The Politics, Economics, and Technology of Early Railroad Development in Vermont

and the

Montpelier & Wells River Railroad

The Plainfield Historical Society

January 31, 2016

Frank J. Barrett, Jr.

The Program

Part I

The Politics, Economics, and Technology of Early Railroad Development in Vermont

1825 to 1855

(BREAK)

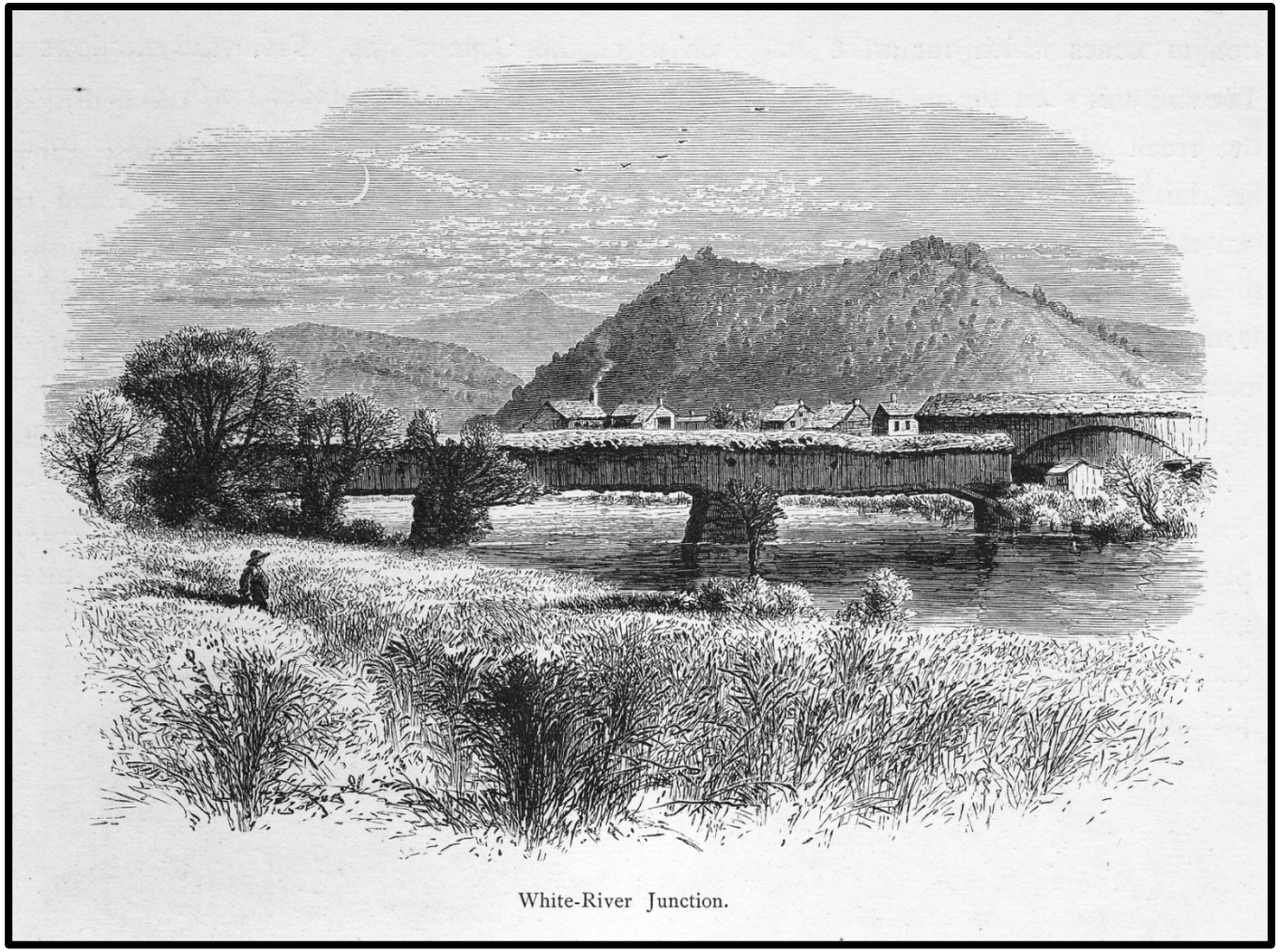
Part II

The Montpelier & Wells River Railroad

1867 - 1956

Part I

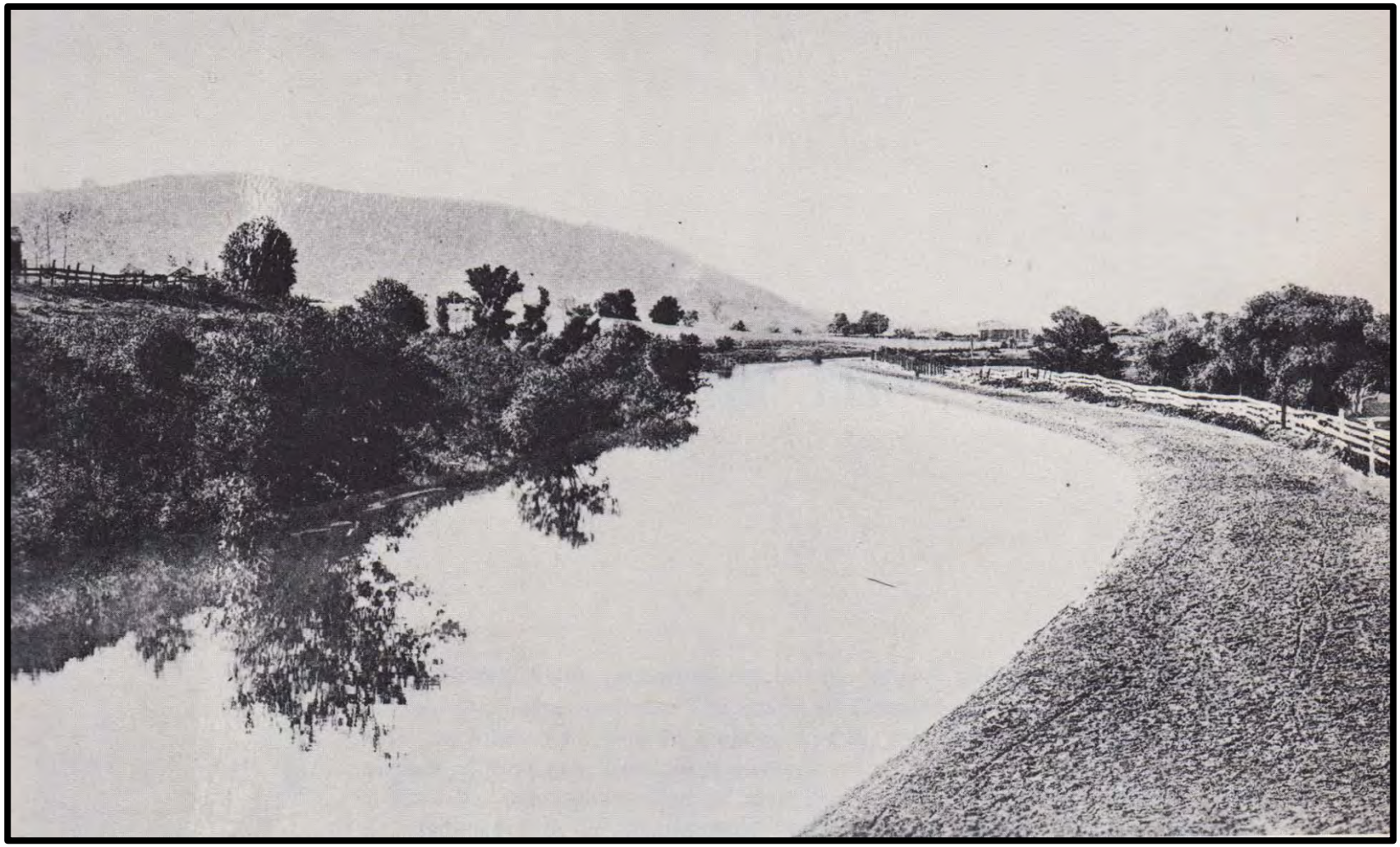
The Politics, Economics, and Technology of Early Railroad Development in Vermont 1825 to 1855



White-River Junction.

The Question:

What Brought the Confluence of Railroads into the Upper Connecticut River Valley and Vermont in the late 1840's?



The Answer:

The Erie Canal thru the Mohawk Valley of New York

Opened in October 1825.

Connected New York City with the Great Lakes and Canada.

The Erie Canal Was a Political Success

Cost to the State of New York:

$7,143,789.66

Period of Construction:

July 4, 1817 to October 26, 1825

(8 years, 3 months)

For the first time in this country a government was engaged in the funding of a large scale transportation internal improvement project.

The Erie Canal Was an Engineering Success

363 Miles Long

83 Locks

18 Aqueducts

Approximately 300 Bridges

Greatly advanced the knowledge of civil engineering and construction practices.

The Erie Canal Was an Economic Success

Cross State Travel Time:

4 to 6 Weeks Dropped to 6 Days

Freight Transportation Costs:

$95 to $125 ton Dropped to $4 to $6 ton

Established great economic growth along the length of the canal and at New York City.

The Geographical Problem:

Mislocated Colonial Ports

From the American Traveler of Boston in 1825

"Is Old Massachusetts in her palsied Dotage? Is her sun of prosperity … setting, to rise no more? This sun with increasing splendor is irradiating the hills of the Hudson and fertile vales of New York. Where are the thousand ships of the Bay State, her accumulated wealth of two centuries? Has the building of a few roads and the cutting of one canal, or rather, ditch of inconsiderable distance satisfied her ambitions and put her 'at ease in her possessions'?" signed "Shadrack"

-The First Reative Solution-

Build a Canal to Connect Boston with Albany

Surveying work undertaken spring thru fall of 1825

Report made to the Massachusetts Legislature in 1826

Very noted American Civil Engineer Loammi Baldwin, Jr.

Boston to Albany = 160 miles plus.

To get over the Berkshire Mountains alone would require

220 locks in 18 miles of channel;

and take boats 2 days to pass thru those locks.

An alternative was to tunnel thru the mountains.

Total estimated cost = $6,023,172.

-By 1830-

New England

Was Loosing population and economically stagnating.

Boston

Was deeply concerned for it's economic future and continued trade dominance.

Upper New York State & New York City

Were both gaining population and economically booming.

-Vermont Gets Canal Fever-

- ***June 30, 1825 a meeting in Montpelier to discuss east – west Canal development across the state of Vermont.***

- ***By 1827 U. S Army Topographic engineers were surveying canal routes through the Brookfield and Williamstown area of the Green Mountains.***

- ***February 10, 1829 / 20th Congress / Document No. 118 "Canal – Connecticut river to lake Memphremagog".***

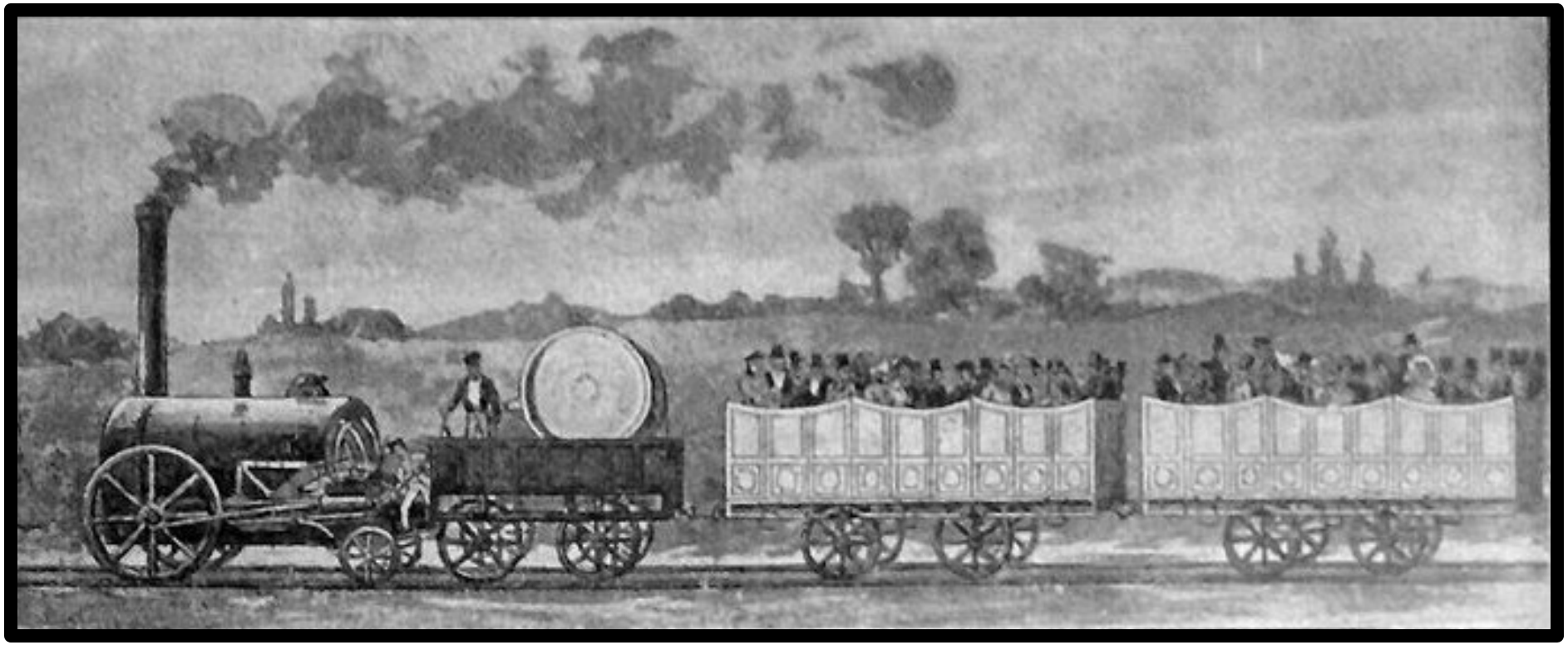
- ***March 25, 1836 U. S. House Document No. 190 "Canal – Wells River to Burlington, Vermont".***

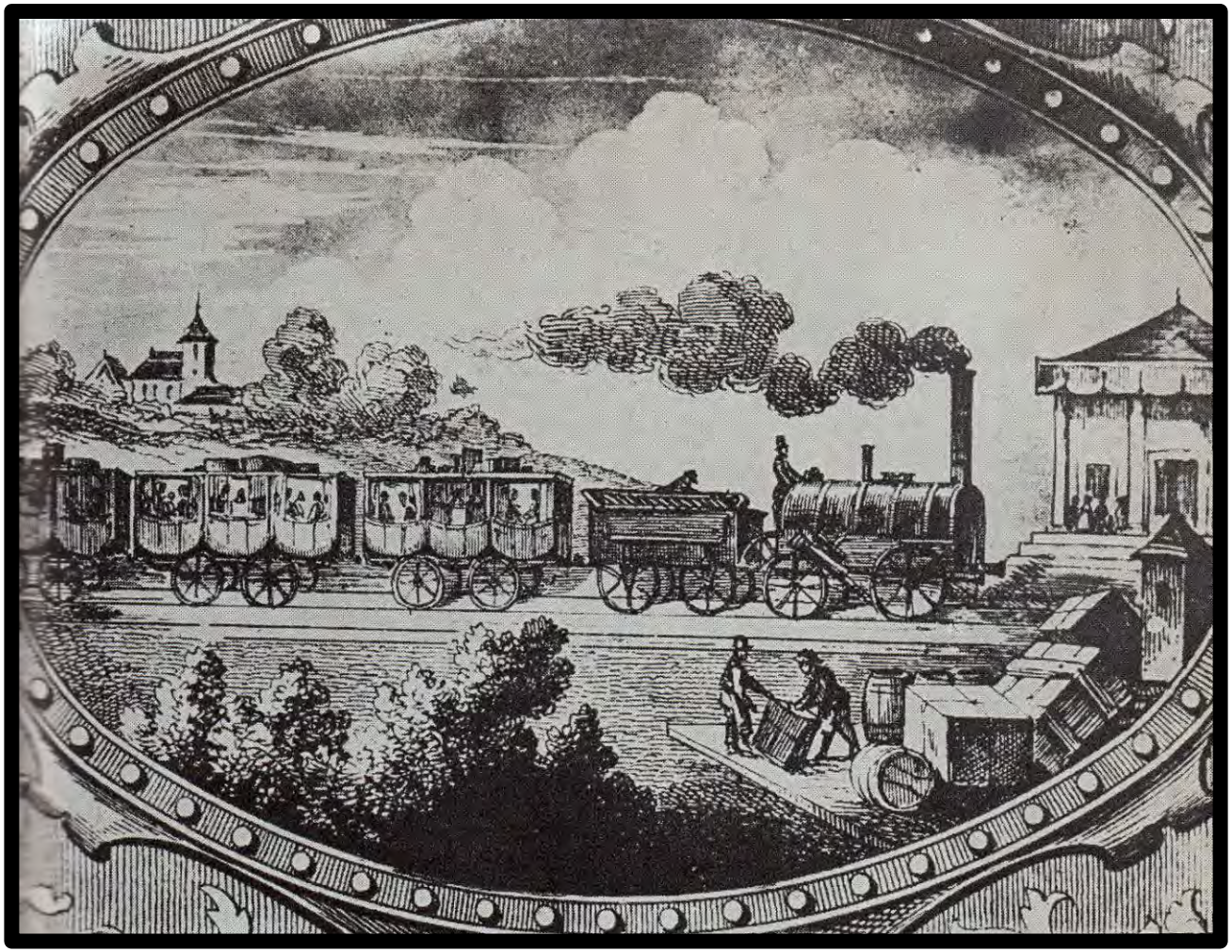
- ***A route from Bradford up the Waits River was also examined.***

-A Possible Technological Solution-

The recent British invention called the steam powered railroad

The Stockton & Darlington Railway in Great Britain
Opened September 27, 1825





-The Concept-

Railroads could connect Boston with Albany, New York State, and the Great Lakes in the Upper Mid-West.

Massachusetts Charters Three Railroads

- **Boston & Lowell Railroad**
  - Chartered June 8, 1830
  - Boston to Lowell
- **Boston & Providence Railroad**
  - Chartered June 22, 1831
  - Boston to Providence, RI
- **Boston & Worchester Railroad**
  - Chartered June 23, 1831
  - Boston to Worchester

The Western Railroad of Massachusetts
Connected Boston to Albany

Grew out of the Boston & Worchester Railroad

Built 1833 - 1841

Completed to Albany in December 1841

Was about 155 miles long

Cost about $9,000,000 / $4,000,000 loaned from the State of Massachusetts

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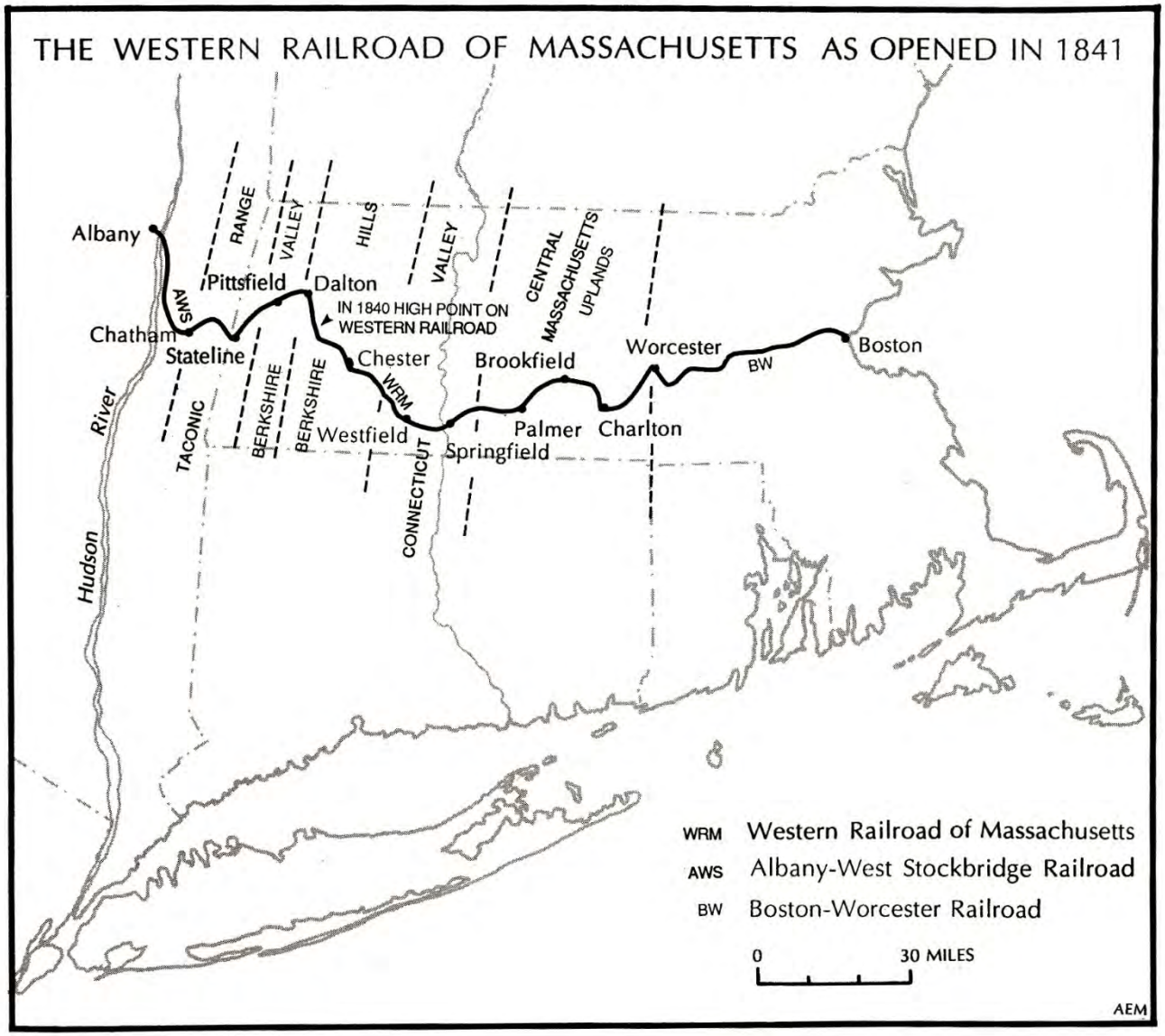
It was the first long distance railroad in America

Was very expensive to build

Had very steep grades

It did not bring the economic advantages hoped for it.



The Western Railroad of Massachusetts

The first long distance railroad in America – Opened in 1841

-Boston, Massachusetts-

By 1840 early railroads were radiating out from the city heading north, west and south.

Financed by Boston and British interests.

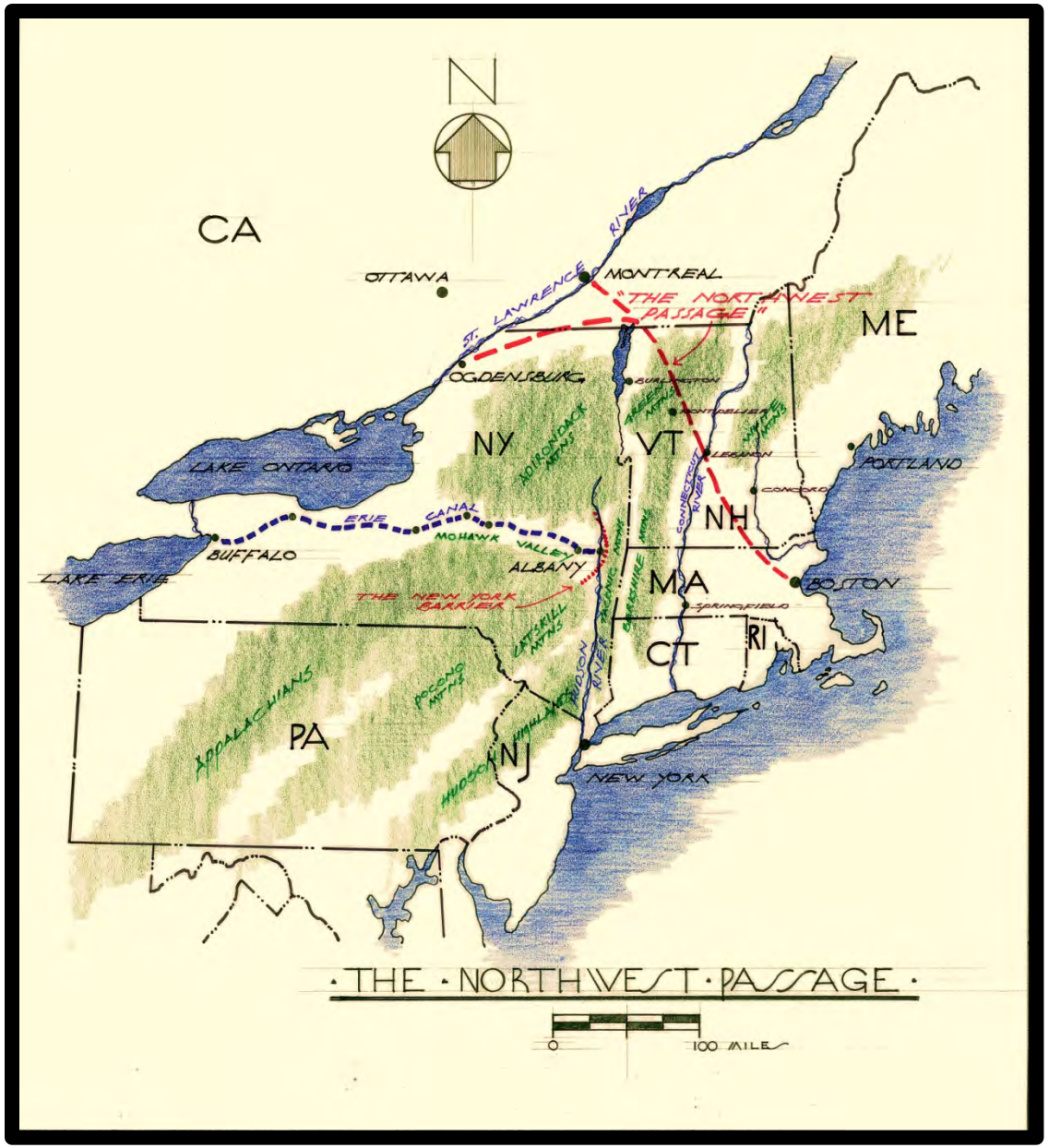
"The New York Barrier"

-The New York Legislature by 1840-

- ***Was not granting any more charters to non-state railroad interests.***
- ***Was not granting charters to railroads that might compete with the Erie Canal.***
- ***Was only chartering short "city-to-city" railroads within the broad area of the Erie Canal and the Mohawk Valley, and those lines had to pay tolls to the state owned canal.***
- ***Was doing everything that it could to protect the Erie Canal and shipping interests on the Hudson River and at New York City.***

1840 and the "Northwest Passage"

The way around the "New York Barrier"



1. Build railroads northwest out of Boston, across New Hampshire and Vermont to Burlington, Vermont at Lake Champlain;

2. Move cars and freight by water across Lake Champlain to New York, or go up and around the top of the Lake;

3. Construct a railroad across northern New York state to Ogdensburg at the St. Lawrence River and Lake Ontario.

Approximately 400 miles of railroad track required in total.

1830: First Stirrings in Vermont

January 26, 1830

First meeting in Montpelier to discuss railroads.

Formation of a committee to report on the subject.

February 2, 1830

Resolution supporting the creation of a railroad from Boston to Lowell; Concord, NH; Lake Champlain; to Ogdensburg, NY.

February 22, 1830

Formation of the Vermont Railroad Association in Montpelier, Vermont

Vermont Railroad Association Meetings

1830

March 23

First meeting in Ogdensburg, NY

April 6

First meeting in Concord, NH

May 12

First meeting in Burlington, VT

May 26

First meeting in Malone, NY

October 6, 1830

"General Railroad Convention"

Held in Montpelier, VT

48 delegates in attendance

from

New York, Vermont, New Hampshire, and Massachusetts.

-Beginnings in New Hampshire-
The First Railraod Charter

January 1, 1833

The Boston & Ontario R. R. Company

"From any point in southerly line of state, in or near Dunstable, northwardly and westerly to the westerly line of the state on Connecticut river."

This line was never built and the charter expired.

-1835 in New Hampshire-

- ***Nashua & Lowell R. R. Corporation***
  - *Chartered June 23, 1835.*
  - *Built 14.5 miles from the NH border to Nashua Village.*
- ***Concord R. R. Corporation***
  - *Chartered June 27, 1835.*
  - *Built 34.36 miles from Nashua Village to Concord.*
- ***Keene R. R. Company***
  - *Chartered June 27, 1835*
  - *From Keene to the NH / MA border at Fitzwilliam or Rindge. The road was never built and the charter expired .*

-In the Connecticut River Valley-

January 20, 1836

A convention held in Windsor, Vermont

154 influential persons attended

From Hartford, CT to Newport, VT

"…for the purpose of taking preliminary measures for the construction of a Rail Road through the valleys of the Connecticut and Passumpsic Rivers to the St. Lawrence; connecting New Haven and New York."

-1837 in New Hampshire-

Amos A. Brewster, a Democrat in the NH Legislature from Hanover, and associates, largely from Lebanon, obtained a charter for the

"Concord & Lebanon R. R."

"From any point in Concord, so as to enter on C.R.R., to the west bank of the Connecticut river, near mouth of the White river, in Lebanon."

The idea was a railroad "turnpike" of sorts with toll houses and gates for the collection of tolls for persons using it.

No action was taken on the charter and it lapsed.

-1838 thru 1842 in New Hampshire-

1838

- An act to join the Nashua & Lowell corporations of NH and MA

1839

- Dover & Winnipiseogee R.R.

(Dover to Alton)

- Portland & Connecticut River R.R.

(From Haverhill to Colebrook, NH – Never Built)

1842

Portsmouth & Dover R.R

(Built from Portsmouth to Dover)

Rails reached Concord, New Hampshire September 7, 1842

Beyond Concord were only stage lines and poorly kept old turnpike and local highways.

The Eagle Coffee House and Hotel

1842 – 1844

Strong well organized interest groups:

- ***Jacksonian Democrats***
- ***Stage line owners***
- ***Teamsters***
- ***Tavern owners***

All worked to block further railroad development in New Hampshire.

-The First Vermont Railroad Charters-

- ***Connecticut & Passumpsic Rivers Railroad***
  - *First chartered November 10, 1835*
  - *Re-chartered October 31, 1843 and November 10, 1845*
  - *From the Massachusetts State line to the Canadian border*
- ***Vermont Central Railroad***
  - *First chartered November 10, 1835*
  - *Re-chartered October 31, 1843*
  - *From the Connecticut River to Lake Champlain*
- ***Champlain & Connecticut River Railroad***
  - *Chartered October 31, 1843*
  - *From the Connecticut River to Lake Champlain*

-New Hampshire 1843-

- **October 10, 1843**
  - Meeting in Lebanon of the "Friends of Internal Improvements in New Hampshire"
- **Professor Rev. Charles B. Haddock**
  - Dartmouth College Class of 1816
  - Professor at Dartmouth College
  - Nephew of Daniel Webster
  - Elected to the NH Legislature in 1844 / Liberty Party
  - 1850 charge d 'affairs in Lisbon, Portugal
  - Died at his home in West Lebanon, NH in 1861

-1844: Breaking the NH Political Impass-

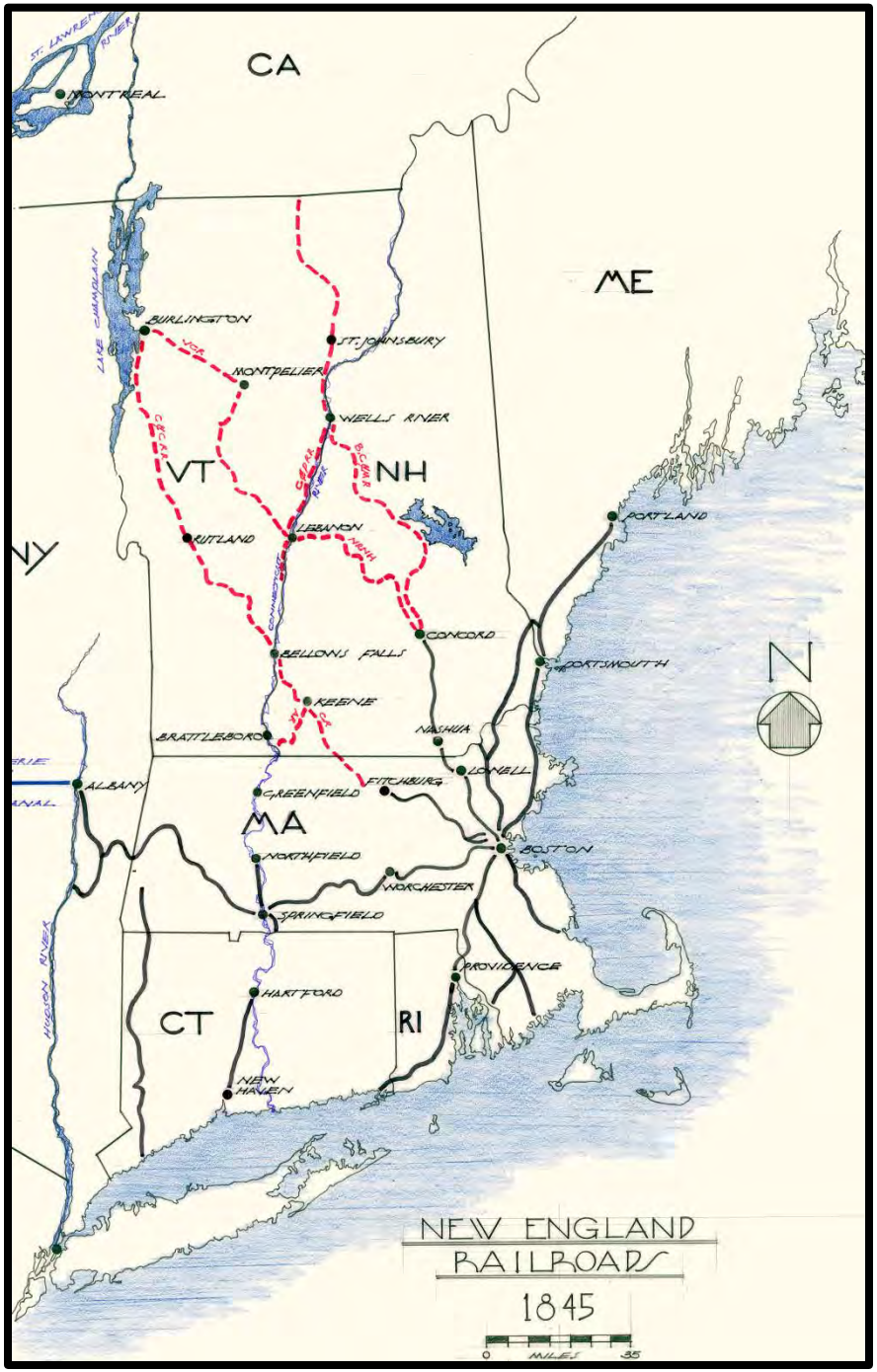
1. **The threat of a railroad from Fitchburg, MA. to Brattleboro, VT. bypassing New Hampshire:**
   - Chartered by both Massachusetts and Vermont in 1844 as the Vermont & Massachusetts Railroad Company.
   - Approximately 73 miles from Fitchburg via Greenfield to Brattleboro, Vermont.
2. **The formation of the New Hampshire Board of Railroad Commissioners that would:**
   - Render railroad public corporations in certain cases.
   - Approve proposed surveyed routes.
   - Handle all land damages and land taking.
   - Cap and oversee railroad corporation profits.

-December 27, 1844-
New Hampshire Chartered Five Railroads

- ***Northern Railroad of New Hampshire***

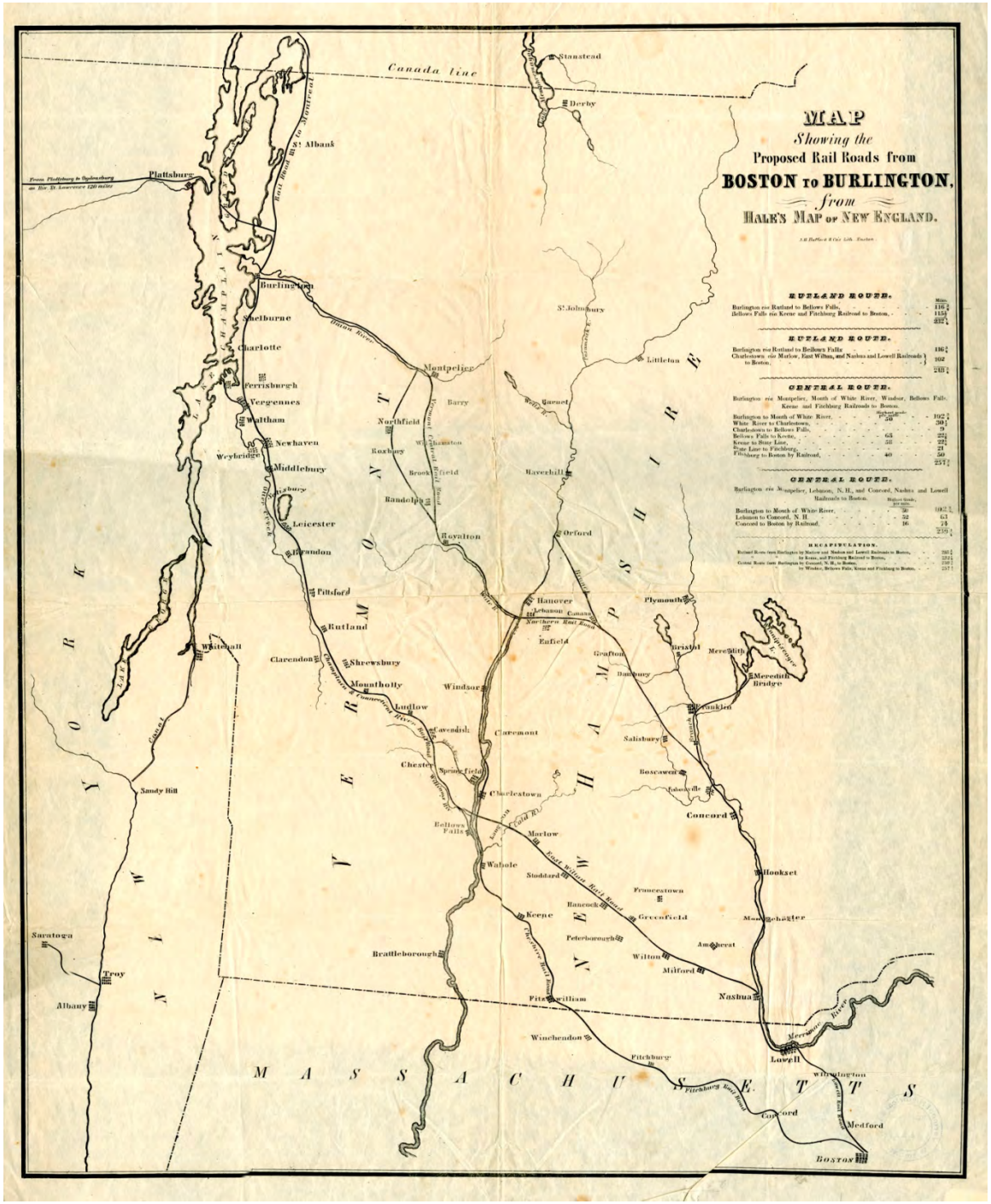
  -Concord to West Lebanon, NH = 69 Miles +/-

- ***Ashuelot R. R. Company***
  - *Keene to Hinsdale, NH = 24 miles +/-*
- ***Cheshire R. R. Company***
  - *South Ashburnham, MA to Walpole, NH = 53 Miles +/-*
- ***Boston, Concord & Montreal R. R.***
  - *Concord to Haverhill, NH = 93 Miles +/-*
- ***Colebrook R.R. Company*** *(Never Built)*
  - *From the Maine to the Vermont border at Colebrook*



-1845-

Competing routes across New Hampshire and Vermont to create the "Northwest Passage" around the "New York Barrier"



"Map Showing the Proposed Rail Roads from Boston to Burlington"

Published by
J. H. Bufford & Company
Lithographers
Boston

1845

<u>Showing Two Competing Routes</u>

"The Central Route"
"The Rutland Route"

"The Central Route"

Several Options

Varied 239 to 257 miles in length

Burlington via the White River Valley to Boston

"The Rutland Route"

Several Options

Varied 213 to 232 miles in length

(One option was from Concord to Charlestown, NH)

Burlington via Rutland to Boston

Estimated Per Mile of Railroad Pre - Construction Costs 1845

- ***Land Damages:*** ***$1,000.***
- ***Excavation, Grading, Bridges, & Culverts:*** ***$8,000.***
- ***Superstructure (Rails, Ties, Etc.):*** ***$8,000.***
- ***Depots, Fencing, & Fixtures:*** ***$700.***
- ***Engineering & Incidental Expenses:*** ***$600.***

Total Estimated Cost per Mile: ***$18,300.***

(Equals about $600,000 in 2014)

(Estimated Costs for the Northern Railroad)

Laying out the Proposed Routes

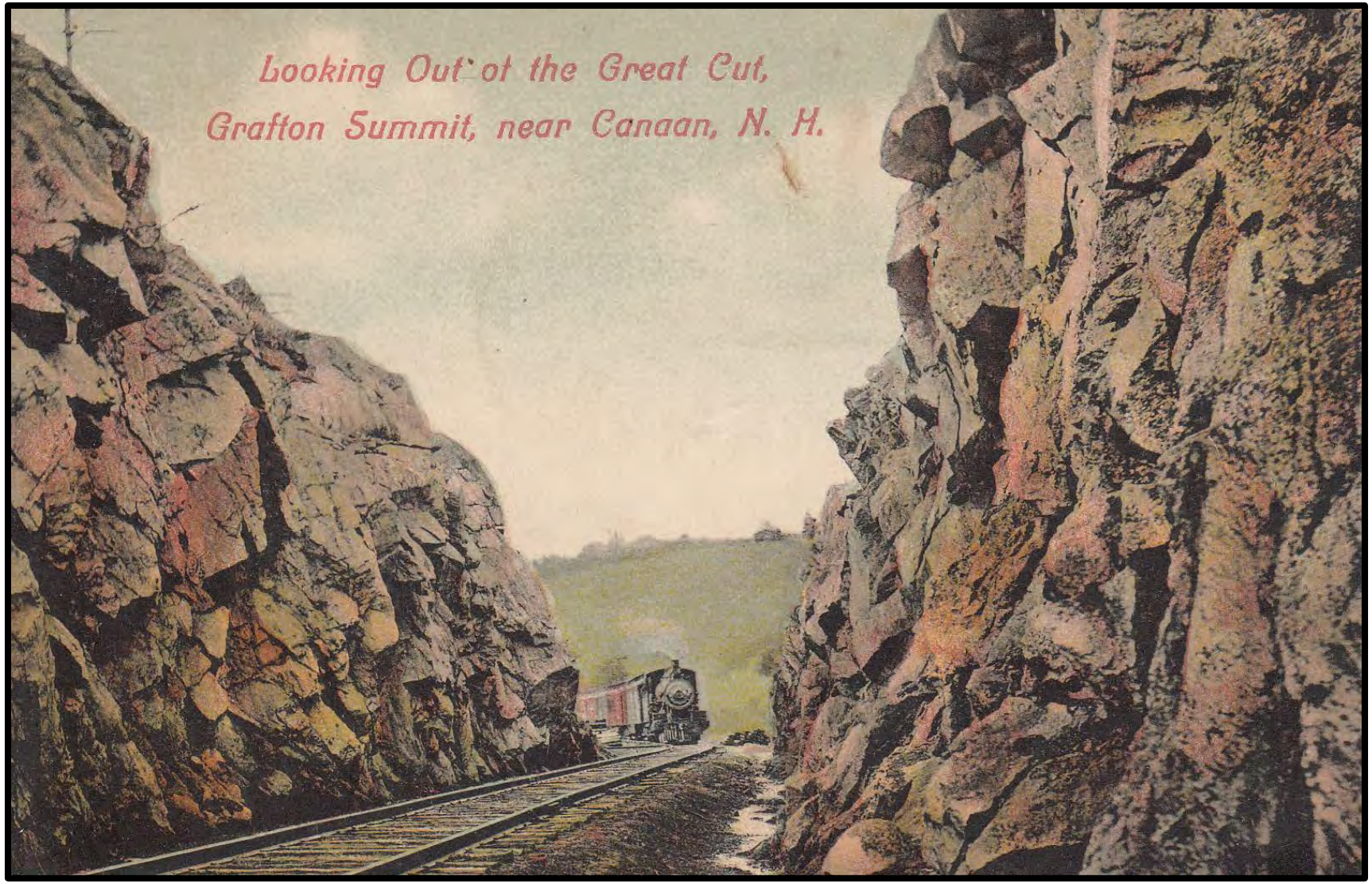
After the charters were granted, surveying parties, engineers, and State agents were the first evidence of the coming of the railroads.

A surveyor working on the Northern Railroad in Lebanon circa 1847. Engineers and their surveying parties were an integral part of the construction from beginning to end.

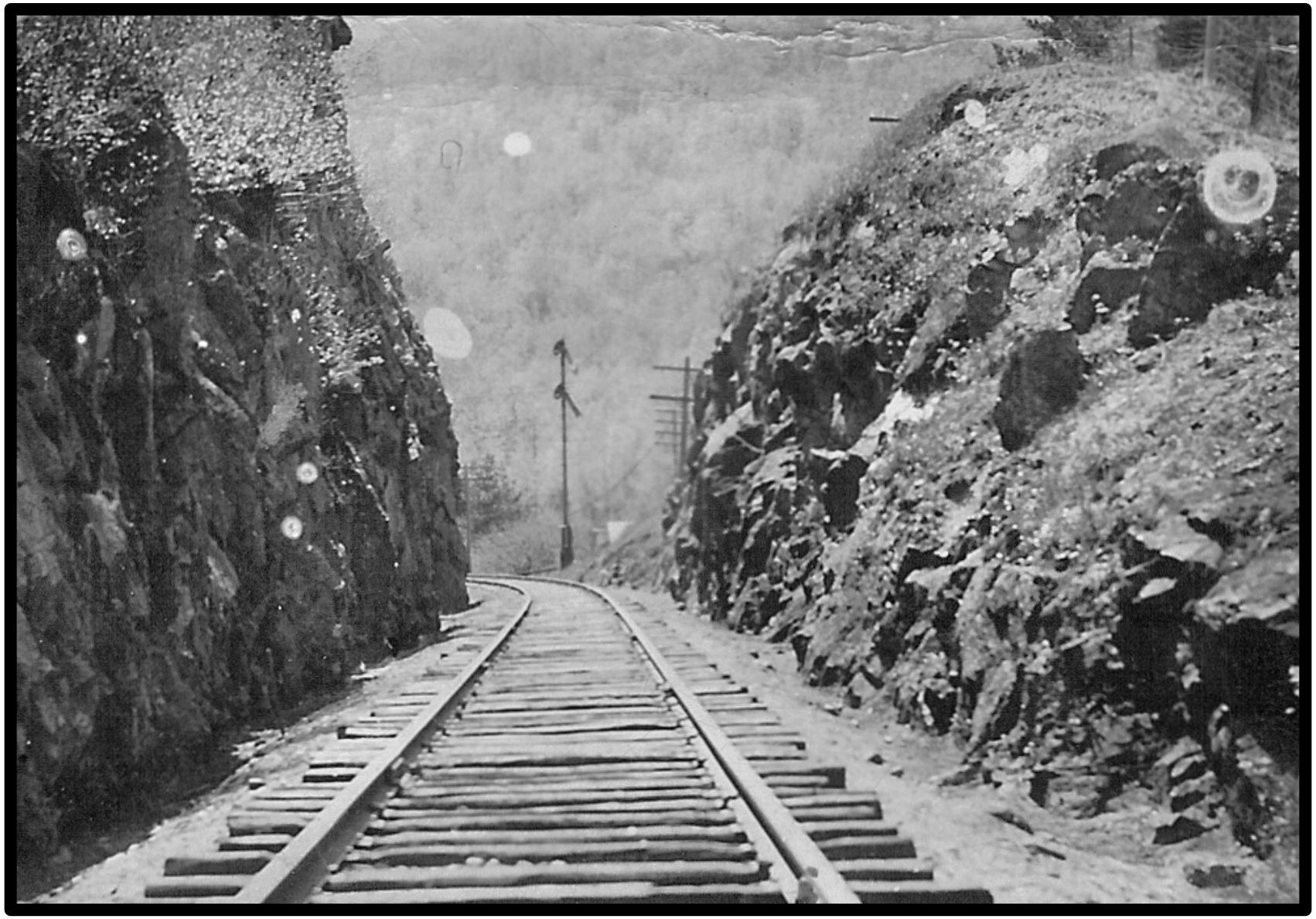
Most of the excavation, filling, and grading work was done by hand with animal drawn dump carts by Irish laborers 2,000 or more to a work gang at $1.25 per day.

The Northern RR Between Potter Place and West Andover, NH.

The "Great Cut" at Westmoreland, New Hampshire
Cheshire Railroad between Keene, NH and Bellows Falls, VT

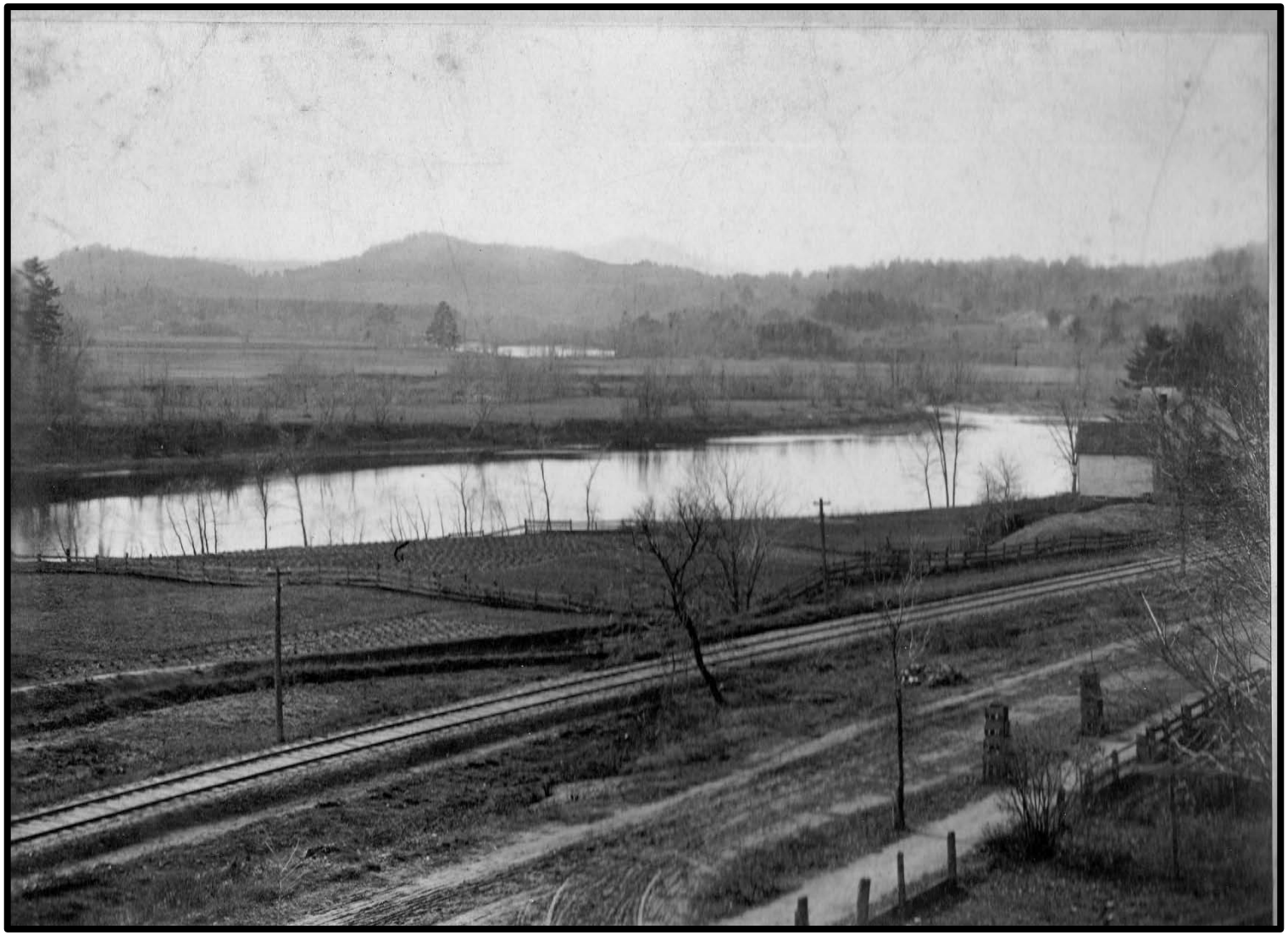


The "Great Cut at Grafton Summit"
Orange, New Hampshire
778 Feet above Concord, NH - Made in 1846 - 47



The "Great Cut" at Warren Summit made in 1851 – 1852
Between East Haverhill and Warren, New Hampshire at Glencliff
Boston, Concord & Montreal Railroad

The Northern Railroad of New Hampshire
Construction between Lebanon and West Lebanon, NH.
1847



The first railroad tracks laid down in the State of Vermont was immediately south of White River Junction by the Vermont Central Railroad in early 1848.

Connecticut & Passumpsic Rivers Railroad

Looking north above Wilder, Vermont

1848

The Newbury Cut

Connecticut & Passumpsic Rivers Railroad

Newbury, Vermont

1848

An early steam power shovel working in the Connecticut River Valley, circa later 1840's Exact location and date unknown

"A steam shovel was brought up to work on William U. Bailey's farm, and multitudes flocked to see the strange machine."

Frederick P. Wells; History of Newbury, Vermont

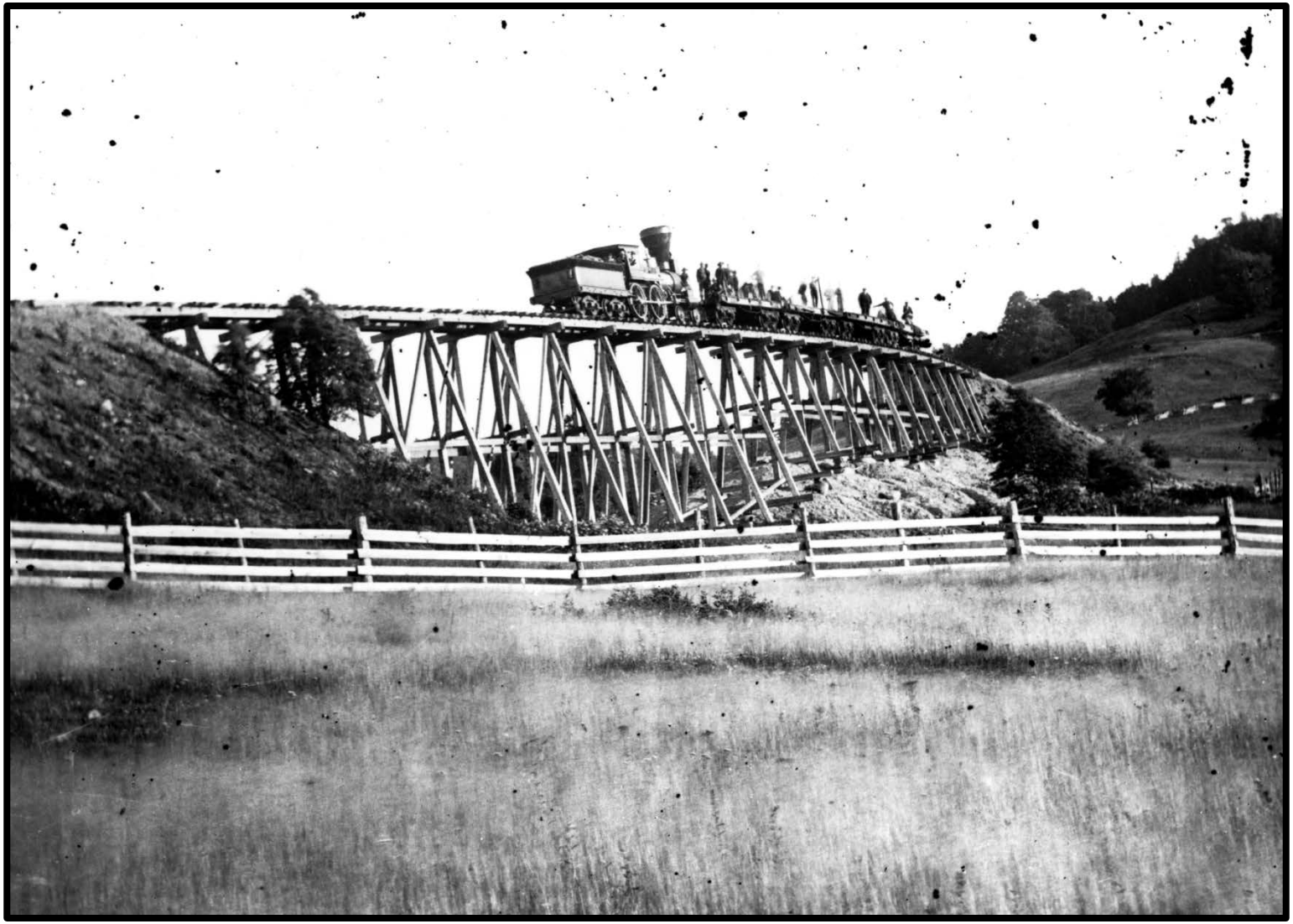
1902

A work train in the Upper Connecticut River Valley circa 1848.

Connecticut & Passumpsic Rivers Railroad

Rock cut thru Ingall's Hill south of Wells River, Vermont

1848

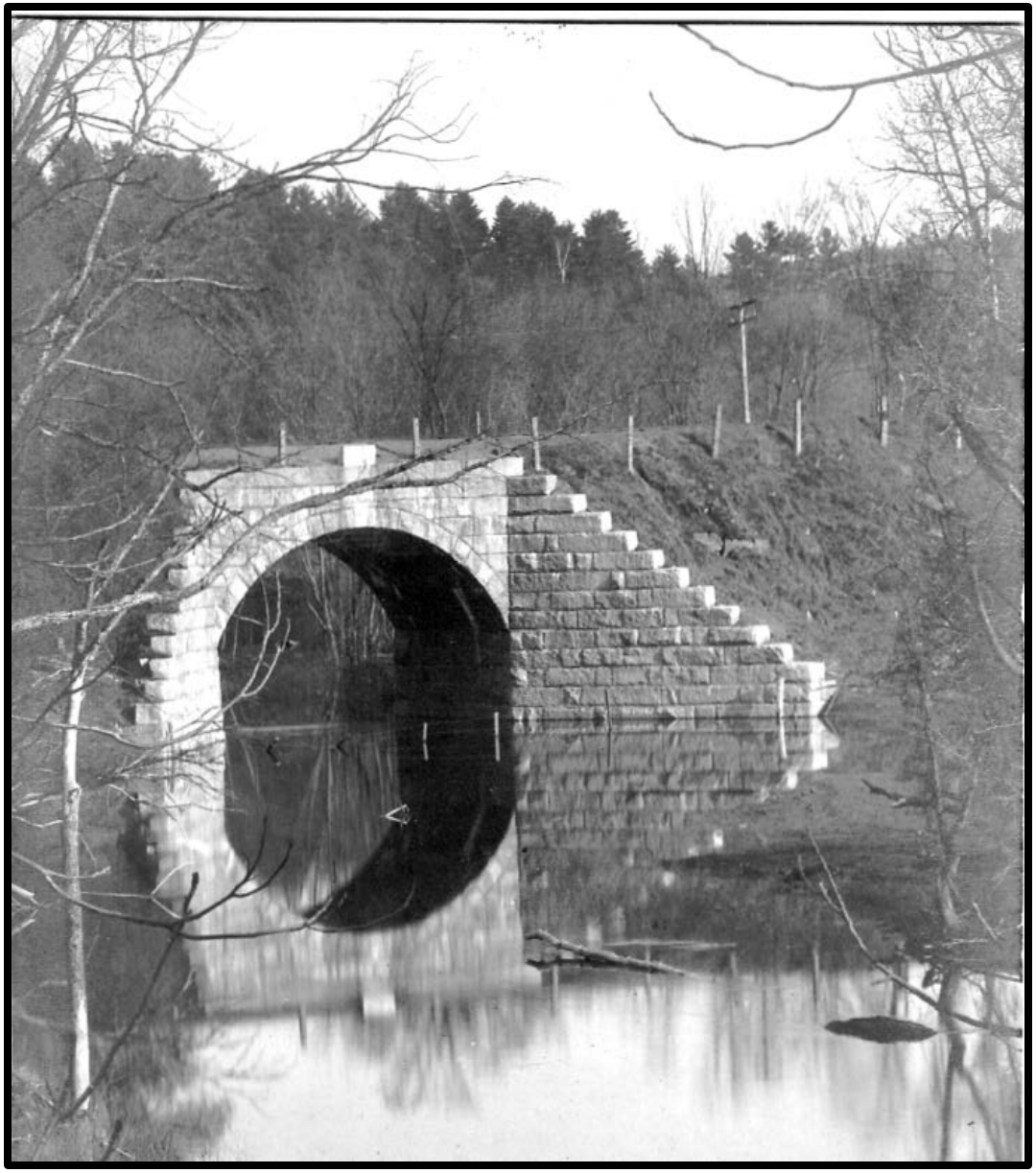


A work or "gravel" train doing trestle filling after the road was in operation. Shown is the Woodstock Railway in the Fall 1875.

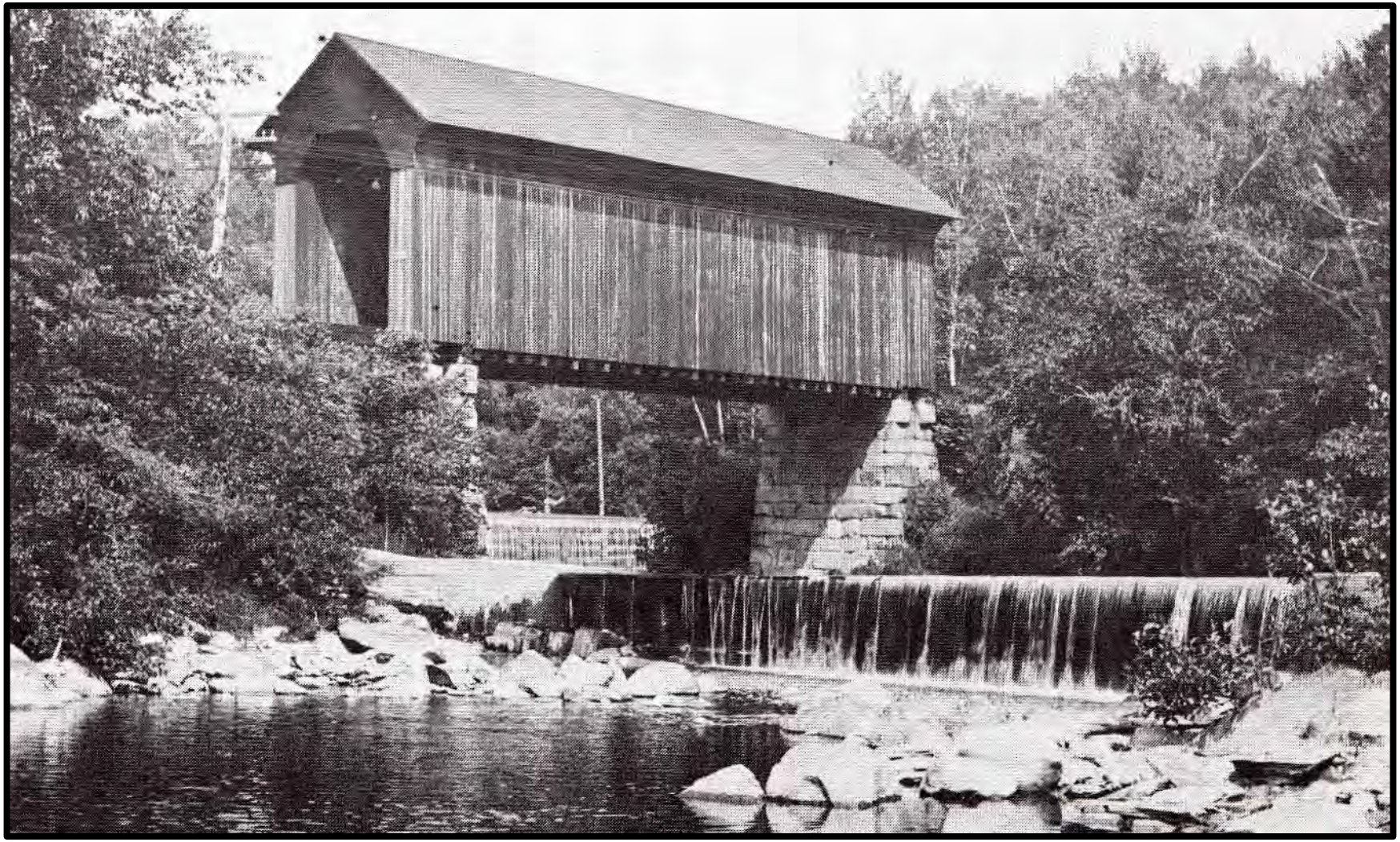
Northern Railroad of New Hampshire

Stone Arched Bridge at Webster Lake Brook; Franklin, N.H.
Constructed 1846

Stone Bridge Glen Road; West Lebanon, New Hampshire
Constructed by the Northern Railroad of NH in 1847 - 48



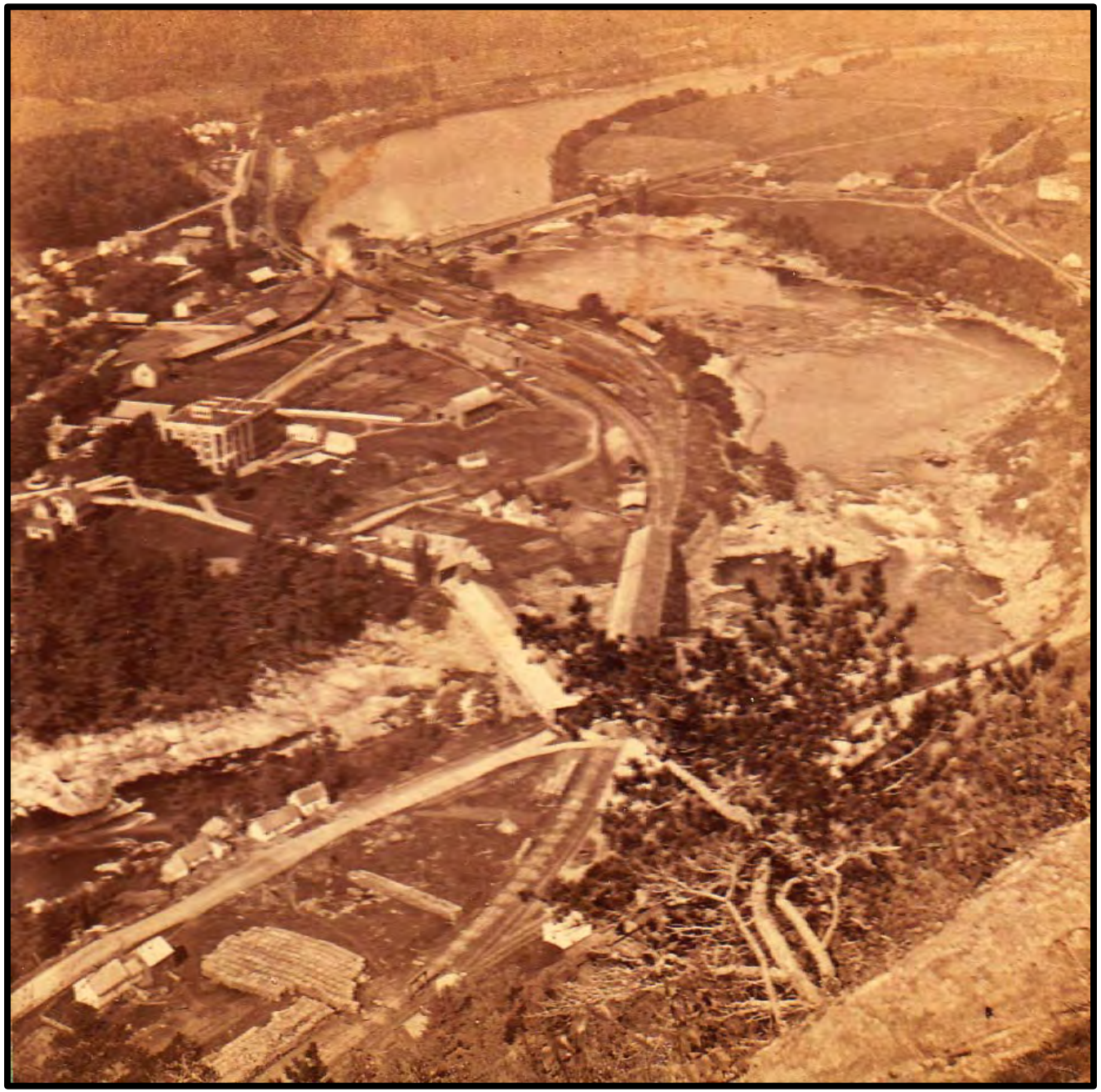
Stone arched bridge over Blood Brook; Norwich, Vermont
Constructed by the C&PRR in 1847 - 48



It required the construction of 14 wooden bridges crossing the Mascoma River to get the Northern Railroad from Lake Mascoma down into West Lebanon

An Early Wooden Bridge on the Boston, Concord & Montreal Railroad
Warren, NH

The Cheshire Railroad bridge at Bellows Falls erected in 1849.
A Burr Truss type of wooden bridge.



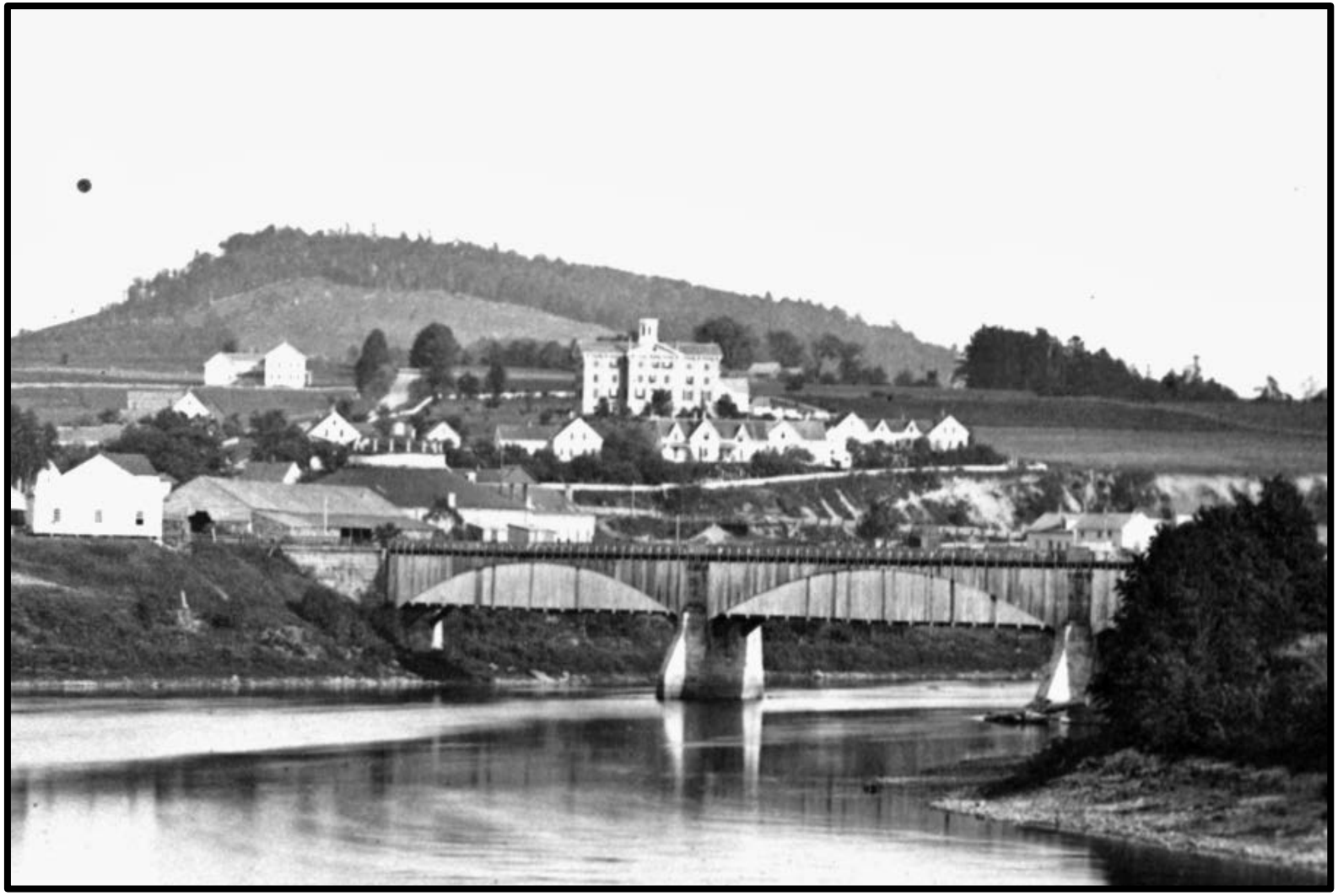
Bellows Falls, Vermont

By 1851 the junction of three railroads:

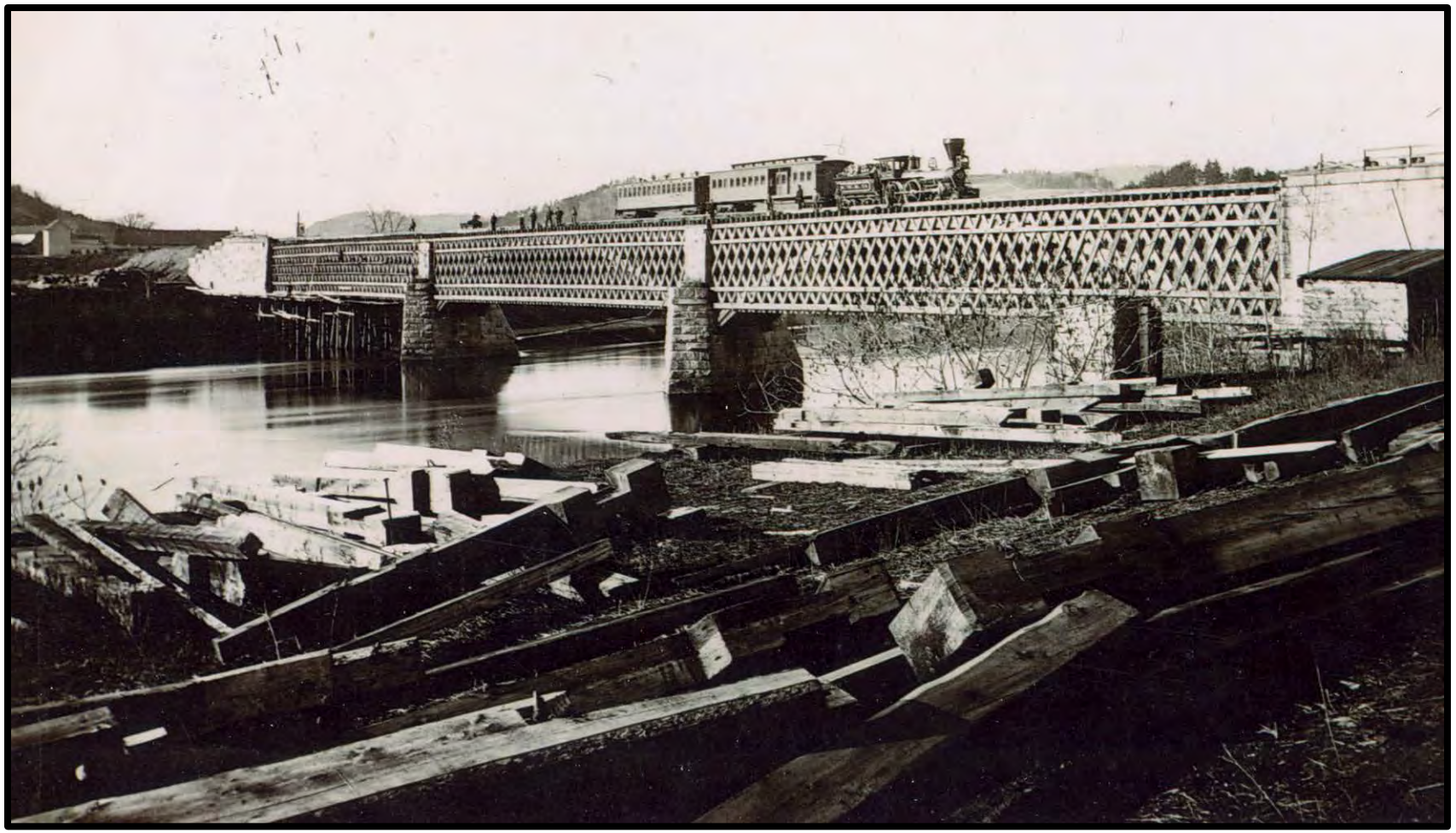
1. The Sullivan Railroad
(from Windsor, VT)

2. The Rutland Railroad
(from Burlington, VT)

3. The Cheshire Railroad
(from Fitchburg, MA)

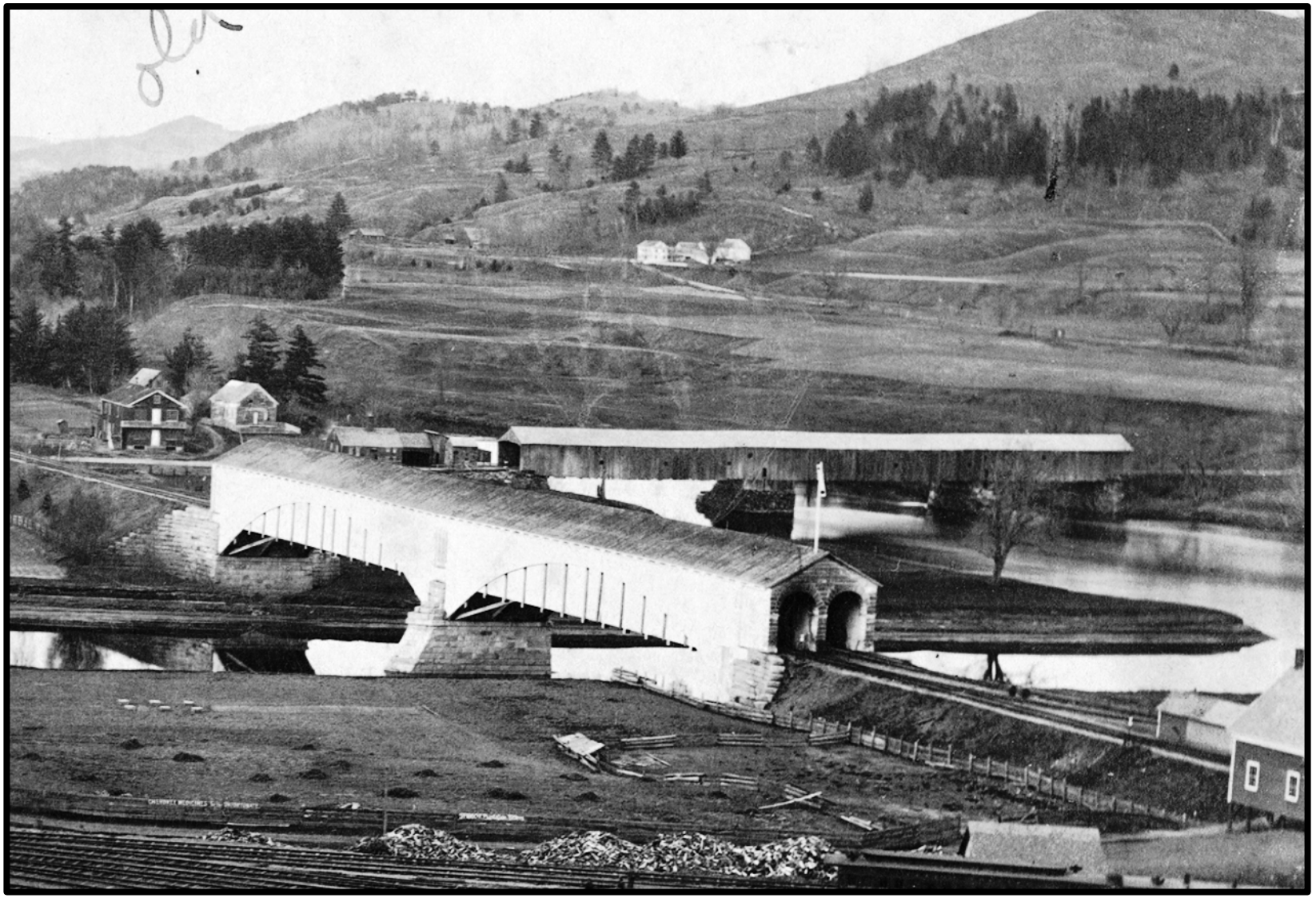


The first railroad bridge at West Lebanon - built spring 1848. Cost $21,600.; Three Spans at 200 Ft. = 600 Ft. Total Length. Image made in 1859.

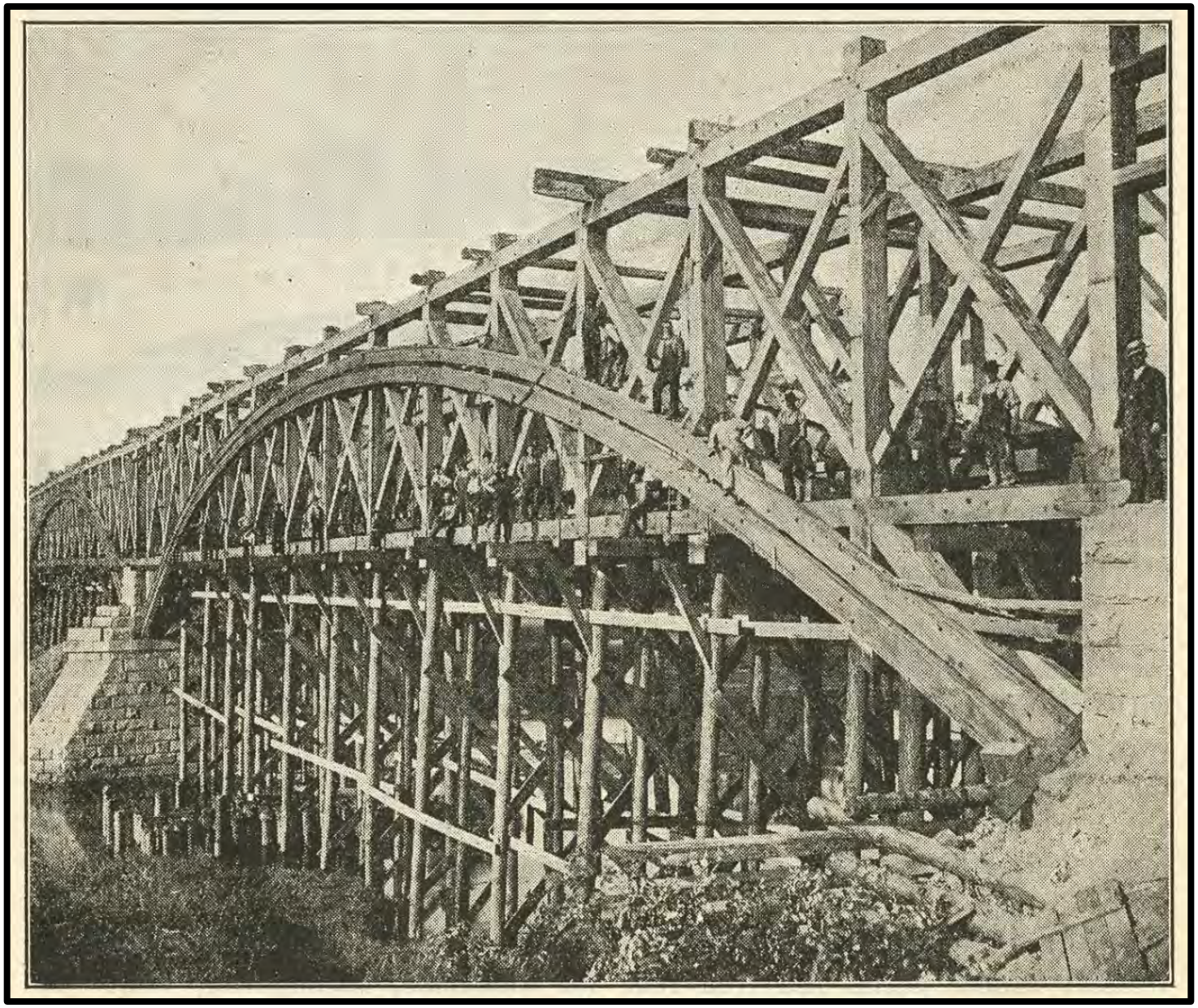


Replacement Connecticut River railroad bridge at West Lebanon - constructed in 1871.

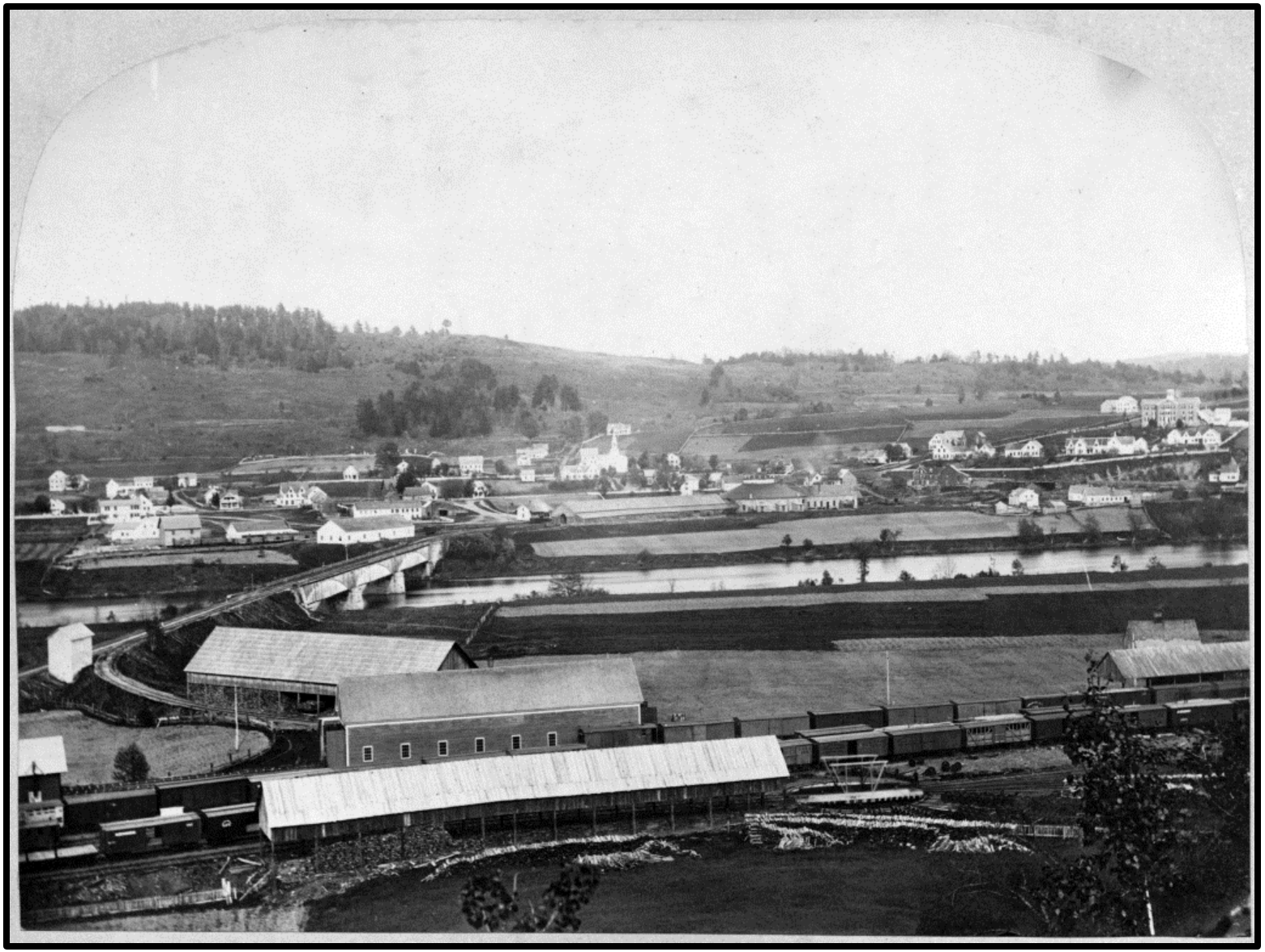
Looking from West Lebanon, NH towards White River Junction, VT.



The Connecticut & Passumpsic Rivers Railroad bridge over the White River at White River Junction, Vermont.
A Massive Burr Truss two-track wooden bridge built in 1848.



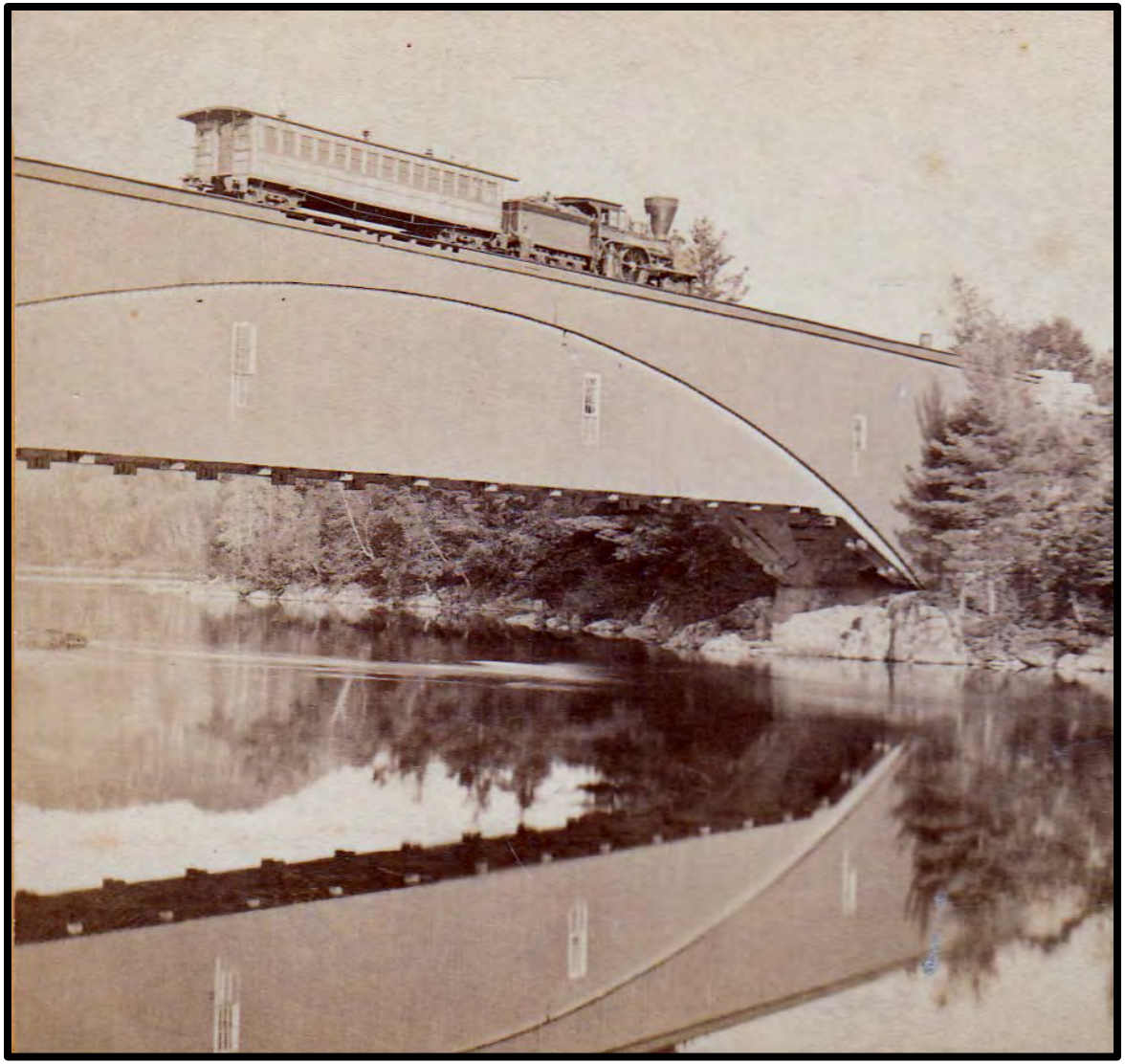
The Connecticut & Passumpsic Rivers Railroad bridge built in 1848 at White River Junction being dismantled for replacement in 1890.



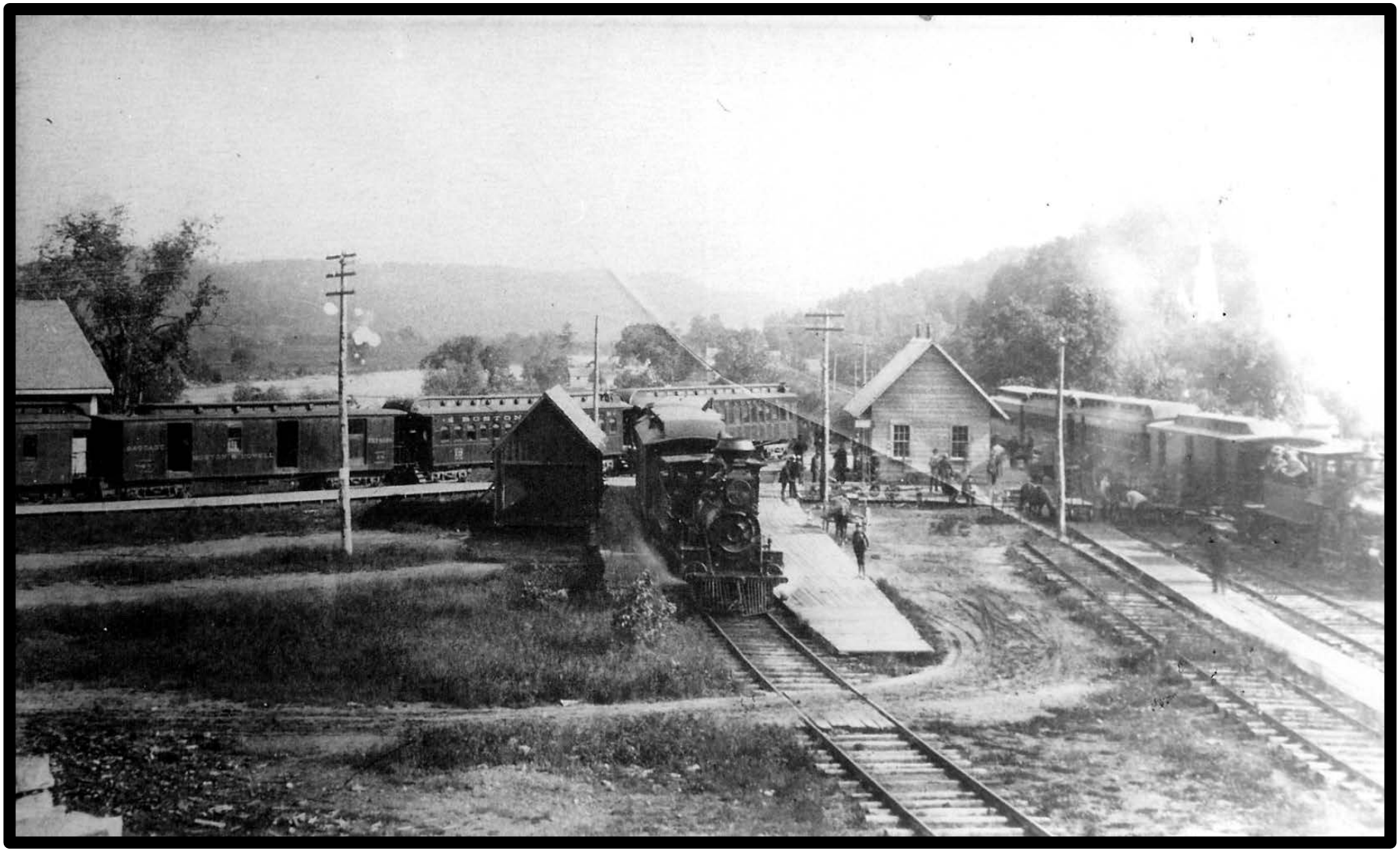
-White River Junction, VT and West Lebanon, NH-

1862

By 1848 the junction of three railroads.



Combination railroad and highway bridge at Woodsville, NH and Wells River, VT.
239 Feet Long; Cost $20,000; Constructed in 1853.



-Wells River, VT and Woodsville, NH-
By 1853 the junction of three Railroads
Wells River Circa 1880.

Actual Per Mile Post-Construction Costs 1850

- ***Northern Railroad of New Hampshire***

  Concord to White River Junction (70 miles):

  $2,345,426. = *$33,506. per mile*

  (about $1,000,000 + per mile in 2014 dollars)

- ***Vermont Central Railroad***

  Windsor to the mouth of the White River (15 Miles):

  $566,520. = *$37,770. per mile*

- ***Connecticut & Passumpsic Rivers Railroad***

  Mouth of the White River to Wells River (40 miles):

  $1,149,626. = *$28,740. per mile*

The first railroad bridge at Rouses Point completed in September 1851.

The bridge charter was heavily opposed by steam boat interest on Lake Champlain and New York Hudson River politicians.

From the Sixth Annual Report

Vermont Central Railroad Company

August 27, 1851

"…the continuous line of railways from the waters of Lake Ontario at Ogdensburg and of the St. Lawrence at Montreal to tidewater at Boston and New York is finished, and distant nations are united in bonds of a common interest and intercourse."

****

- ***United by seven (7) separate railroad companies, approximately 400 miles of track , and 21 years of effort.***
- ***Within 36 hours fresh butter from Ogdensburg, NY was delivered to Boston, MA.***

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