

Famous Canals

In this inquiry-based, internationally minded lesson, students will investigate canals around the world in order to understand that the Erie Canal was not the first canal to exist, and that canal systems impact the people that live around them, no matter where they are in the world. Students will conduct independent research to learn more about other canal systems.

Lesson Duration: DAY ONE: 50 minutes; DAY TWO: 50 minutes; DAY THREE: 50 minutes
TOTAL: 2.5 hours

Enduring Understanding: Canal systems exist around the world and serve a purpose for people.

Concepts: system, similar/different, connection

New York State Social Studies Standards Addressed:

4.1a Physical and thematic maps can be used to explore New York State's diverse geography.

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

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.

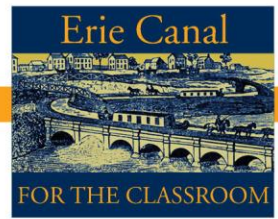
New York State Social Studies Practices Addressed:

A. Gathering, Interpreting, and Using Evidence

1. Develop questions about New York State and its history, geography, economics, and government.
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).
5. Identify inferences.
6. Create an understanding of the past by using primary and secondary sources.

B. Chronological Reasoning and Causation

1. Explain how events are related chronologically to one another.
4. Distinguish between long-term and immediate causes and effects of a current event or an event in history.
6. Use periods of time such as decades and centuries to put events into chronological order.



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C. Comparison and Contextualization

4. Recognize the relationship between geography, economics, and history in social studies.

D. Geographic Reasoning

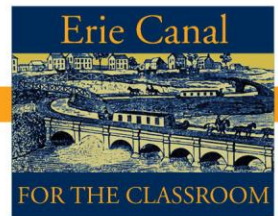
1. Use location terms and geographic representations (maps and models) to describe where places are in relation to each other, to describe connections between places, and to evaluate the benefits of particular places for purposeful activities.
3. Identify how environments affect human activities and how human activities affect physical environments.
4. Recognize relationships between patterns and processes.
5. Describe how human activities alter places and regions.

Teacher Questions:

1. Where is the canal located?
2. When was it built?
3. What is the main purpose of the canal? How do you know?
4. Is the canal functional today? If so, does it still have the same purpose?
5. How are canal systems around the world similar and different?
6. Is there anything unique or interesting about each canal?
7. How do these canals compare to the Erie Canal?
8. Why should we learn about canals around the world?

Materials List:

1. Erie Canal primary sources such as images, maps, short articles (provided)
2. Famous Canal Research Template (provided) – either electronic form with a chart, spreadsheet, Google form, or document OR hard copies
3. Large butcher paper or chart paper with the template copied down onto it in black marker – you may want to use different colors for different canals as you complete the chart
4. Markers
5. Access to device and Internet for research – if this is not possible, teacher gathers information on famous canals ahead of time, and may need to adjust the options depending on access to resources. Students may also use books, articles, images, and any other relevant source to gather information.
6. A way to record student thoughts where students can see/access all



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TEACHER NOTE: Some ideas for canals that students can research are included below. These canals are a small representation of canals around the world. Students may research one of these, or a different canal of their choosing.

- Panama Canal
- Suez Canal
- Venice Canal System
- Amsterdam Canal System
- Bangkok Canal
- Suzhou Canal System
- Basingstoke Canal
- Royal Canal
- Lehigh Canal
- Canal de Castilla
- Fossa Carolina
- Glastonbury Canal
- China's Grand Canal
- German Kiel Canal
- Grand Canal of Ireland
- Corinth Canal

Teachers may provide images or only the names of the canals for students to research. Images of many of the canals listed here can be found in the Library of Congress Prints and Photographs Division, <https://www.loc.gov/pictures/>. A selection of these images is provided in this lesson. Canal systems books from your library will also be very helpful. Any canal exploration will be valuable for this lesson. Take advantage of the resources available to you.

Procedure:

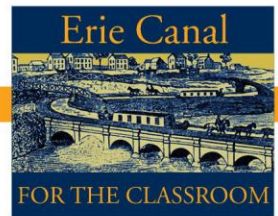
Teacher Questions	Procedure	Materials
	DAY ONE: 5 minutes: Introduce students to this research lesson by explaining that the class will learn some basic information about the Erie Canal together, and then work alone or with a partner to find out information about another famous or important canal somewhere else in the world.	
1. Where is the canal located? 2. When was it built? 3. What is the main purpose of the canal? How do you know? 4. Is the canal functional today? If so, does it still have	45 minutes: Students will participate in a class research session where they view various primary source documents to gather information about the Erie Canal. A selection of these documents is provided; more can be found in the Erie Canal topic section of the Rochester Public Library's <i>Rochester Voices</i> website: http://www.rochestervoices.org/topics/erie-canal/ .	<ul style="list-style-type: none"> • Erie Canal Primary Sources such as images, maps, short articles (provided) • Famous Canal Research Template (provided) – either electronic form with a chart, spreadsheet, Google form, or document OR hard copies • Large butcher paper or chart paper with the template

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<p>the same purpose?</p> <p>5. How are canal systems around the world similar and different?</p> <p>6. Is there anything unique or interesting about each canal?</p>	<p>The teacher will record the information on chart paper to keep on display in the classroom. This information will be identical to information the students will then gather in researching another important/famous canal of their choosing.</p> <p>One way to organize the learning is to divide the students into groups, assign each group a question to answer, and allow them 10 minutes to answer it. Another approach would be to allow groups to use all the resources provided to answer as many of the questions as they can on their own and then come together to share. Alternatively, the whole class could work together to answer each question, having all of the primary sources in front of them at the same time to read/review together. This will all depend on teacher preference and class familiarity with research practices.</p>	<p>copied down onto it in black marker – you may want to use different colors for different canals as you complete the chart</p> <ul style="list-style-type: none"> Markers
<p>1. Where is the canal located?</p> <p>2. When was it built?</p> <p>3. What is the main purpose of the canal? How do you know?</p> <p>4. Is the canal functional today? If so, does it still have the same purpose?</p> <p>5. How are canal systems around the world similar and different?</p> <p>6. Is there anything unique or interesting about each canal?</p>	<p>DAY TWO:</p> <p>5 minutes: Remind students of the criteria they are looking for in their research. Assign groups/pairs/individuals a famous canal (list provided)</p> <p>45 minutes: Students research the components of their assigned or chosen canal while teacher guides and supports those that need assistance. Students take notes in their own research templates.</p>	<ul style="list-style-type: none"> Famous Canal Research Template (provided) – either electronic form with a chart, spreadsheet, Google form, or document OR hard copies Access to device and internet for research – if this is not possible, teacher gathers information on famous canals ahead of time, and may need to adjust the options depending on access to resources. Students may also use books, articles, images, and any other relevant source to gather information.

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<p>7. How do these canals compare to the Erie Canal?</p> <p>8. Why should we learn about canals around the world?</p>	<p>DAY THREE:</p> <p>30 minutes: Allow students to share the information they learned about their famous canal. The teacher or student can copy this information down into the class chart. Another option is to share this information through a Google Form, Shared Google Sheet/Excel or doc with a chart embedded, or something similar for collaboration.</p> <p>The benefit of a paper chart is that students can review this information at any time, throughout the remainder of the unit as it is displayed in the room.</p> <p>20 minutes: Students will participate in a class reflection in a whole group setting, or in pairs/groups. They will reflect on the following questions:</p> <ul style="list-style-type: none"> • How do these canals compare to the Erie Canal? • Why should we learn about canals around the world? <p>Record this information where students can see/access. Be sure to include ALL responses that are viable and allow students to drive the conversation by responding to one another through conversation starters like, “I agree and would like to add...”; “I disagree because...”; “I would like to add to your idea...”; or “That makes me think of...”</p>	<ul style="list-style-type: none"> • A way to record student thoughts where students can see/access all
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Famous Canals

Name(s) _____ Date _____

Famous Canals Research Template

Name of Famous Canal: _____

Question	Information	Sources Cited
Where is the canal located?		
When was it built?		
What is the main purpose of the canal? How do you know?		
Is the canal functional today? If so, does it still have the same purpose?		
How are canal systems around the world similar and different?		
Is there anything unique or interesting about this canal?		
How does this canal compare to the Erie Canal? (You may use your previous answers to help you answer this question!)		

DAILY DEMOCRAT.

ROCHESTER, N. Y.

MONDAY MORNING, FEB. 8, 1847.

Early Opening of Navigation.

The present state of the markets and the quantity of produce awaiting transportation, render an early opening of navigation imperatively necessary. The demand for breadstuffs in Europe, and the small stock on hand in the sea board markets, will probably call out all the stocks remaining in store. It is by no means certain that the present high prices will continue for many months; and if our farmers and produce dealers, and through them the country in general, are to be benefitted by the present favorable state of things, they must be provided with the means of transportation early in the spring. It is well known that the rail roads can, with their present means, do but little in the way of transporting flour. This renders an early opening of navigation the more necessary. The season has been unusually mild, and we have good reason to anticipate an unusually early opening of the Lake, which will throw into Buffalo an enormous quantity of western produce. Rochester has now 30,000 barrels of flour ready to send east, and she can with ease turn out that amount each week after the opening of navigation. The Canal Board should be urged to make an extra effort to place the Canals in a navigable condition at as early a day as possible. Produce dealers, boat owners, and boatmen, should unite in a movement to that effect. We understand that some of our business men have already written the Canal Board on the subject, but a further demonstration should be made immediately.

"Early Opening of Navigation,"
Daily Democrat (Rochester, NY),
Feb. 8, 1847. Courtesy of the
Rochester Public Library Local
History & Genealogy Division.

*Account of Property shipped at Rochester, on the
Eric Canal for the years 1844 and 1845.*

	1845.	1844.
Fur and Peltry,	lbs. 4,050	1390
Staves,	" 163,900	336,000
Bacon,	" 36,723	
Cheese,	" 293,000	27,000
Butter,	" 267,685	124,000
Lard,	" 13,709	7,000
Wool,	" 852,159	869,000
Hides,	" 68,067	1,300
Dried fruit,	" 345,244	13,000
Tobacco,	" 34,166	18,200
Grass seed,	" 72,102	86,102
Hops	" 4,705	4,100
Leather	" 33,142	10,800
Furniture,	" 1,431,012	728,700
Pig Iron	" 124,558	26,500
Iron-ware	" 193,753	60,000
D. Woollens	" 63,789	39,400
Merchandise	" 2,106,889	3,490,300
Stone and lime	" 39,313	22,000
Gypsum	" 3,360	8,500
Coal	" 27,000	13,000
Sundries	" 3,900,000	1,245,400
Shingles	ms. 461	102
Boards & Scant'g.	ft. 1,153,000	188,000
Timber	c " 1,926	50
Ashes	bbls. 2,702	1,980
Pork	" 451	734
Beef	" 340	350
Flour	" 518,317	400,378
Salt	" 13,330	175
Wheat	bu. 21,726	6,248
Corn	" 127	
Barley	" 2,868	183
Other grain	" 14,700	23,400
Ship stuffs	" 275,523	230,000
Peas and beans	" 6,407	1,600
Potatoes	" 7,011	195
Domestic spirits, gallons	15,215	7,949

Among the points worthy of note in the above exhibit and contrast, is the largely increased export of Bacon, Cheese, Butter and Lard, Hides, Dried Fruit, Leather, Pig Iron, Iron-ware, and last, though not least, of Flour. Of this article, it will be seen that the increase in nearly one hundred and eighteen thousand barrels, making a difference in this article alone, of nearly \$600,000. The article of domestic woollens has nearly doubled; yet the amount is much less than we supposed it would be for the season. In the article of manufactured iron, it will be seen that the amount is more than treble of that sent off last year. Among the declensions in shipments will be noticed that of merchandise, which has fallen off some thirteen hundred thousand pounds; while there has been an increase in the article of lumber of nearly one million of feet.— This increase is accounted for by the fact, that machine planed boards are becoming in much demand at all points along the canal. The export of Pork and Beef were scarcely worth noting last year, but they have been less the present one. In the article of wool, there has been a slight decline, though probably not greater than that of the increased consumption of the article here.

"Rochester Canal Commerce for 1845,"
Daily Advertiser (Rochester, NY), Dec. 12, 1845,
excerpted. Courtesy of the Rochester Public
Library Local History & Genealogy Division.

THE REPUBLICAN.

TUESDAY, NOV. 15, 1825.

Canal Celebration.—The papers are filled with accounts of celebrations in different places, of that great and interesting event, the completion of the Erie Canal. The citizens of most places benefitted by this great work, seem to have truly felt that no event was so worthy of a joyous celebration, as this one, which they have gladly united to commemorate. Nay, those who from their situation might seem to derive no peculiar benefit from this undertaking, have, with an honest and commendable disinterestedness come forward and offered their congratulations; all have seemed anxious to give vent, by some public testimonial, to the glad feelings which this event has excited. After "the first boat" had left this village, it was received at the different villages between this place and Albany, with prepared celebrations and public rejoicings. It arrived at Albany on the 2d inst. and its patriotic citizens were not backward in celebrating its arrival. An address was pronounced by Wm. James Esq. and after the ceremonies of the day were over, the boats were towed down the river to New-York. The Celebration at New-York was on the 4th inst. and is described as being peculiarly splendid and imposing. The Societies of the different Mechanics, with the insignia of their professions, with their cars drawn by beautiful horses containing artisans at work at their respective trades, and decorated with banners and devices; the Fire Companies with their ornamented engines; the musicians dressed in scarlet and gold; the Free Masons with their gorgeous and symbolical array; the Soldier with "sword and plume;" the Schollars in their academical dress, and the official functionaries with their dignity must have formed a procession at once splendid and dignified; alike imposing and interesting. The aquatic procession to Sandy-Hook likewise was not without its interest or devoid of splendor. The fleet of Steam Boats gaily decorated towing out the little barks of the West, must have been an interesting spectacle to one who reflected that a few years since, the peaceful calm of New-York bay was undisturbed in its quiet by either one or the other. The mingling the waters of Erie with the "Ocean's brine" will likewise have its interest when viewed as a symbol of the completion of the great work. But we hope to publish the proceedings entire at some future time; meanwhile we cannot leave the subject of the Celebrating the completion of the Erie Canal without a brief retrospect to its commencement and progress.

On the 4th of July 1817, ground was first broken in this undertaking. It was then considered an enterprise of very doubtful character. Like the steps of infancy, feeble, tottering and uncertain, it seemed to afford no sure promise of its early and vigorous manhood. Many thought it a wild and ruinous project, too vast for the resources of the State, and too premature for its energies. Such men opposed it, and the patriotism and devotion to the public good of such men, is no more to be questioned than that of those who were successful in supporting the measure, nay such men are wanted in a government like ours, to stand forth in manly opposition to extravagant and visionary projects.

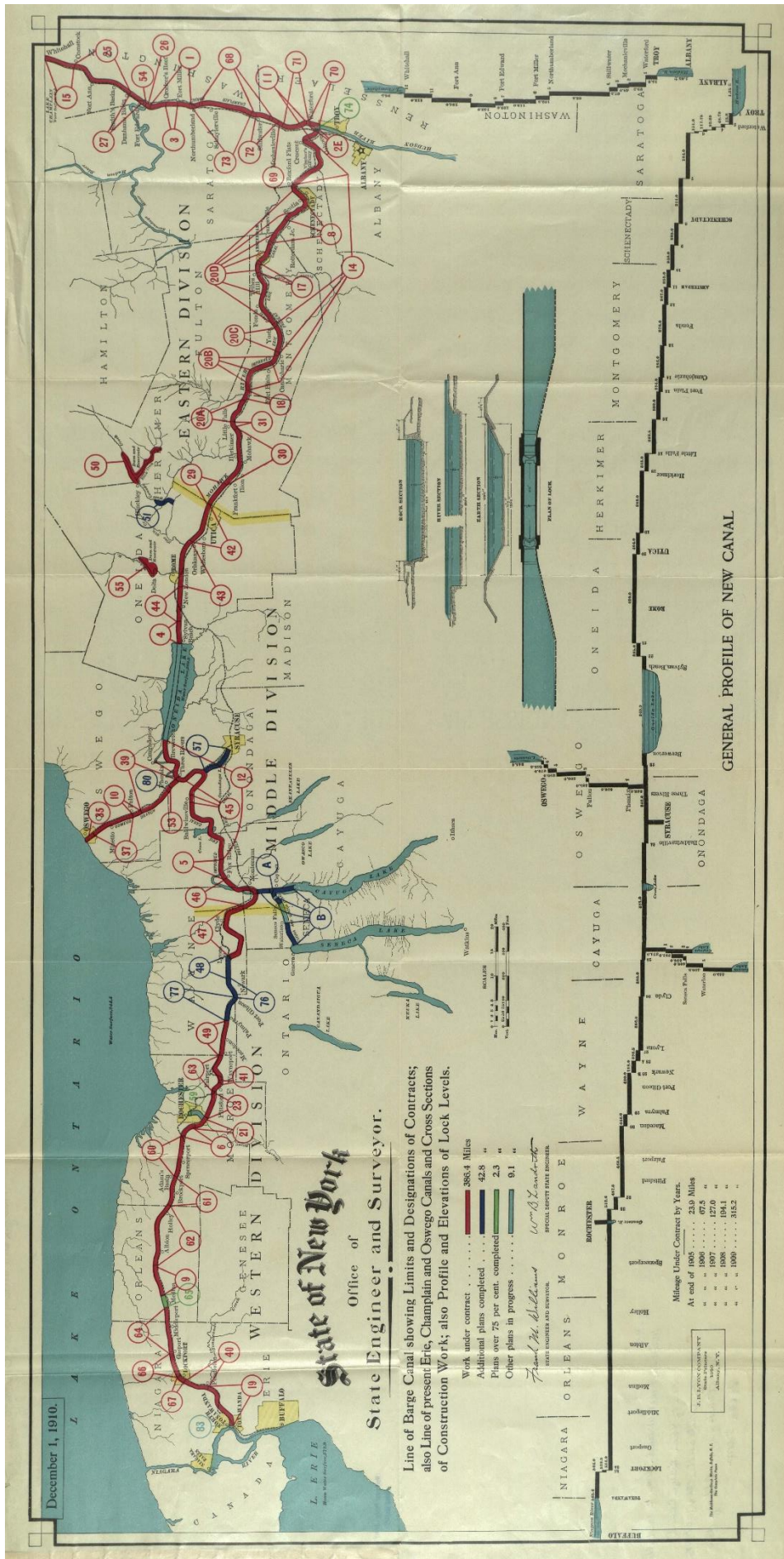
Those who thought the enterprise practicable scarce expected to live to behold its completion. Now, but little more than eight years have elapsed and we behold their public rejoicings for that event. The warmest dreams of the most sanguine and enthusiastic have been more than realized, a Canal of more than 360 miles in length has been completed, with a vigor, an enterprise and rapidity of which only our own country affords an example.

After all, the rapidity of its completion is but of a piece with the progress of other improvements in this young and flourishing country, where enterprise is in its highest spring. We are a nation not yet fifty years old, and from a feeble youth, we have already grown to an active and vigorous manhood. The fertile west has advanced with a rapidity fully equal to this great undertaking. Look at our towns and villages—our farms and cultivated fields; eight years since, they might almost be said to be among the "waste places" now they are growing into CITIES and blooming into cultivation.

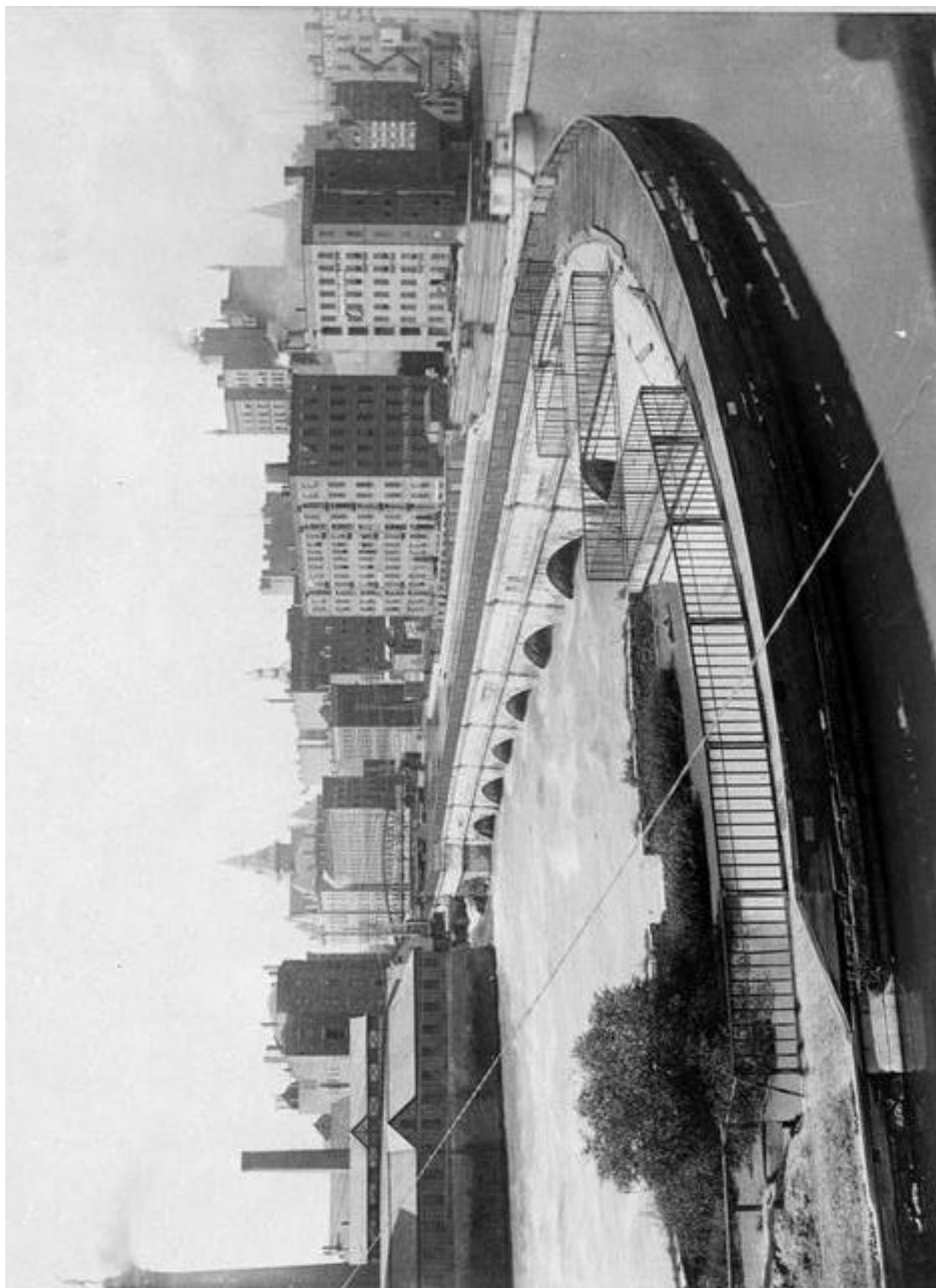
As to whom is due the credit of originating and perfecting the great Enterprise whose completion has been thus celebrated, perhaps there can be little difference of opinion. As was well said by the Orator in this village, credit is due firstly and chiefly to an "enlightened community," prompt to procure the advantages their country held out, and enterprising to develop them. The same spirit has been brought to the completion of this great work which has been active in converting the wilderness into fertile fields, and the waste places into habitations for man to dwell in. The enterprise which originated and perfected it, is not, nor cannot be called, individual; it is public, general, national.

"Canal Celebration,"
Monroe Republican
(Rochester, NY),
Nov. 15, 1825.

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



New York State Engineer and Surveyor, *Line of barge canal showing limits and designations of contracts* [map], Albany, NY: J.B. Lyon Co., 1910, 83 x 43 cm. <https://catalogplus.libraryweb.org/?section=resource&resourceid=1117043443¤tIndex=0&view=fullDetailsDetailsTab>.
Courtesy of the Rochester Public Library Local History & Genealogy Division.



Erie Canal Aqueduct, Rochester, NY, 1888-1894.

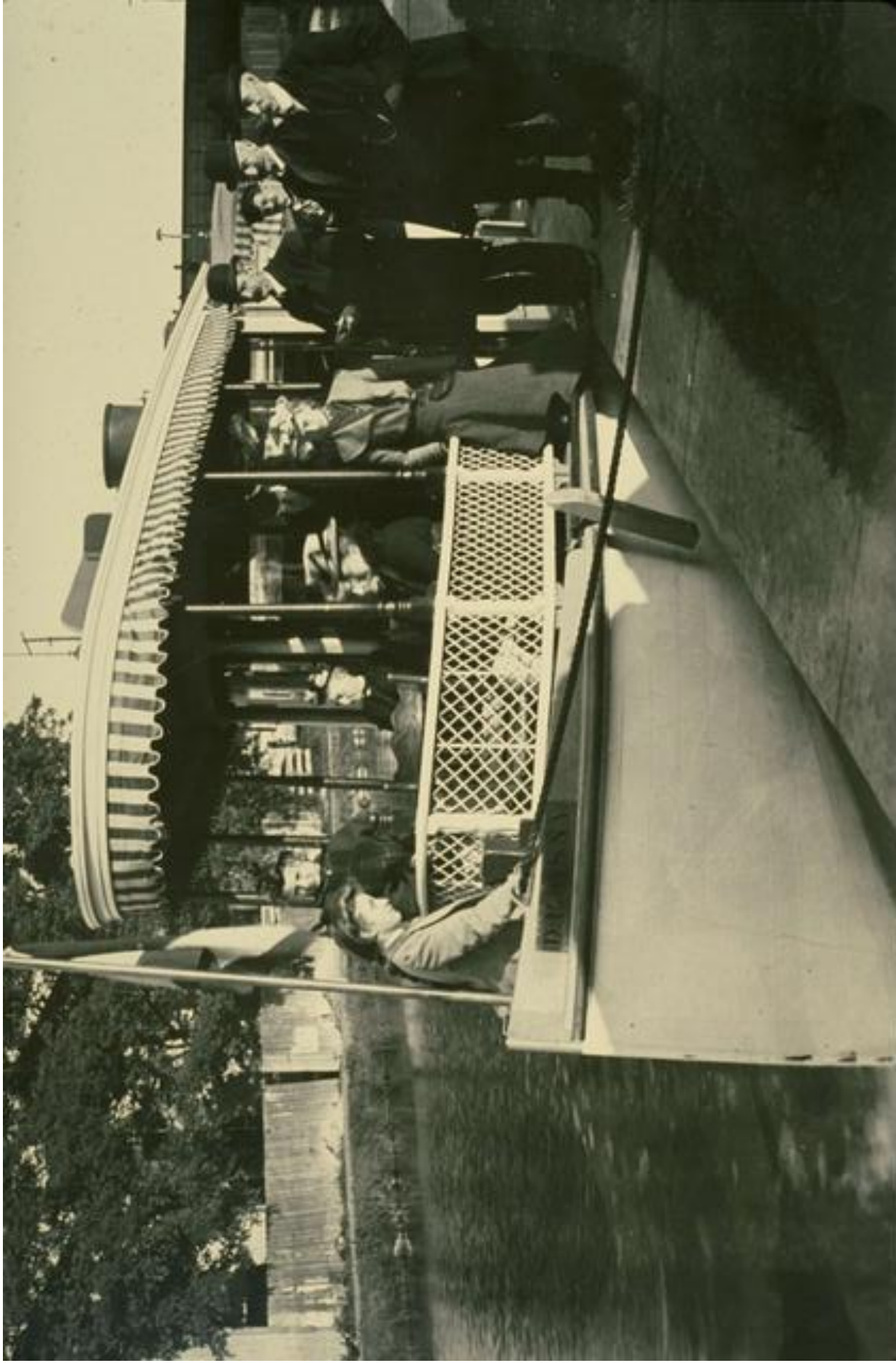
<https://catalogplus.libraryweb.org/?section=resource&resourceid=1115909858¤tIndex=7&view=fullDetailsDetailsTab>.

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



Albert R. Stone, *Aqueduct becomes Broad Street Bridge*, ca. 1924.

<https://catalogplus.libraryweb.org/?section=resource&resourceid=1116802568¤tIndex=1&view=fullDetailsDetailsTab>.
From the Albert R. Stone Negative Collection, Rochester Museum & Science Center, Rochester, NY.



Erie Canal boat in 1890s, ca. 1890s.

<https://catalogplus.libraryweb.org/?section=resource&resourceid=1115955591¤tindex=7&view=fullDetailsDetailsTab>.

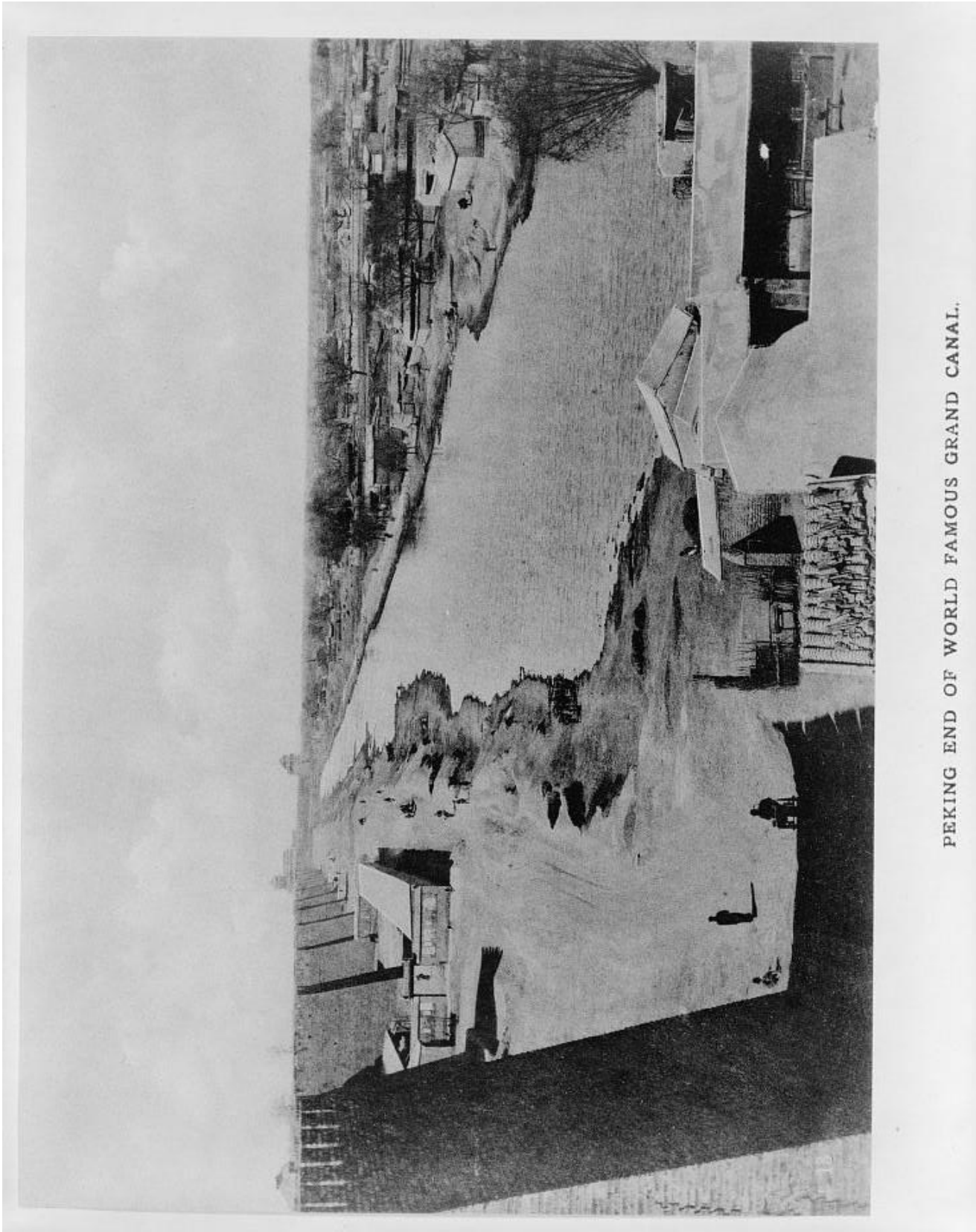
Courtesy of the City of Rochester.



Sam Patch canal boat, 1991.

<https://catalogplus.libraryweb.org/?section=resource&resourceid=1115901088¤tIndex=1&view=fullDetailsDetailsTab>.

Courtesy of the City of Rochester.



PEKING END OF WORLD FAMOUS GRAND CANAL.

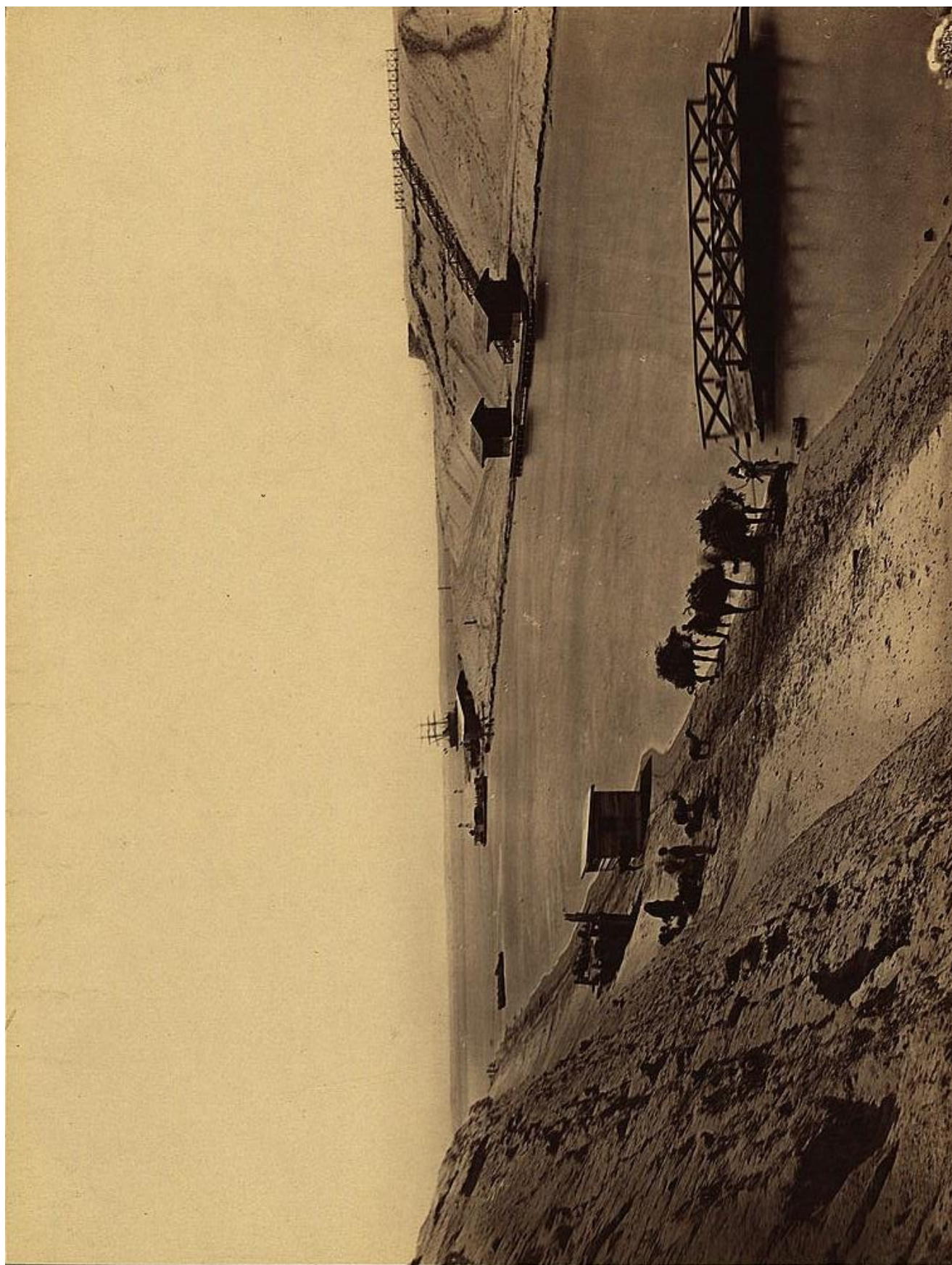
J.D. Zumbrun, *Peking End of World Famous Grand Canal, Beijing, China, ca. 1900.*
<https://www.loc.gov/item/2006691458/>. Courtesy of Library of Congress Prints and Photographs Division.

073303 CULEBRA CUT LOOKING SOUTH, PANAMA CANAL.



Detroit Publishing Co., *Culebra Cut, looking south, Panama Canal, 1910-1920.*

<https://www.loc.gov/item/2016814115/>. Courtesy of Library of Congress Prints and Photographs Division.



Frank Mason Good, Egypt - Suez Canal - Lake Timsah, from opp. the chalet 1856-1860.
<https://www.loc.gov/item/2004669802/>. Courtesy of Library of Congress Prints and Photographs Division.

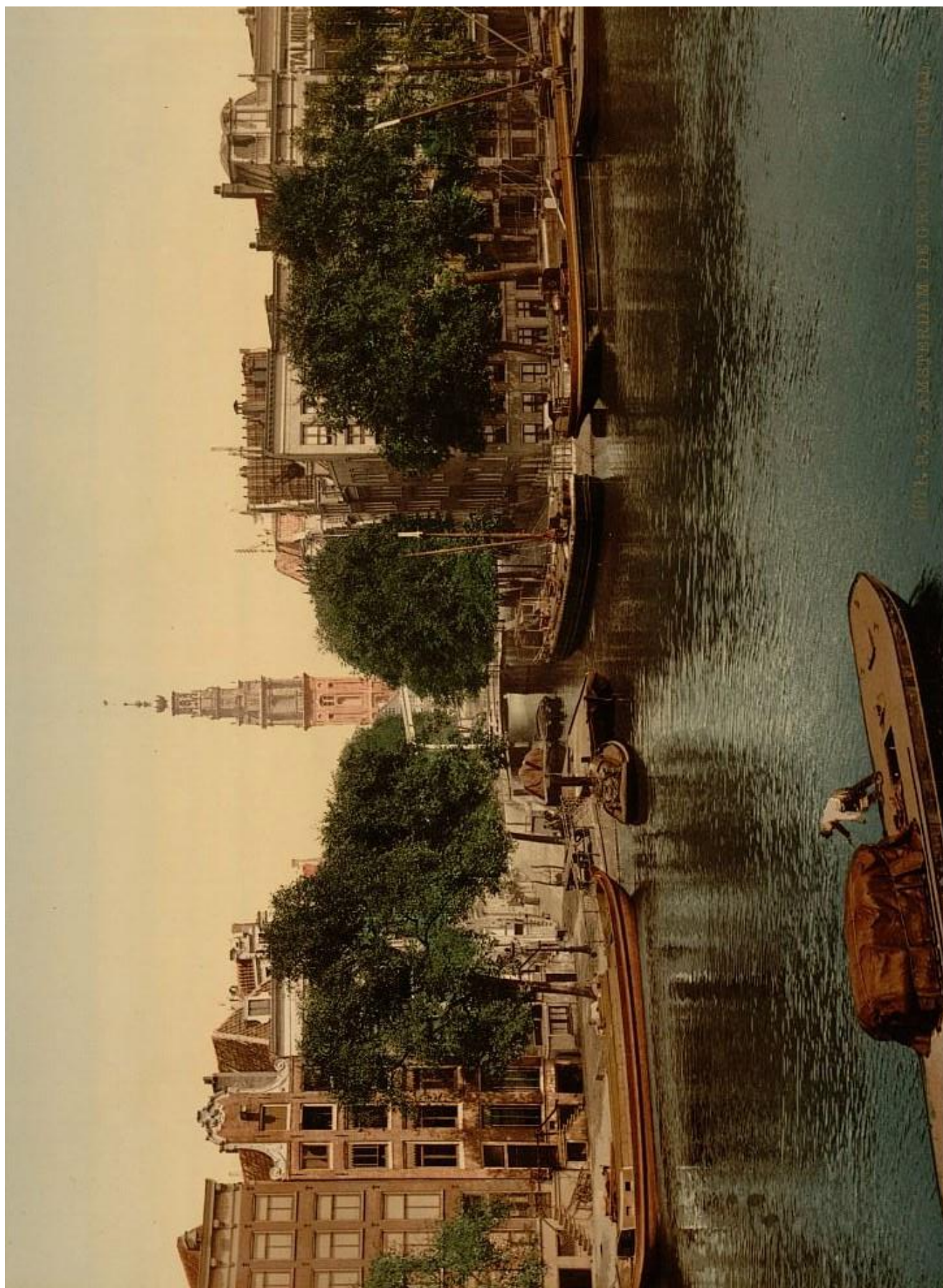


China, Kiangsu Province, Soochow, bridge over canal, 1890-1923.
<https://www.loc.gov/item/96514423/>. Courtesy of Library of Congress Prints and Photographs Division.



On the Grand Canal, Venice, Italy, ca. 1890-1900.

<https://www.loc.gov/item/2001701019/>. Courtesy of Library of Congress Prints and Photographs Division.



Groen Burgwal (canal), Amsterdam, Holland, ca. 1890-1900.

<https://www.loc.gov/item/2001698761/>. Courtesy of Library of Congress Prints and Photographs Division.



"Osborne," Royal Yacht of the Royal Navy at the opening of the Kiel Canal in Kiel, Germany, 1895.
<https://www.loc.gov/item/2002708350>. Courtesy of Library of Congress Prints and Photographs Division.