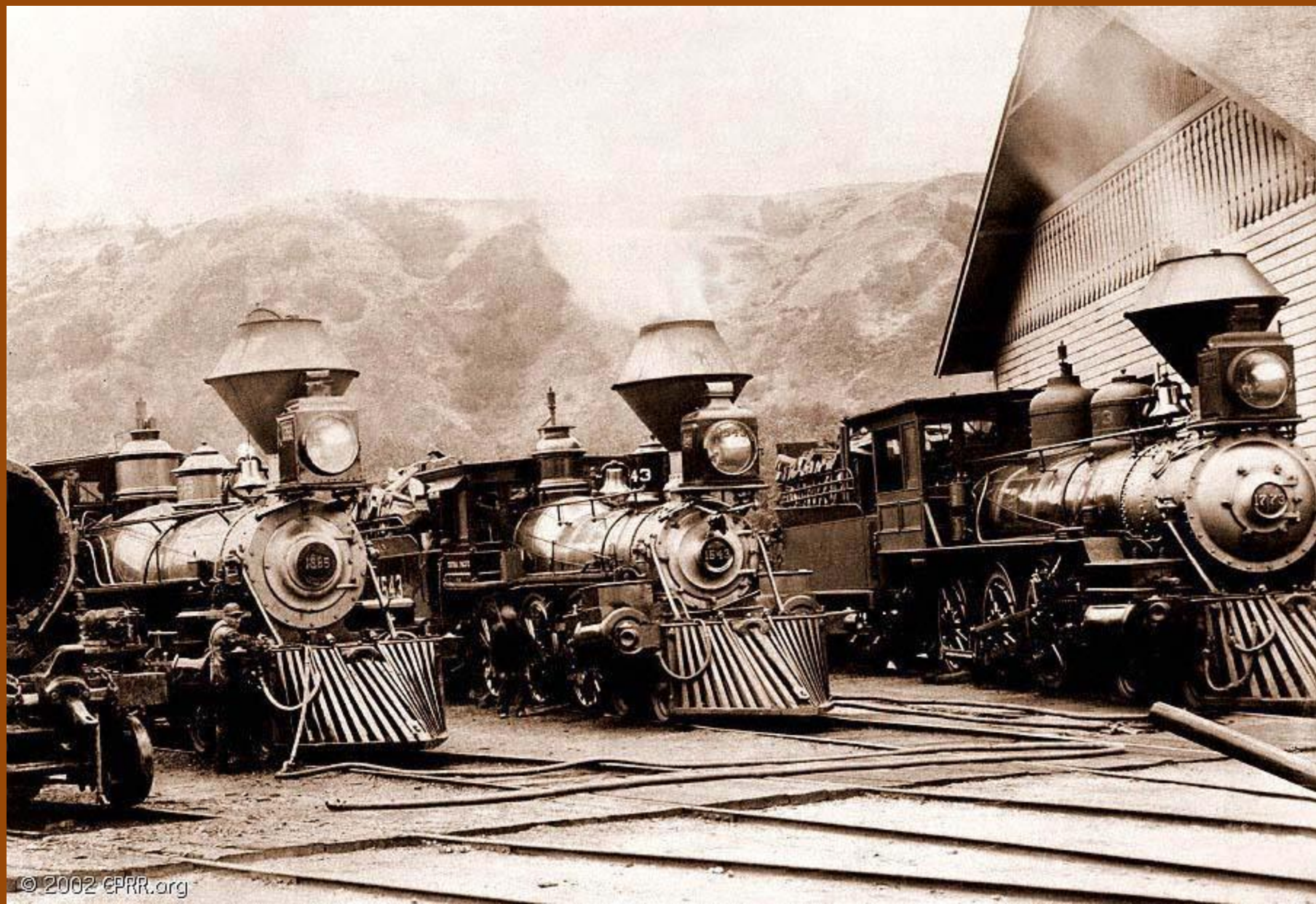
GUIDE

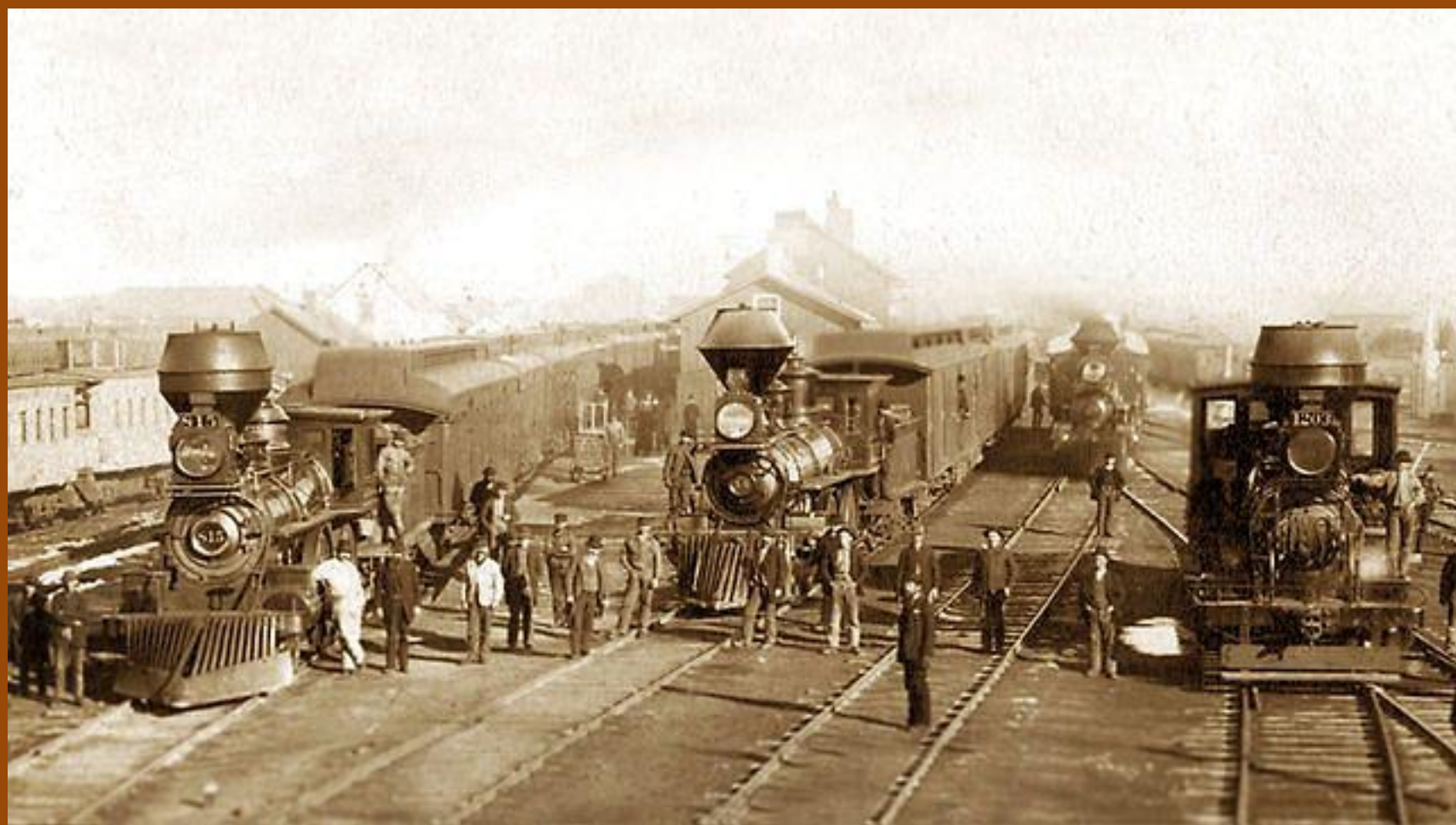
FOR THE
UNITED STATES:

SEPTEMBER, 1852.

NEW-YORK:
CURRAN DINSMORE & Co.,
22 SPRUCE STREET.





















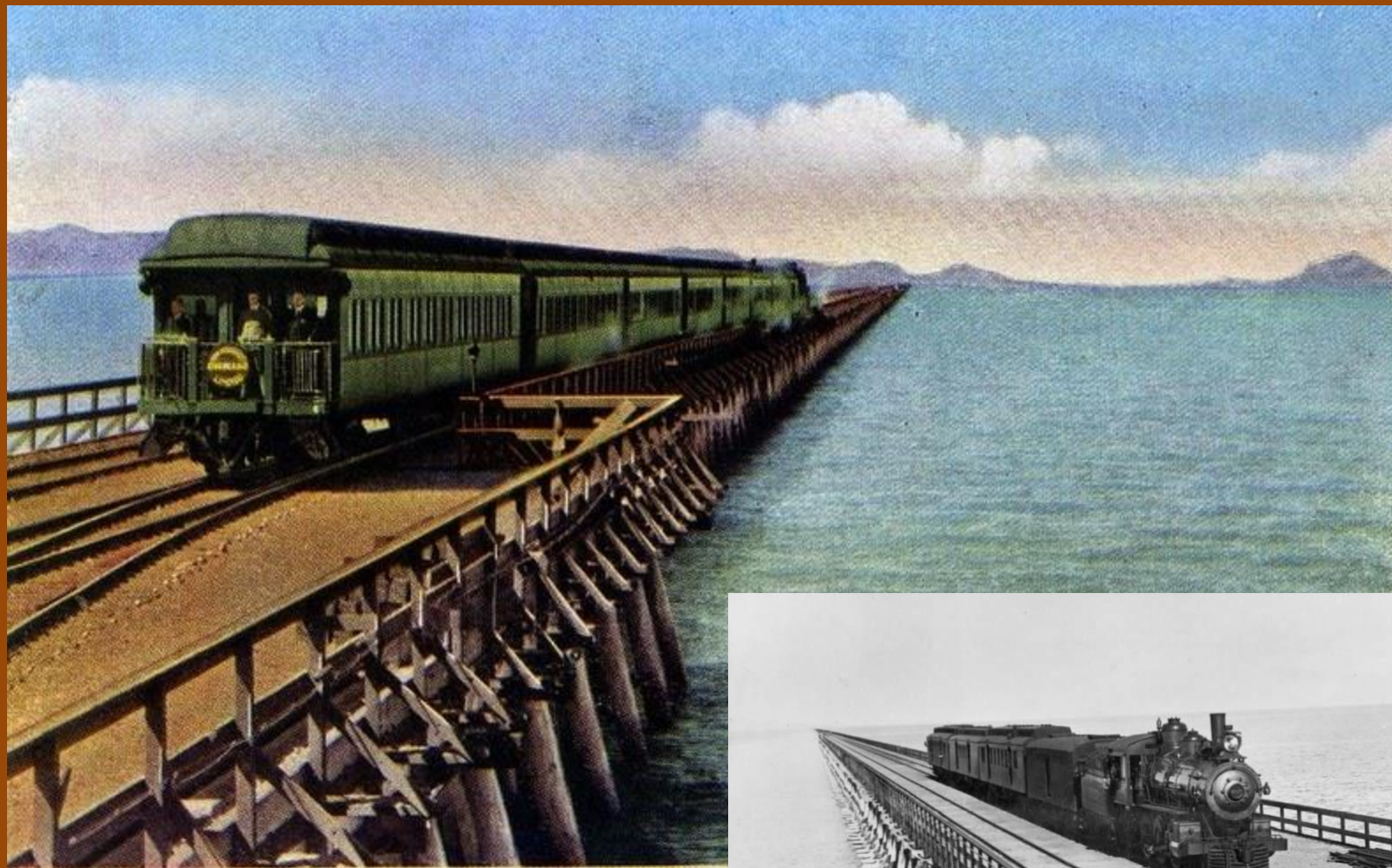






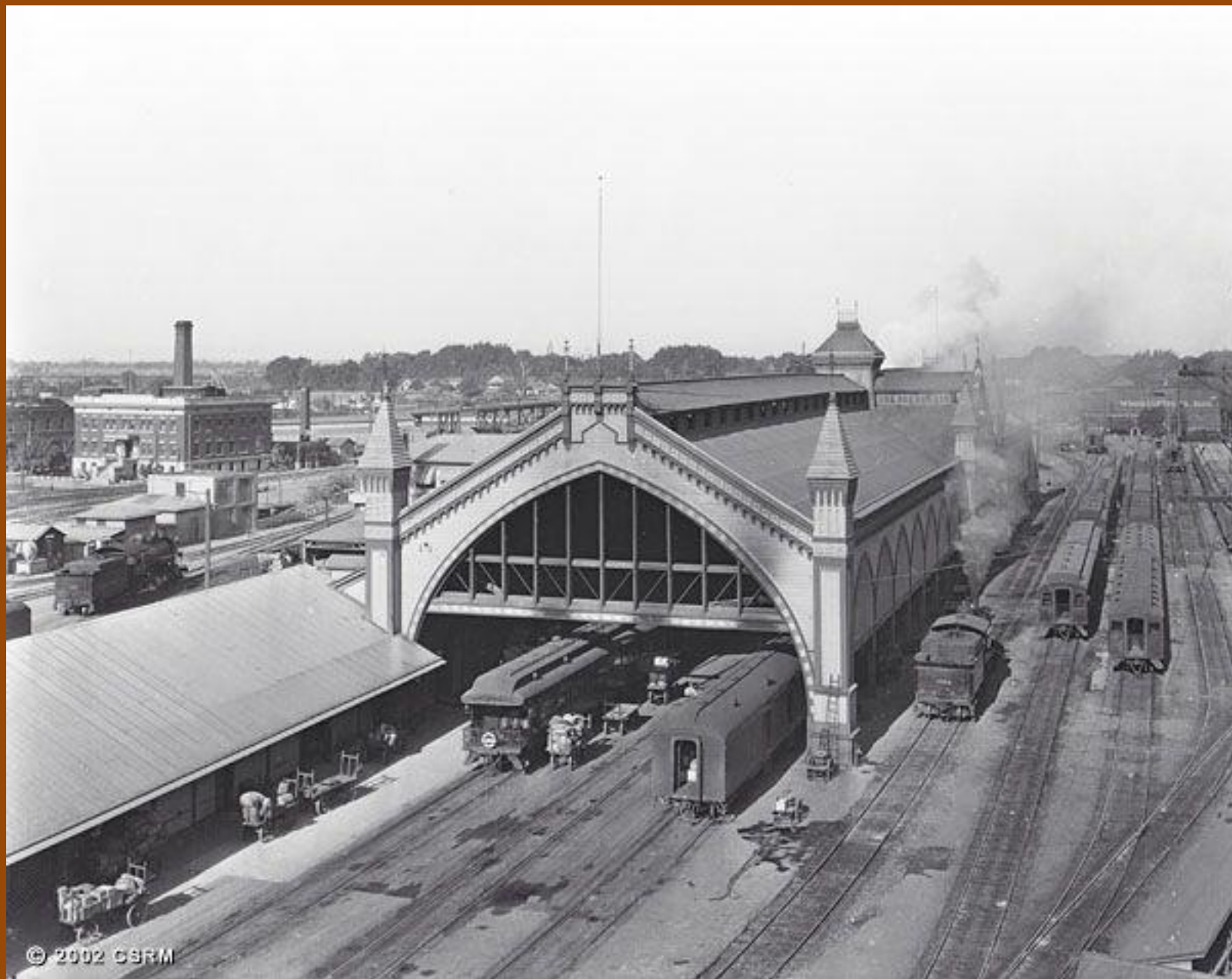






8327. Lucin Cut-off, Across Great Salt Lake







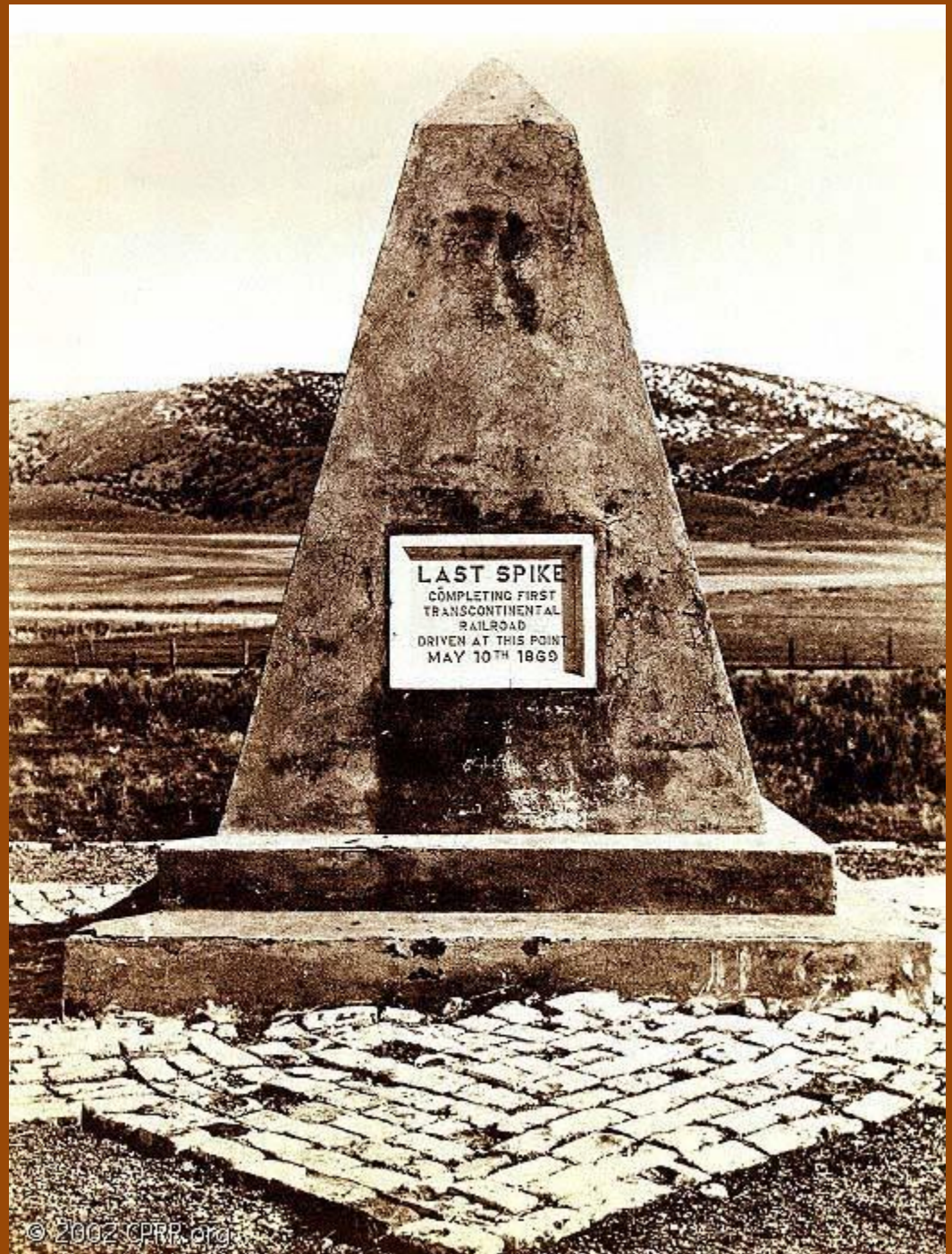








5
transcontinental
lines were
completed by
the end of the
century
and 3 in Canada



by Charles
Paidock

