

## Why New York Needed a Canal

In this inquiry-based social-studies-meets-science lesson, students will explore the realities of commerce and industry in the early 1800s and discover the ways in which the Erie Canal provided a solution to problems people faced, such as transporting goods and people, enabling New York City to grow and compete economically with other big cities in the North, and connecting people in the eastern and western parts of the country. Students will look at primary source documents that include maps, transportation models, representations of the industrial revolution, and depictions of population growth.

**Lesson Duration:** DAY ONE: 60 minutes; DAY TWO: 40 minutes. TOTAL: 1 hour 40 minutes

**Enduring Understanding:** People innovate to solve problems and meet their needs.

**Concepts:** innovation, transportation, industrialization

### **New York State Social Studies Standards Addressed:**

4.1b New York State can be represented using a political map that shows cities, capitals, and boundaries.

4.6a After the Revolution, New Yorkers began to move and settle farther west using roads, many of which had begun as Native American trails.

4.6b In order to connect the Great Lakes with the Atlantic Ocean, the Erie Canal was built. Existing towns expanded and new towns grew along the canal. New York City became the busiest port in the country.

4.6c Improved technology, such as the steam engine and the telegraph, made transportation and communication faster and easier. Later developments in transportation and communication technology had an effect on communities, the state, and the world.

4.6d Farming, mining, lumbering, and finance are important economic activities associated with New York State.

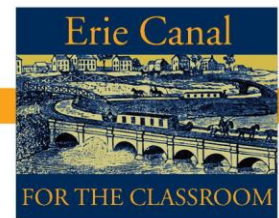
4.6f Between 1865 and 1915, rapid industrialization occurred in New York State. Over time, industries and manufacturing continued to grow.

### **New York State Social Studies Practices Addressed:**

#### ***A. Gathering, Interpreting, and Using Evidence***

2. Recognize, use, and analyze different forms of evidence used to make meaning in social studies (including sources such as art and photographs, artifacts, oral histories, maps, and graphs).

6. Create an understanding of the past by using primary and secondary sources.



## Why New York Needed a Canal

### **C. Comparison and Contextualization**

4. Recognize the relationship between geography, economics, and history in social studies.
5. Describe historical developments in New York State with specific detail, including time and place.

### **D. Geographic Reasoning**

1. Use location terms and geographic representations (maps and models) to describe where places are in relation to each other, to describe connections between places, and to evaluate the benefits of particular places for purposeful activities.
2. Distinguish human activities and human-made features from “environments” (natural events or physical features—land, air, and water—that are not directly made by humans).
3. Identify how environments affect human activities and how human activities affect physical environments.
5. Describe how human activities alter places and regions.

### **Teacher Questions:**

1. What was it like to do business in New York State in the early 1800s?
2. Where did people live and work in New York State?
3. What was the Industrial Revolution?
4. Why were people looking for a new mode of transportation?
5. What did the Erie Canal do for the people in New York State?
6. How did the creation of the Erie Canal impact the people outside of New York State?

### **Materials List:**

1. Primary source documents representing early 19th-century commerce and industry (provided)
2. Why NY Needed a Canal Recording Sheet, a graphic organizer for student notes with spaces to answer questions and cite sources (provided)
3. Why NY Needed a Canal Recording Sheet shared as a class document either on poster paper or projected in electronic form
4. Chart paper or electronic notetaking space for whole-group discussion/brainstorm
5. Why NY Needed a Canal Problem-Solution T-Chart, either posted on chart paper or in electronic form (provided)

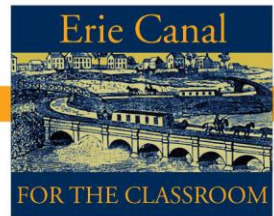
# Why New York Needed a Canal

## Procedure:

Teacher Questions	Procedure	Materials
<ol style="list-style-type: none"> <li>1. What was it like to do business in New York State in the early 1800s?</li> <li>2. Where did people live and work in New York State?</li> <li>3. What was the Industrial Revolution?</li> <li>4. Why were people looking for a new mode of transportation?</li> </ol>	<p><b>DAY ONE: 60 minutes</b></p> <p><b>5 minutes:</b> Challenge students to be detectives today. They will participate in a Wander and Wonder activity (see below) to gain as much knowledge as they can about what business (commerce and industry) was like in the early 1800s. They will search the sources available to determine:</p> <ul style="list-style-type: none"> <li>• What did people do to buy, sell, trade, and meet their needs?</li> <li>• Where did people live and work?</li> <li>• What were existing methods of transportation?</li> <li>• What was the Industrial Revolution?</li> <li>• Why were people looking for a new method of transportation?</li> </ul> <p><b>40 minutes:</b> Students will have 40 minutes to wander around the room, where the teacher has laid out the primary source documents. Students act as detectives and explore, observe, make inferences, and reflect on what they discover in the documents. Students are to use evidence from the primary sources to answer the questions posed and record (cite) their sources on the Why NY Needed a Canal Recording Sheet.</p>	<ul style="list-style-type: none"> <li>• Primary source documents representing early 19th-century commerce and industry (provided)</li> <li>• Why NY Needed a Canal Recording Sheet, a graphic organizer for student notes with spaces to answer questions and cite sources (provided)</li> </ul>
<ol style="list-style-type: none"> <li>1. What was it like to do business in New York State in the early 1800s?</li> <li>2. Where did people live and work in New York State?</li> </ol>	<p><b>15 minutes:</b> After the 40-minute work period, the class will come back together for 15 minutes to share their findings. This can occur on Day One or Day Two of the lesson, depending on teacher preference.</p>	<ul style="list-style-type: none"> <li>• Why NY Needed a Canal Recording Sheet, shared as a class document either on poster paper or projected in electronic form</li> </ul>

## Why New York Needed a Canal

<p>3. What was the Industrial Revolution?</p> <p>4. Why were people looking for a new mode of transportation?</p>		
<p>5. What did the Erie Canal do for the people in New York State?</p> <p>6. How did the creation of the Erie Canal impact the people outside of New York State?</p>	<p><b>DAY TWO: 40 minutes</b></p> <p><b>5 minutes:</b> Students will now be ready to discuss the problems that people in the early 1800s faced and brainstorm ideas for solving those problems, focusing on transportation. Teacher should include ALL brainstormed ideas, and not yet rule any out.</p> <p><b>10 minutes:</b> The class then determines what ideas would not have been possible because the technology did not yet exist. This information should be based on the primary sources they used on Day One.</p> <p><b>15 minutes:</b> Once students narrow the ideas down to identify a canal as a good solution, the class will have a group discussion about all the problems a canal solves. This can take the form of a T-Chart with “Problem” listed on the left and “Solution” listed on the right (see example provided). This can be done on chart paper or electronically.</p> <p><b>10 minutes:</b> Final questions for the whole class to discuss. (This could be done through a Think, Pair, Share thinking routine: <a href="https://pz.harvard.edu/resources/think-pair-share">https://pz.harvard.edu/resources/think-pair-share</a>.)</p> <ul style="list-style-type: none"> <li>• What did the Erie Canal do for the people in New York State?</li> <li>• How did the creation of the Erie Canal impact the people outside of New York State?</li> </ul>	<ul style="list-style-type: none"> <li>• Chart paper or electronic notetaking space for whole-group discussion/brainstorm</li> <li>• Primary source documents from Day One</li> <li>• Problem-Solution T-Chart, either posted on chart paper or in electronic form (provided)</li> </ul>

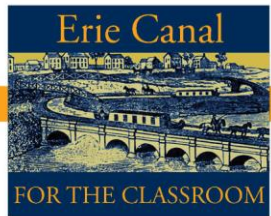


# Why New York Needed a Canal

Name(s) \_\_\_\_\_ Date \_\_\_\_\_

## Why NY Needed a Canal Recording Sheet

Question	Answer	Evidence	Primary Source Used
1. What did people do to buy, sell, trade, and meet their needs?			
2. Where did people live and work?			
3. What were existing methods of transportation?			
4. What was the Industrial Revolution?			
5. Why were people looking for a new method of transportation?			



## Why New York Needed a Canal

Name(s) \_\_\_\_\_ Date \_\_\_\_\_

### Why NY Needed a Canal Problem-Solution T-Chart

<b>PROBLEM</b> Problem People Faced BEFORE the Erie Canal	<b>SOLUTION</b> How the Erie Canal Solved the Problem









Fenner, Sears & Co., Map of the State of New York with part of Upper Canada [map], 1831, cropped.  
<https://catalogplus.libraryweb.org/?section=resource&resourceid=1116738211&currentIndex=0&view=fullDetailsDetailsTab>.  
 Courtesy of the Rochester Public Library Local History & Genealogy Division.





John Calvin Smith, *Map of the State of New York* [map], 1842, cropped with detail of Explanation overlaid at bottom left corner. <https://catalogplus.libraryweb.org/?section=resource&resourceid=1117046826&currentIndex=0&view=fullDetailsDetailsTab>.  
 Courtesy of the Rochester Public Library Local History & Genealogy Division.



## POPULATION.

The following tabular view will show the increase of population, from the year 1815, when the first census was taken, to December, 1826 :

	Year.	Population.
First census,	December, 1815,	- 331
Second, -	Sept. 1818,	- 1,049
Third, (U. S.)	August, 1820,	- 1,502
Fourth, -	Sept. 1822,	- 2,700
Fifth, -	February, 1825,	- 4,274
Sixth, (State,)	August, 1825,	- 5,273
Seventh, -	December, 1826,	- 7,669

The population is composed chiefly of emigrants from New-England, and the other states of the Union, together with a considerable number from England, Ireland, Scotland, and Germany, and a few natives of Canada, Norway, and Switzerland.

It is a remarkable FACT, that, in a population of nearly 8,000, *not one adult person is a native of the village !* The oldest person now living in the village, who was born here, *is not yet seventeen years of age !*

These inhabitants, almost without exception, are employed either in professional or productive industry. The following may be considered as nearly a correct statement of the

### PRINCIPAL OCCUPATIONS.

7 Clergymen,	124 Shoemakers,	17 Coachmakers,
25 Physicians,	20 Hatters,	67 Blacksmiths,
28 Lawyers,	73 Coopers,	14 Gunsmiths,
74 Merchants,	23 Clothiers,	10 Chairmakers,
89 Clerks,	20 Millers,	95 Masons,
84 Grocers,	21 Millwrights,	25 Cabinet-mkrs.
33 Butchers,	304 Carpenters &	5 Combmakers,
48 Tailors,	Joiners,	26 Painters,
24 Wheelwrights,	23 Tinnerns,	16 Inn-keepers,
21 Saddlers,	29 Tanners,	16 Goldsmiths,
8 Tallow-chandlers,	14 Bakers,	8 Bookbinders,
	423 Labourers,	31 Printers.

"Population," *A Directory for the Village of Rochester* (Rochester, NY: Elisha Ely, 1827), 114-15.

<https://www.libraryweb.org/rochcitydir/images/1827/1827complete.pdf>.

Courtesy of the Rochester Public Library Local History & Genealogy Division.

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## STATISTICS.

### I.—TRADE AND COMMERCE.

The superfluous productions of the extensive and fertile valley of the Genesee river, together with that of the surrounding country east and west, naturally concentrate at Rochester, and are exported from thence. While these exports passed through the port of Genesee to the Canada market, the amount was more accurately known, than since the opening of the canal; the amount of tonnage being now more the object of reckoning at the several places of entry, than a specifick account of the particular kinds.

From the best data at hand, we have collected the following account of the exports by the canal, in the years 1823 and 1826. A few of the leading articles only are here presented.

Articles.		1823.	1826.
Flour,	barrels,	64,114	202,000
Wheat,	bushels,	20,590	
Pork,	barrels,	1,250	7,000
Beef,	do.	528	750
Pot and pearl ashes,	do.		9,500
Whiskey,	gallons,	52,903	135,000

"Statisticks: Trade and Commerce," *A Directory for the Village of Rochester*  
(Rochester, NY: Elisha Ely, 1827), 115.

<https://www.libraryweb.org/rochcitydir/images/1827/1827complete.pdf>.  
Courtesy of the Rochester Public Library Local History & Genealogy Division.



## V.—TRAVELLING.

The facilities for travelling to and from Rochester, in almost every direction, have so much increased within a few years, and are a matter of so much importance, as to deserve a distinct enumeration.

The chief routes are, to the ports on lake Ontario, and the rivers Niagara and St. Lawrence, by steam-boats and schooners that ply upon the lake, and come into the port of Genesee;—directly east and west to Albany and Buffalo, with all the intermediate places, by the Erie canal;—to Albany by the great western state road;—and to Lewiston by the famous ridge road.

In addition to the travelling occasioned by the extensive export and import trade of this particular region, Rochester proves a thoroughfare for the trade of a large portion of Ohio, Indiana, the Michigan territory, and Upper Canada; and for the crowds of travellers from almost every country, who annually visit the falls of Niagara.

2. *By the Canal.*—The packet boats daily arrive at and depart from Rochester, both east and west, during the season of navigation, and afford excellent and comfortable accommodations. During the whole of the summer months, or from the first of May to November, the traveller is sure to meet, in these boats, a large company of the most respectable of both sexes; while the easy motion, and rapid progress of the boat, with the opportunity of alternate reading and conversation, beguile the tediousness of a long journey. These boats run night and day, and accomplish about 80 miles in twenty-four hours. The fare, including all expenses, is generally about four cents a mile. The packet boat company have at present 12 boats, and 130 horses.

The following list of distances on the canal, is believed to be correct, and may not be inappropriate in this place, viz:—

WESTWARD.			
From Rochester to	miles.	From Rochester to	miles.
Brockport,	20	Lockport,	64
Holley,	25	Pendleton,	71
Albion,	35	Tonawanda,	83
Knowlsville,	40	Black Rock,	91
Middleport,	52	Buffalo,	94

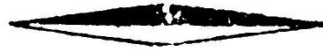
From Rochester to	miles.
Pittsford,	10
Palmyra,	29
Newark,	38
Lyons,	44
Clyde,	53
Montezuma,	64
Port Byron,	70
Weed's Port,	73
Jordan,	79
Canton,	85
Syracuse,	99
Orville,	105
Manlius,	108

### EASTWARD.

From Rochester to	miles.
Chitteningo,	116
New-Boston,	120
Canistota,	124
Rome,	145
Utica,	160
Herkimer,	174
Little Falls,	187
Canajoharie,	202
Amsterdam,	225
Schenectady,	240
Troy,	262
Albany,	269

"Travelling," *A Directory for the Village of Rochester*  
(Rochester, NY: Elisha Ely, 1827), 129-30.  
<https://www.libraryweb.org/rohccitydir/images/1827/1827complete.pdf>.  
Courtesy of the Rochester Public Library  
Local History & Genealogy Division.

# ADVERTISEMENTS.



## **C. DUNNING & CO.**

*Wholesale and retail dealers in French.  
English and India*

## **SILK GOODS,**

(No. 12 Carroll-street,)

where will always be found a large assortment of the  
most *fashionable*

## **FANCY DRY GOODS,**

of every description. Having a partner residing in the city, they will always be able to keep their establishment supplied with the latest and most *fashionable SILK GOODS* that are received in the New-York market: and they hope to render it worthy the patronage they have heretofore received from their friends and the publick in general.

March 1, 1827.

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"Advertisements: C. Dunning & Co.," *A Directory for the Village of Rochester*  
(Rochester, NY: Elisha Ely, 1827), 143.

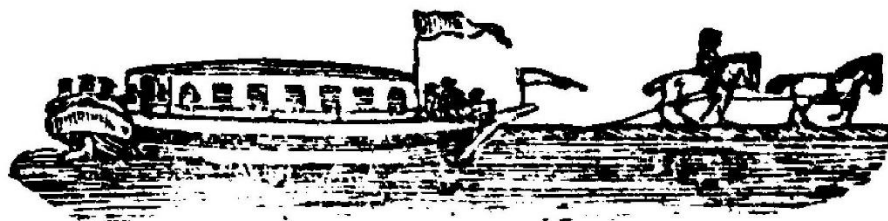
<https://www.libraryweb.org/rochcitydir/images/1827/1827complete.pdf>.  
Courtesy of the Rochester Public Library Local History & Genealogy Division.

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**STORAGE,**  
**Forwarding and Commission Business.**

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**CANAL TRANSPORTATION.**



**UNION LINE.**  
*FOR FREIGHT AND PASSENGERS.*



THE subscriber, as agent for the above extensive Line of

***Canal Boats,***

is prepared to receive PROPERTY and forward the same to Albany or New-York. He will also contract to receive MERCHANDISE in Albany or New-York, and forward the same to any part of the western country, or the Canadas.

☞ Office at the stone Warehouse, near the Episcopal Church.

**RUFUS MEECH.**

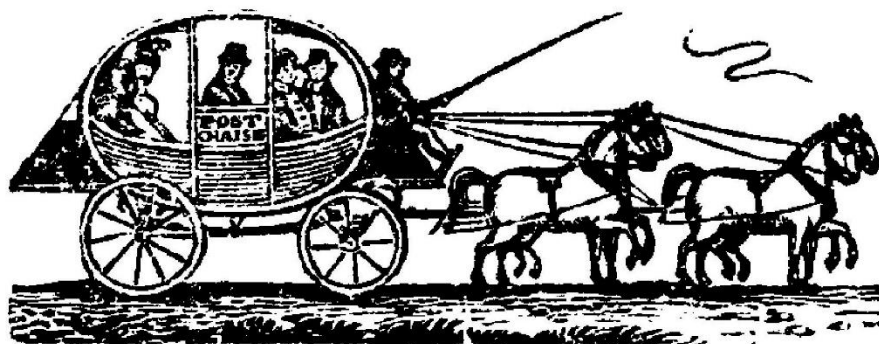
Rochester, March, 1827.

"Advertisement, Storage, Forwarding and Commission Business," *A Directory for the Village of Rochester*  
(Rochester, NY: Elisha Ely, 1827), 148.

<https://www.libraryweb.org/rochcitydir/images/1827/1827complete.pdf>.  
Courtesy of the Rochester Public Library Local History & Genealogy Division.



# GENERAL MAIL AND PILOT



## COACH-OFFICE,

CORNER OF BUFFALO AND CARROLL-ST. DIRECTLY OPPOSITE THE EAGLE TAVERN.

**T**WO Coaches leave this office every day for Canandaigua, Geneva, Auburn, Utica and Albany.

One, every morning for Lockport, Lewiston, Niagara Falls, and Youngstown.

One, every morning for Avon, Geneseo, Dansville, Hornellsville, Bath, and Olean Point.

One, for Palmyra, Lyons, Montezuma, Syracuse, Manlius, Cazenovia, Cherry Valley and Albany, every Tuesday, Thursday and Saturday.

One, for Batavia and Buffalo, every Tuesday, Thursday and Saturday, through in one day.

O. ADAMS & CO.

Rochester, March, 1827,

*"Advertisement, General Mail and Pilot," A Directory for the Village of Rochester*  
(Rochester, NY: Elisha Ely, 1827), 151.

<https://www.libraryweb.org/rochcitydir/images/1827/1827complete.pdf>.

Courtesy of the Rochester Public Library Local History & Genealogy Division.

**1834.**

**PACKET BOAT,**



*AND*

**Rail-Road**



**ARRANGEMENT.**

**A Packet BOAT** will leave Schenectady  
*Daily*, for Utica, Rochester and Buffalo, at

***Half past 10 o'clock A. M., and***

***Half past 6 o'clock P. M.***

**PASSENGERS** for the **PACKETS** will leave Albany  
by the **CARS** at 9 A. M. and 5 P. M.

**These are the only Cars that run to the Packets.**

**By this arrangement there is no delay, as the Packets will  
leave Schenectady immediately after the arrival of the Cars.**

*Broadside, Sign for 1834 packet boat trip, 1834.*

<https://catalogplus.libraryweb.org/?section=resource&resourceid=1115927864&currentIndex=8&view=fullDetailsDetailsTab>

Courtesy of the Rochester Public Library Local History & Genealogy Division.

The following view shows the increase of population from 1815 when the first census was taken, to 1834.

**POPULATION.**

<b>Year.</b>	<b>Population.</b>	<b>Year.</b>	<b>Population.</b>
1815	331	1825 (Feb.)	4274
1819	1049	1825 (Aug.)	5273
1820	1502	1826	7669
1832	2700	1830	10863
		1834	12252

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*"Population," Charter and Directory of the City of Rochester*  
(Rochester, NY: C. & M. Morse, 1834), 5.

<https://www.libraryweb.org/rochcitydir/images/1834/1834complete.pdf>.  
Courtesy of the Rochester Public Library Local History & Genealogy Division.



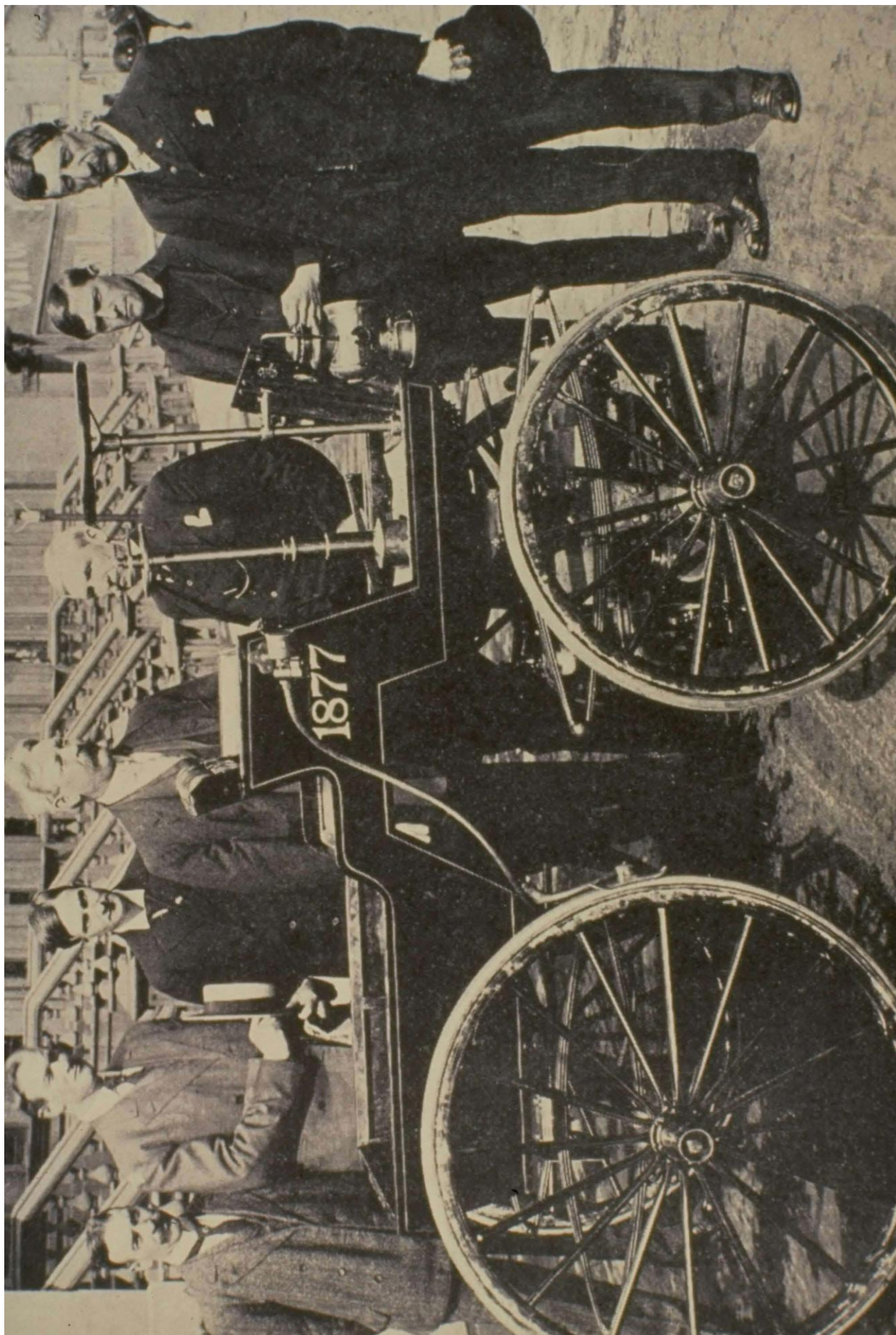
## RAIL ROADS.

The Tonawanda Rail Road is now completed and travelled for 25 miles, and early next season will be extended to Batavia and Attica—to connect with another Rail Road project running to Lake Erie. Valuable as the Tonawanda Road would be to Rochester, even were it not to connect other extending farther than Batavia or Attica, it assumes vastly greater consequence when we consider it to be, as it is in fact, one great link in the chain of Rail Road, now rapidly advancing to completion, for connecting the western waters with the Hudson and New England. From New England this important route will soon be completed to the Hudson—from that point, to Utica, the work has been in successful use this season—the route between Utica and Auburn, is commenced—from Auburn to Rochester cannot long remain undone, however much different towns may dispute about the route—and Rochester has already taken "time by the forelock," and pushed her share of the work nearly as far west as Batavia. The Locomotives were put on this road late in the fall, and from the fertile and rich country it traverses, it must next season add materially to the trade and travel of this city.

The Rail Road connecting the Erie Canal in the southern part of the city with the Steamboat Landing on the Genesee river in the northern part of the city, proves a great convenience to the multitude of travellers arriving and departing by the Lake, as well as to our business intercourse with the Canadian and American shores of Ontario and the St. Lawrence. To connect Rochester still more intimately with the Lake trade, the last Legislature chartered a company to construct a Rail Road to Charlotte, where the Genesee river unites with Ontario, five miles north of the city.

"Rail Roads," *Daily Democrat* (Rochester, NY), Jan. 4, 1837.

Courtesy of the Rochester Public Library Local History & Genealogy Division.



*George Selden with his 1877 Automobile, ca. 1877.*

<https://catalogplus.libraryweb.org/?section=resource&resourceid=1115938050&currentIndex=3&view=fullDetailsDetailsTab>

Courtesy of the City of Rochester.



# MOTOR CARRIAGE WAS A ROCHESTER IDEA

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Traced to George B. Selden Who  
Has an Early Patent.

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## IMPORTANT SUITS BEGUN

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An Association of All Motor Carriage  
Manufacturers in the Country  
Formed in Buffalo Thursday to  
Fight the Selden Patent.

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Recent events in the scientific world tend to show that the motor carriage, that is attracting so much attention at the close of this nineteenth century, is not a European invention, as is generally supposed, but is a product of the American brain, and, furthermore, has been traced to a Rochester man, George B. Selden, of No. 178 Alexander street. Mr. Selden's patent dates back to May 8, 1879. Recently the Electric Vehicle Company, of Hartford, Conn., acquired an interest in the patent, and this company has begun suits against the Buffalo Gasoline Motor Company, of Buffalo, and the Winton Motor Carriage Company, of Cleveland, for alleged infringement of the patents. That there is something in the claims of the Rochester man is shown by the fact that there has been formed an association of manufacturers of gasoline motor vehicles for the single purpose of fighting the Selden patent.

"Motor Carriage Was a Rochester Idea,"  
*Democrat and Chronicle* (Rochester, NY),  
Aug. 4, 1900.  
Courtesy of the Rochester Public Library  
Local History & Genealogy Division.



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## **FLYING MACHINE WORKED.**

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### **Two Young Men at Kitty Haw, N. C., Surpass Langley's Best Record.**

Norfolk, Va., Dec. 18.—The trial of a flying machine, made yesterday near Kitty Haw, N. C., by Wilbur and Orville Wright, of Dayton, O., was a complete success. The machine flew for three miles in the face of a wind blowing at the registered velocity of twenty-one miles an hour, and then gracefully descended to earth at the spot selected by the man in the navigator's car as a suitable landing place.

The machine has no balloon attachment but gets force from propellers worked by a small engine.

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"Flying Machine Worked," *Democrat and Chronicle* (Rochester, NY), Dec. 19, 1903.

Courtesy of the Rochester Public Library Local History & Genealogy Division.

# ***Curtiss Flies 31 Minutes; Only Comes Down to Rest***

## ***Hammondsport Aviator's Flight Longest in America, Except Those of Wrights.***

SPECIAL DISPATCH TO THE DEMOCRAT AND CHRONICLE.

Mineola, L. I., July 16.— Glenn H. Curtiss, of Hammondsport, made two successful flights over the Hempstead plains here this morning. The first time he remained in the air for about twelve minutes, coming down to get breakfast, and also to escape the fog. The second time, however, he remained in the air thirty-two minutes, and he said he could have remained up there for an indefinite period. He explained that he was "tired" and came down to take a rest.

The first flight was made a few minutes after 5 o'clock, and the other one between 7 and 8 o'clock. The course was a three-mile one, and as the aviator flew around it he seemed to have the aeroplane under perfect control. Curtiss remarked later that he handled the machine just as easily and that the whole mechanism worked as perfectly and as freely as any automobile ever did on the ground.

In discussing the flight, Mr. Curtiss said:

"I do not know exactly how long I was up in the air, but I do know that I made the longest flight that has been ac-

complished by an aeroplane in America this year. I am sure that I made not less than sixteen miles, and perhaps a little more, which is the record for this year.

"To-morrow morning, about half-past 5, I am to make an attempt to win the cup offered by the Scientific American for the longest flight of the current year. You know I won this cup in competition last year at Hammondsport. To-morrow morning I do not expect to have any competitors, but I will surely beat the record I made this morning.

"I believe in early morning flights, because the wind is better suited to flying, and the crowd is smaller—two very good reasons."

Curtiss's flight yesterday is the longest on record made by any heavier-than-air machines in this country, except those of the Wright brothers. Orville Wright made a flight of 74 minutes and 24 seconds at Fort Myer on September 12, 1908. At Le Mans, France, on December 31, 1908, Wilbur Wright remained in the air 2 hours and 9 minutes.

"Curtiss Flies 31 Minutes," *Democrat and Chronicle* (Rochester, NY), Jul. 17, 1909.

Courtesy of the Rochester Public Library Local History & Genealogy Division.