

CEDAR RAPIDS.—St. Lawrence River.

THE GREAT LAKES,
OR
INLAND SEAS OF AMERICA;

EMBRACING A FULL DESCRIPTION OF

LAKES SUPERIOR, HURON, MICHIGAN, ERIE, AND ONTARIO;
RIVERS ST. MARY, ST. CLAIR, DETROIT, NIAGARA, AND ST. LAWRENCE;
COMMERCE OF THE LAKES, ETC., ETC.

TOGETHER WITH A GUIDE TO THE

UPPER MISSISSIPPI RIVER,

GIVING A DESCRIPTION OF CITIES, TOWNS, ETC.

FORMING ALTOGETHER A

COMPLETE GUIDE FOR THE PLEASURE TRAVELER & EMIGRANT.

With Maps and Embellishments.

COMPILED BY J. ^{Colin} DISTURNELL,

AUTHOR OF THE "INFLUENCE OF CLIMATE," ETC.

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District of New York.

P R E F A C E .

IN presenting to the Public the present volume, entitled "THE GREAT LAKES, OR 'INLAND SEAS' OF AMERICA," embracing the Magnitude of the Lakes—Commerce of the Lakes—Trip through the Lakes—Route from Lake Superior to Lake Winnipeg—Tables of Distances, etc. ; also, a Guide to the Upper Mississippi and Red River of the North, the Compiler wishes to return his sincere thanks for the liberal patronage and the many kind favors received from those who have doubly assisted him, by contributing reliable and useful information in regard to the many interesting localities in which the Great Valley of the Lakes and of the St. Lawrence abounds, affording altogether many new and interesting facts of great importance to the Tourist, who may wish to visit the Inland Seas of America for health or pleasure ; the tour being one of the most healthy, picturesque, and wonderful—when viewed as a whole, from Lake Winnipeg to Lake Superior, and thence to the Gulf of St. Lawrence—on the face of the globe.

In the arrangement and compilation of this work every attempt has been made to render the information it contains concise and truthful. The Magnitude and also the Commerce of the Lakes are themes of great interest, they now being whitened by a large fleet of sail-vessels, in addition to the swift steamers and propellers which plough the waters of these Great Lakes, transporting annually large numbers of passengers, and an immense amount of agricultural and mineral products, to and from the different ports.

Lake Superior, the *Ultima Thule* of many travellers, can now be easily reached by lines of steamers starting from Cleveland and Detroit, running through Lake Huron and the St. Mary's River; or from Chicago and Milwaukee, passing through Lake Michigan and the Straits of Mackinac. All these routes are fully described, in connection with the Collingwood Route, and Route to Green Bay; affording altogether ample and cheap opportunities to visit every portion of the Upper Lakes and their adjacent shores.

The most noted places of Resort are Mackinac, Saut Ste. Marie, Munising, near the Pictured Rocks, Marquette, Houghton, Copper Harbor, Ontonagon, Bayfield, and Superior City. If to these should be added a Trip to the North Shore of Canada, visiting Michipicoten Island, Fort William, and other interesting localities—passing Isle Royale, attached to the State of Michigan—the intelligent Tourist would see new wonders of almost indescribable interest, while inhaling the pure atmosphere of this whole region of Lake Country. Among the Mineral Regions may be found objects of interest sufficient to induce the tourist to spend some weeks or months in exploration, hunting, and fishing; and if, added to this, should be included a journey to the Upper Mississippi Valley, or Lake Winnipeg, an entire season could be profitably employed.

NEW YORK, *June*, 1868.

J. D.

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GRAND PLEASURE EXCURSION

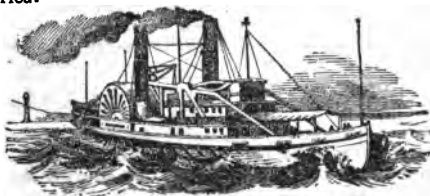
FROM NEW YORK TO LAKE SUPERIOR & ST. PAUL, via *NIAGARA FALLS.*



TABLE ROCK.

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THIS RAILROAD AND STEAMBOAT ROUTE from the **City of New York** to **St. Paul, Minn.**, via Niagara Falls, Lakes Huron and Superior,—passing the Island of Mackinac, the Saut Ste. Marie, and the Pictured Rocks,—a total Distance of 1,756 Miles, affords the invalid, and seeker of pleasure, during the Summer months, one of most healthy, interesting, and **Grand Excursions** on the Continent of America.





BUFFALO AND NIAGARA FALLS TO MONTREAL AND QUEBEC,

PASSING through LAKE ONTARIO, the THOUSAND ISLANDS, and down the RAPIDS of the ST. LAWRENCE RIVER.

American Side.	Objects of Interest, etc.	Canada Side.
BUFFALOMiles.	Foot of Lake Erie. ERIE CANAL. Niagara River.	Fort Erie Miles.
<i>New York Central R.R.</i>		<i>Buffalo & Lake Huron R. R.</i>
BLACK ROCK 3	Grand Island, A. Navy Island, C. Goat Island, A. Falls of Niagara.* Suspension Bridge. Rapids and Whirlpool. <i>Head of Navigation.</i>	WATERLOO 3
<i>Buffalo & Niagara Falls R. R.</i>		<i>Steam Ferry</i>
TONAWANDA 8-11		CHIPPewa17-20
Schlosser's Landing...10-21		Table Rock 2-22
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	ton, and other Ports on	COBOURG 8-148
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<i>Watertown & Rome R. R.</i>	Rapids, having a total de-	Mallorytown18-256
Clayton13-233	scend of over 200 feet, af-	Brockville12-268
Alexandria16-249	fording the most interesting	<i>Brockville and Ottawa R. R.</i>
Morristown20-269	excursion on the Continent.	Prescott12-280
OGDENSBURGH 11-280	THOUSAND ISLANDS.	<i>Ottawa and Prescott R. R.</i> , 53
<i>Northern Railroad</i> , 118 miles	Wolf, or Grand Island, Can.	miles to Ottawa City.
to Rouse's Point.	Howe Island , Gore Isl'd. "	
	Well's Island , New York.	
	Admiralty Islands.	
	Navy Islands.	
	Old Friends Group, and other	
	groups.†	


* Situate in North latitude 43° 6', and West longitude 2° 6' from Washington, being 594 miles above Quebec.

† There are two channels through these numerous and romantic Islands, known as the *American*, and *Canadian Channels*. The former passes near Cape Vincent, Clayton, Alexandria, etc., being for the most part in American waters, attached to the State of N. York.

American Side.	Objects of Interest, etc.	Canada Side.
Chimney Island.....5-285		Windmill Point.....2-282 Isle aux Moutons..... Drummond's Island.... Duck Island.....
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LISBON.....7-294 Ogden's Island.....4-298	RAPID PLAT, 11½ feet descent.	Canal, 2 miles. WILLIAMSBURG.....2-301 Canal, 4 miles. Chrysler's Farm.....4-305 Cat Island..... Faren's Point.....6-311 Canal, 3 miles. DICKINSON'S LANDING..5-316
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Beauharnois.....8-373	CASCADE RAPIDS.* Mouth of the Ottawa River. LAKE ST. LOUIS.	SPLIT ROCK RAPIDS.

The North, or Canadian Channel, extends from Kingston, passing near Gananoque. Several light-houses, or beacons, have been erected by the Canadian authorities to mark this intricate channel, which is studded with beautiful groups of islands—the *Fiddler's Elbow*, the *Sisters*, and the *Scotch Bonnet*, being passes, or groups of islands, of the most romantic character.

* The above four rapids are ascended by means of the *Beauharnois Canal*, 11½ miles in length, with locks, overcoming a descent of 84 feet.

American Side.	Objects of Interest, etc.	Canadian Side.
CAUGHNAWAGA.....17-399 <i>Montreal & Plattsburgh R.R.</i>	LACHINE RAPIDS, 44½ feet descent.	Lachine.....18-399 <i>Canal, 8½ miles.</i>
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Dechellons.....		St. Marie.....
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St. Antoine.....		St. Augustine.....
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<i>Grand Trunk Railway.</i>		Cape Rouge.....20-514
Point Levi.....574		Wolfe's Cove.....8-572
<i>Steam Ferry.</i>		QUEBEC2-574
		North latitude 46° 49'.

Trip to the Lower St. Lawrence and Saguenay Rivers.

The noble ST. LAWRENCE RIVER, which is about one mile wide opposite Quebec, extends a distance of about 400 miles when it empties into the Gulf, widening to 100 miles and upwards before reaching the Island of Anticosta.

The far-famed SAGUENAY RIVER, its largest tributary, enters from the West about 140 miles below Quebec, the St. Lawrence here being about 30 miles wide.

At *Murray Bay*, 80 miles; *Kamouraska*, 100 miles; *Riviere Du Loup*, 120 miles; *Ca-*

couna, 126 miles; and the *Tadoussac*, 140 miles; and at other resorts, or Watering Places, along the Lower St. Lawrence, are well kept Hotels, where sea-bathing and fishing can be enjoyed by visitors seeking health and pleasure during the summer months.

During warm weather, Steamers run every few days from MONTREAL and QUEBEC for the Lower St. Lawrence and Saguenay Rivers, affording one of the most romantic and healthy excursions on the Continent of America.

MAGNITUDE OF THE LAKES, OR "INLAND SEAS."



NOTHING but a voyage over all of the great bodies of water forming the "INLAND SEAS," can furnish the tourist, or scientific explorer, a just idea of the extent, depth, and clearness of the waters of the Great Lakes of America, together with the healthy influence, fertility, and romantic beauty of the numerous islands, and surrounding shores, forming a circuit of about 4,000 miles, with an area of 90,000 square miles, or about twice the extent of the State of New York—extending through eight degrees of latitude, and sixteen degrees of longitude—this region embracing the entire north half of the temperate zone, where the purity of the atmosphere vies with the purity of these extensive waters, or "Inland Seas," being connected by navigable rivers or straits.

The States, washed by the Great Lakes, are New York, Pennsylvania, Ohio, Michigan, Indiana, Illinois, Wisconsin, Minnesota, and Canada West—the boundary line between the United States and the British Possessions running through the centre of Lakes Superior, Huron, St. Clair, Erie, and Ontario, together with the connecting rivers or straits, and down the St. Lawrence River to the 45th parallel of latitude. From thence the St. Lawrence flows in a northeast direction through Canada into the Gulf of St. Law-

rence. The romantic beauty of the rapids of this noble stream, and its majestic flow through a healthy and rich section of country, is unsurpassed for grand lake and river scenery.

Lake Superior, the largest of the Inland Seas, lying between $46^{\circ} 30'$ and 49° north latitude, and between $84^{\circ} 30'$ and $92^{\circ} 30'$ west longitude from Greenwich, is situated at a height of 600 feet above the Gulf of St. Lawrence, from which it is distant about 1,500 miles by the course of its outlet and the St. Lawrence river. It is 460 miles long from east to west, and 170 miles broad in its widest part, with an average breadth of 85 miles; the entire circuit being about 1,200 miles. It is 800 feet in greatest depth, extending 200 feet below the level of the ocean. Estimated area, 31,500 square miles, being by far the largest body of fresh water on the face of the globe—celebrated alike for its sparkling purity, romantic scenery, and healthy influence of its surrounding climate. About one hundred rivers and creeks are said to flow into the lake, the greatest part being small streams, and but few navigable except for canoes, owing to numerous falls and rapids. It discharges its waters eastward, by the strait, or river *St. Mary*, 60 miles long, into Lake Huron, which lies 26 feet below, there being about 20 feet descent at the Saut Ste Marie, which is overcome by means of two locks and a ship canal. Its outlet, is a most lovely and romantic stream, embosoming a number of large and fertile islands, covered with a rich foliage.

Lake Michigan, lying 576 ft. above the sea, is 320 miles long, 85 miles broad, and 700 feet deep; area, 22,000 square miles. This lake lies wholly within the confines of the United States. It presents a large expanse of water, with but few islands, except near its entrance into the Straits of Mackinac, through which it discharges its surplus waters. The strait is 30 or 40 miles in length, and discharges its accumulated waters into Lake Huron, on nearly a level with Lake Michigan. At the north end of the lake, and in the Straits, are several large and romantic islands, affording delightful resorts.

Green Bay, a most beautiful expanse of water, containing several small islands, lies at about the same elevation as Lake Michigan; it is 100 miles long, 20 miles broad, and 60 feet deep; area, 2,000 square miles. This is a remarkably pure body of water, presenting lovely shores, surrounded by a fruitful and healthy section of country.

Lake Huron, lying at a height of 574 feet above the sea, is 250 miles long, 100 miles broad, and 750 feet greatest depth; area, 21,000 square miles. This lake is almost entirely free of islands, presenting a large expanse of pure water. Its most remarkable feature is Saginaw Bay, lying on its western border. The waters of this lake are now whitened by the sails of commerce, it being the great thoroughfare to and from Lakes Michigan and Superior.

Georgian Bay, lying northeast of Lake Huron, and of the same altitude, being separated by islands and headlands, lies wholly within the confines of Canada. It is 140 miles long, 55 miles broad, and 500 feet in depth; area, 5,000 square miles. In the *North Channel*, which communicates with St. Mary's River, and in Georgian Bay, are innumerable islands and islets, forming an interesting and romantic feature to this pure body of water. All the above bodies of water, into which

are discharged a great number of streams, find an outlet by the River *St. Clair*, commencing at the foot of Lake Huron, where it has only a width of 1,000 feet, and a depth of from 20 to 60 feet, flowing with a rapid current downward, 38 miles, into

Lake St. Clair, which is 25 miles long and about as many broad, with a small depth of water; the most difficult navigation being encountered in passing over "*St. Clair Flats*," where only about 12 feet of water is afforded. *Detroit River*, 27 miles in length, is the recipient of all the above waters, flowing southward through a fine section of country into

Lake Erie, the fourth great lake of this immense chain. This latter lake again, at an elevation above the sea of 564 feet, 250 miles long, 60 miles broad, and 204 feet at its greatest depth, but, on an average, considerably less than 100 feet deep, discharges its surplus waters by the Niagara River and Falls, into Lake Ontario, 330 feet below; 51 feet of this descent being in the rapids immediately above the Falls, 160 feet at the Falls themselves, and the rest chiefly in the rapids between the Falls and the mouth of the river, 35 miles below Lake Erie. This is comparatively a shallow body of water; and the relative depths of the great series of lakes may be illustrated by saying, that the surplus waters poured from the vast basins of Superior, Michigan, and Huron, flow across the plate of Erie into the deep bowl of Ontario. Lake Erie is reputed to be the only one of the series in which any current is perceptible. The fact, if it is one, is usually ascribed to its shallowness; but the vast volume of its outlet—the Niagara River—with its strong current, is a much more favorable cause than the small depth of its water, which may be far more appropriately adduced as the reason why the navigation is obstructed by ice much more than either of the other great lakes.

The ascertained temperature in the middle of Lake Erie, August, 1845, was temperature of air 76° Fahrenheit, at noon—water at surface 73°—at bottom 53°.

Lake Ontario, the fifth and last of the Great Lakes of America, is elevated 234 feet above tide-water at Three Rivers on the St. Lawrence; it is 180 miles long, 60 miles broad, 600 feet deep.

Thus *basin* succeeds *basin*, like the locks of a great canal, the whole length of waters from Lake Superior to the Gulf of St. Lawrence being rendered navigable for vessels of a large class by means of the Welland and St. Lawrence canals—thus enabling a loaded vessel to ascend or descend 600 feet above the level of the ocean, or tide-water. Of these five great lakes, Lake Superior has by far the largest area, and Lake Ontario has the least, having a surface only about one-fifth of that of Lake Superior, and being somewhat less in area than Lake Erie, although not much less, if any, in the circuit of its shores. Lake Ontario is the safest body of water for navigation, and Lake Erie the most dangerous. The lakes of greatest interest to the tourist or scientific traveler are Ontario, Huron, together with Georgian Bay and North Channel, and Lake Superior. The many picturesque islands and headlands, together with the pure dark green waters of the Upper Lakes, form a most lovely contrast during the summer and autumn months.

The altitude of the land which forms the water-shed of the *Upper Lakes* does

not exceed from 600 to 2,500 feet above the level of the ocean, while the altitude of the land which forms the water-shed of Lake Champlain and the lower tributaries of the St. Lawrence River rises from 4,000 to 5,000 above the level of the sea or tide-water, in the States of Vermont and New York.

The divide which separates the waters of the Gulf of Mexico, from those flowing northeast into the St. Lawrence, do not in some places exceed ten or twenty feet above the level of Lakes Michigan and Superior; in fact, it is said that Lake Michigan, when under the influence of high water and a strong northerly wind, discharges some of its surplus waters into the Illinois River, and thence into the Mississippi and Gulf of Mexico—so low is the divide at its southern terminus.

When we consider the magnitude of these Great Lakes, the largest body of fresh water on the globe, being connected by navigable Straits, or canals, we may quote with emphasis the words of an English writer: "How little are they aware, in Europe, of the extent of commerce upon these 'Inland Seas,' whose coasts are now lined with flourishing towns and cities; whose waters are plowed with magnificent steamers, and hundreds of vessels crowded with merchandise! Even the Americans themselves are not fully aware of the rising importance of these great lakes, as connected with the Far West.

TRIBUTARIES OF THE GREAT LAKES AND ST. LAWRENCE RIVER.

Unlike the tributaries of the Mississippi, the streams falling into the Great Lakes or the St. Lawrence River. are mostly rapid, and navigable only for a short distance from their mouths.

The following are the principal Rivers that are navigable for any considerable length:

AMERICAN SIDE.		Miles.
St. Louis River, Min.....	Superior to Fond du Lac.....	20
Fox, or Neenah, Wis.....	Green Bay to Lake Winnebago*.....	36
St. Joseph, Mich.....	St. Joseph to Niles.....	26
Grand River, ".....	Grand Haven to Grand Rapids.....	40
Muskegon, ".....	Muskegon to Newaygo.....	40
Saginaw, ".....	Saginaw Bay to Upper Saginaw.....	26
Maumee, Ohio.....	Maumee Bay to Perrysburgh.....	18
Genesee, N. Y.....	Charlotte to Rochester.....	6
CANADIAN SIDE.		Miles.
Thames.....	Lake St. Clair to Chatham.....	24
Ottawa.....	La Chine to Carillon.....	40
".....	(By means of locks to Ottawa City)†...	70
Richelieu or Sorel.....	Sorel to Lake Champlain (by locks).....	75
Saguenay.....	Tadusac to Chicoutimi.....	70
	(thence to Lake St. John, 50 m.)	

LAKE AND RIVER NAVIGATION,

FROM FOND DU LAC, LAKE SUPERIOR, TO THE GULF OF ST. LAWRENCE.

LAKES, RIVERS, ETC.	Length in miles.	Greatest breadth.	Av. breadth.	Depth in feet.	El. above sea.
Superior.....	460	170	85	800	600 ft.
St. Mary's River.....	60	5	2	10 to 100	
Michigan.....	320	85	58	700	576 "
Green Bay.....	100	25	18	100	576 "
Strait of Mackinac.....	40	20	10	20 to 200	575 "
Huron.....	250	100	70	700	574 "
North Channel.....	150	20	10	20 to 200	574 "
Georgian Bay.....	140	55	40	500	574 "
St. Clair River.....	38	1½	1	20 to 60	
Lake St. Clair*.....	25	25	18	10 to 20	568 "
Detroit River.....	27	3	1	10 to 60	
Erie.....	250	70	40	200	564 "
Niagara River.....	35	3	1		
Ontario.....	180	58	40	600	234 "
St. Lawrence River.....	760	100	2		
Lake St. Francis, foot Long Saut...			4		142 "
Lake St. Louis, foot Cascade Rapids			5		58 "
At Montreal.....			3		13 "
Lake St. Peter.....			12		6 "
Tide-water at Three Rivers.....			1		0 "
At Quebec.....			1		0 "

Total miles navigation..... 2,835

* By means of 17 locks, overcoming an elevation of 170 feet.

† The navigation for steamers extends 150 miles above Ottawa City, by means of portages and locks.

* The *St. Clair Flats*, which have to be passed by all large steamers and sail vessels running from Lake Erie to the Upper Lakes, now affords twelve feet of water, the *ship channel* being very narrow and winding, where stands a light and buoys to guide the mariner.

ALTITUDE OF VARIOUS POINTS ON THE SHORES OF LAKE SUPERIOR.

LOCALITIES.	Above Lake Superior.	Above the Sea.
Lake Superior.....	000 feet.	600 feet.
Point Iroquois, South Shore.....	350 "	950 "
Gros Cap, C. W., North Shore.....	700 "	1,300 "
Grand Sable, South Shore.....	345 "	945 "
Pictured Rocks, ".....	200 "	800 "
Iron Mountains, ".....	850 "	1,450 "
Quincy Copper Mine, Portage Lake.....	550 "	1,150 "
Mount Houghton, near Keweenaw Point.....	1,000 "	1,600 "
Porcupine Mountains, South Shore.....	1,380 "	1,980 "
Isle Royale, Michigan.....	300 "	900 "
Minnesota Mountains (estimated).....	1,200 "	1,800 "
Michipicooten Island, C. W.....	800 "	1,400 "
Pie Island, ".....	760 "	1,360 "
St. Ignace (estimated) ".....	1,200 "	1,800 "
McKay's Mountain, ".....	1,000 "	1,600 "
Thunder Cape, ".....	1,350 "	1,950 "

TOPOGRAPHY AND METEOROLOGY.

"The mountains of the region along the south shore of Lake Superior, consist of two granite belts in the northwest, the *Huron Mountains* to the southward, a trap range starting from the head of Keweenaw Point, and running west and southwest into Wisconsin, the *Porcupine Mountains*, and the detrital rocks. The Huron Mountains in places attain an elevation of 1,200 feet above the Lake. The highest elevation attained by the Porcupine Mountains is 1,380 feet.

"Meteorological observations were instituted by order of the Government at three military posts in the District, viz.: Forts Wilkins (Copper Harbor), Brady, and Mackinac. From these observations it appears that the mean annual temperature of Fort Brady is about one degree lower than that of Fort Wilkins, although the latter post is nearly a degree further north. This difference arises from the insular position of Keweenaw Point, which is surrounded on three sides by water. The climate at Fort Brady, dur-

ing the whole season, corresponds in a remarkable degree with that of St. Petersburg. The temperature of the region is very favorable to the growth of cereals. The annual ratio of fair days at Fort Brady is 168; of cloudy days, 77; rainy days, 71; snowy days, 47.

"The temperature of the water of Lake Superior during the summer, a fathom or two below the surface, is but a few degrees above the freezing point. In the western portion, the water is much colder than in the eastern—the surface flow becoming warmer as it advances toward the outlet. The mirage which frequently occurs, is occasioned by the difference between the temperature of the air and the Lake. Great difficulties are experienced from this cause in making astronomical observations.

"Auroras, even in midsummer, are of frequent occurrence, and exhibit a brilliancy rarely observed in lower latitudes."
—*Foster & Whitney's Report.*

THE UPPER LAKES, OR "INLAND SEA," OF AMERICA.

This appellation applies to Lakes Huron, Michigan, and Superior, including Green Bay, lying within the confines of the United States, and Georgian Bay, which lies entirely in Canada.

These bodies of water embrace an area of about 75,000 square miles, and, as a whole, are deserving of the name of the 'INLAND SEA,' being closely connected by straits or water-courses, navigable for the largest class of steamers or sail vessels. The shores, although not elevated, are bold, and free from marsh or swampy lands, presenting one clean range of coast for about 3,000 miles.

By a late decision of the Supreme Court of the U. States, the Upper Lakes including Lake Erie, with their connecting waters, were declared to be *seas*, commercially and legally. Congress, under this decision, is empowered to improve the harbors of the lakes and the connecting straits, precisely as it has power to do the same on the seaboard. This will probably lead to a vigorous policy in the maintenance of Federal authority, both in improving the harbors, and making provision for the safety of commerce, and protection of life, as well as guarding against foreign invasion. The only fortification of importance that is garrisoned is *Fort Mackinac*, guarding the passage through the Straits of Mackinac.

The islands of these lakes are numerous, particularly in the Straits of Mackinac, and in Georgian Bay, retaining the same bold and virgin appearance as the mainland; most of them are fertile and susceptible of high cultivation, although, as yet, but few are inhabited to any considerable extent.

The dark green waters of the Upper Lakes, when agitated by a storm, or the motion of a passing steamer, presents a brilliancy peculiar only to these transparent waters—they then assume the admixture of white foam, with a lively green tinge, assuming a crystal-like appearance. In this pure water, the *white fish*, and other species of the finny tribe, delight to gambol, affording the sportsman and epicurean untold pleasure, which is well described in the following poem:

THE WHITE FISH.

HENRY R. SCHOOLCRAFT, in his poem, "THE WHITE FISH," says:

"All friends to good living by tureen and dish,
Concur in exulting this prince of a fish;
So fine in a platter, so tempting a fry,
So rich on a gridiron, so sweet in a pie;
That even before it the salmon must fall,
And that mighty *bonne-bouche*, of the land-
beaver's tail.

* * * * *
'Tis a morsel alike for the gourmand or fastidious,
While, white as a tablet of pure alabaster!
Its beauty or flavor no person can doubt,
When seen in the water or tasted without;
And all the dispute that opinion ere makes
Of this king of lake fishes, this '*deer of the lakes*,'*

Regard not its choiceness to ponder or snuff,
But the best mode of dressing and serving it up

* * * * *
Here too, might a fancy to descant inclined,
Contemplate the love that pertains to the kind,
And bring up the red man, in fanciful strains,
To prove its creation from feminine brains."†

* A translation of *Ad-dik-keem-malg*, the Indian name for this fish.

† *Vids* "Indian Tales and Legends."

FISH OF THE UPPER LAKES.

The numbers, varieties, and excellent quality of lake fish are worthy of notice. It is believed that no fresh waters known can, in any respect, bear comparison. They are, with some exceptions, of the same kind in all the lakes. Those found in Lake Superior and the straits of St. Mary are of the best quality, owing to the cooler temperature of the water. Their quantities are surprising, and apparently inexhaustible, as to warrant the belief that were a population of millions to inhabit the lake shore, they would furnish an ample supply of this article of food without any sensible diminution. There are several kinds found in Lake Superior, and some of the most delicious quality, that are not found in the lakes below, as the siskowit and muckwaw, which grow to the weight of eight or ten pounds. The salmon and some others are found in Ontario, but not above the Falls of Niagara.

"The following is a very partial list of a few of the prominent varieties: the white fish, Mackinac and salmon-trout, sturgeon, muscalunje, siskowit, pickerel, pike, perch, herring, white, black, and rock bass, cat, pout, eel-pout, bull-head, roach, sun-fish, dace, sucker, carp, mullet, bill-fish, sword-fish, bull-fish, stone-carrier, sheeps-head, gar, &c.

"The lamprey-eel is found in all, but the common eel is found in neither of the lakes, nor in any of their tributaries, except one. The weight to which some of these attain is not exceeded by the fish of any other inland fresh waters, except the Mississippi. * * *

"The fish seem to be more numerous some years than others, and likewise of better quality. The kinds best for pickling and export are the white fish, Mackinac and salmon trout, sturgeon, and pickerel. The fisheries at which these are caught are at Mackinac, at several

points in each of the four straits, the southeast part of Lake Superior, Thunder Bay, Saginaw Bay, and Fort Gratiot near foot of Lake Huron. The sport of taking the brook trout, which are found in great abundance in the rapids at the Saut Ste Marie, and most all of the streams falling into the Upper Lakes, affords healthful amusement to hundreds of amateur fishermen during the summer and fall months. The modes of taking the different kinds of fish are in seines, dip-nets, and gill-nets, and the trout with hooks.

"Those engaged in catching fish in the Straits of Mackinac, are composed of Americans, Irish, French, half breeds, and Indians. Some are employed by capitalists, others have their own boats and nets. Each one is furnished with a boat, and from fifty to one hundred nets, requiring constantly two or three men for each boat, to run the different gangs of nets. The fish caught are principally white fish, with some trout. The demand for exportation increases every year, and although immense quantities are caught every season, still no diminution in their number is perceived.

"A fleet of two hundred fish-boats are engaged in and about the Straits, embracing, however, all the Beaver group. Each boat will average one barrel of fish per day during the fishing season.

* * * * *

"Ye, who are fond of sport and fun, who wish for wealth and strength; ye, who love angling; ye, who believe that God has given us a time to pray, a time to dance, &c., &c., go to these fishing-grounds, gain health and strength, and pull out Mackinac trout from 20 to 40 lbs. in weight. One hook and line has, in three to four hours, pulled out enough to fill three to four barrels of fish, without taking the sport in to consideration.

"Yours, W. M. J."

PHYSICAL CHARACTER OF THE MISSISSIPPI BASIN.

"The Valley of the Mississippi, bounded on the one hand by the Rocky Mountains, and on the other by the Alleghanies, embraces a drainage area of 1,244,000 square miles, which is more than one-half of the entire area of the United States. The Upper Mississippi Valley is composed of three subordinate basins, whose respective dimensions are as follows:

	Square miles.
The Ohio basin.....	214,000
The Upper Mississippi.....	169,000
The Missouri.....	518,000

Making a total of..... 901,000

Its navigable rivers are as follows:

	Miles.
Missouri, to near the Great Falls.....	3,150
Missouri, above Great Falls to Three Forks.....	150
Osgae, to Osceola.....	200
Kansas.....	100
Big Sioux.....	75
Yellow-stone.....	800
Upper Mississippi, to St. Paul.....	658
St. Anthony, to Sank Rapids.....	80
Above Little Falls, to Pokegama Falls.....	250
Minnesota, to Patterson's Rapids.....	395
St. Croix, to St. Croix Falls.....	60
Illinois, to La Salle.....	220
Ohio, to Pittsburgh.....	975
Monongahela, to Geneva (slack-water, 4 locks).....	91
Muskingum, to Dresden ".....	100
Green River to Bowling Green ".....	5 "
Kentucky, to Brooklyn ".....	5 "
Kanawha, to Gauley Bridge.....	100
Wabash, to Lafayette.....	335
Salt, to Shepherdsville.....	30
Sandy, to Louisa.....	25
Tennessee, to Muscle Shoals.....	600
Cumberland, to Burkesville.....	870

Total navigation..... 8,967

NOTE.—Steamboats have ascended the Des Moines to Des Moines City, Iowa River to Iowa City, Cedar River to Cedar Rapids, and the Maquoketa to Maquoketa City, but only during temporary floods.

"It would thus appear that the internal navigation of the Upper Mississippi Valley is about 9,000 miles in extent; but, during the summer months, even through the main channels, it becomes precarious, and at times is practically suspended.

"The Mississippi Valley, viewed as a whole, may be regarded as one great plain between two diverging coast ranges, elevated from 400 to 800 feet above the sea. St. Paul, the head of the navigation of the Mississippi, is 800 feet above the ocean; Pittsburgh, at the junction of the Monongahela and Alleghany, forming the Ohio, 699 feet; Lake Superior on the north, 600 feet; but the water-shed on the west, at South Pass, rises to nearly 7,500 feet.

"It is traversed by no mountain ranges, but the surface swells into hills and ridges, and is diversified by forest and prairie. Leaving out the sterile portions west of the Missouri, the soil is almost uniformly fertile, easily cultivated, and yields an abundant return. The climate is healthy and invigorating, and altogether the region is the most attractive for immigration of any portion of the earth."

By means of a *Ship Canal*, connecting with the Illinois River, the waters of the Mississippi will be united with the waters of Lake Michigan—thus forming an uninterrupted navigation for armed vessels of a large class from the Gulf of Mexico to the Gulf of St. Lawrence, forming an inland navigation of about 3,000 miles—running through the sub-tropical and temperate zones, where nature is most lavish of her gifts.

PHYSICAL CHARACTER OF THE ST. LAWRENCE.

The sources of the Mississippi on the east interlock with those of the St. Lawrence, which, with its associated lakes

and rivers, presents a system of water-communication of nearly equal extent and grandeur.

TABLE SHOWING THE DIMENSIONS OF THE FIVE GREAT AMERICAN LAKES.

LAKES.	Greatest length. Miles.	Greatest breadth. Miles.	Height above sea. Feet.	Area in sq. miles.
Superior	480	170	600	81,500
Michigan	320	85	576	22,000
Huron	260	160	574	20,400
Erie	240	70	565	9,600
Ontario	180	60	232	6,500
Total.....	1,460			90,000

"The entire area drained by these lakes is estimated at 335,500 square miles, and their shore lines are nearly 5,000 miles in extent.

"These rivers are as diverse in character as in direction. The Mississippi is the longer, but the St. Lawrence discharges the greater volume of water; the one abounds in difficult rapids, the other in stupendous cataracts; the one is subject to great fluctuations, the other preserves an almost unvarying level; the waters of the one are turbid, those of the other possess an almost crystal purity; the one affords few lake-like expansions, the other swells into vast inland seas. Both have become the great highways of commerce,

enriching the regions through which they flow, and supplying the inhabitants with the varied products of distant climes."—*Foster and Whitney's Report on Lake Superior.*

"The commerce of these lakes, whose annual value reaches \$450,000,000—more than twice the external commerce of the whole country—is carried on by a fleet of 1,643 vessels, of the following classes:—

	No.	Tonnage.	Value.
Steamers	148	53,322	\$2,190,900
Propellers	254	70,253	3,573,300
Barks	74	83,208	952,900
Brigs	85	94,681	526,200
Schooners.....	1,068	227,581	5,955,550
Sloops.....	16	667	12,770
Barges.....	8	3,719	17,000
Totals	1,643	413,026	\$18,257,020

The following are the distances of some of the commercial routes, taking Chicago as the initial point:

Chicago to Mackinac (direct)	860 miles.
" " Fond du Lac Superior.....	900 "
" " Georgian Bay.....	650 "
" " Buffalo, N. Y.....	950 "
" " Quebec	1,580 "
" " Gulf of St. Lawrence.....	1,950 "

PROGRESS OF DEVELOPMENT.

The first colony of English extraction, planted in the territory of the Upper Mississippi, was in 1788—just seventy-five years ago—at Marietta, within the present limits of Ohio. This was the origin of that spirit of colonization, which, within the lifetime of many living men, has peopled this region with nine millions of human beings; has subdued and brought under cultivation, an area greater than that of all the cultivated lands of the British Empire; has connected the principal commercial points with a net-work of railways more than eleven thousand miles in extent; and has built up a domestic industry, the value of whose annual product is in excess of three hundred and fifty millions of dollars. Out of this territory

have been carved not less than nine States, which are indissolubly linked together by a similarity of conditions in soil and climate, and by the geographical features of the country. They have already received the appellation of the "FOOD-PRODUCING" States—an appellation which they are destined to retain for all time.

The rivers and the lakes, which water this region, offer the most magnificent system of internal communication to be found on the surface of the earth. No mountain barriers interpose to divide the people into hostile clans, or divert the great currents of trade in their flow to the markets of the world. With a soil sufficiently rich in organic matter for fifty successive crops; with almost boundless fields of coal, stored

away for future use; with vast deposits of the useful ores, and the precious metals, on the rim of the great basin; and with a climate most favorable to the development of human energy, it is impossible for the mind, even in its most daring speculations, to assign limits to the growth of the North-west. When all of these elements of wealth, now in a crude state, shall have been fully developed, there will be an exhibition of human power and greatness such as no other people ever attained.

Comparing the whole superficial con-

tents of these States with the portions cultivated, it will be seen that only about 15 per cent. of the surface has been subdued; and, if population and cultivation increase in the same ratio in the future as they have in the past, before the lapse of another decade there will be collected annually, on the borders of the Great Lakes, more than 200,000,000 bushels of cereals for exportation, giving employment to a fleet of more than 3,000 vessels, and requiring avenues of more than twice the capacity of existing ones.

A LUNAR TIDAL WAVE

In the North American Lakes.

Extract from a Paper read by LT.-COL. GRAHAM, before the American Association for the Advancement of Science, August, 1860.

"Much has been written, at various periods, on the fluctuations in the elevation of the surface waters of the great freshwater lakes of North America. Valuable and interesting memoirs have appeared from time to time in the *American Journal of Science and Arts*, published monthly at New Haven, Connecticut, within the last thirty years, on this subject, written by the late Brevet Brigadier-General Henry Whiting, of the U. S. Army, when a captain, by Major Lachlan, Charles Whittlesey, Esq., and others. The observations contained in their memoirs have, however, been directed chiefly to investigations of the extent of the secular and annual variations in elevation of the surfaces of these lakes.

"The learned Jesuit fathers of the time of Marquette, a period near two centuries ago, and at later periods the Baron de la Hontan, Charlevoix, Carver, and others, noticed in their writings the changes of elevation, and some peculiar fluctuations which take place on these inland seas.

In the speculations indulged in by some of these writers a slight lunar tide is sometimes suspected, then again such an influence on the swelling and receding waters is doubted, and their disturbance is attributed to the varying courses and forces of the winds.

"But we have nowhere seen that any systematic course of observation was ever instituted or carried on by these early explorers, or by any of their successors who have mentioned the subject, giving the tidal readings at small enough intervals of time apart, and of long enough duration to develop the problem of a diurnal lunar tidal wave on these lakes. The general idea has undoubtedly been that no such lunar influence was here perceptible.

"In April, 1854, I was stationed at Chicago by the orders of the Government, and charged with the direction of the harbor improvements on Lake Michigan. In the latter part of August of that year, I caused to be erected at the

east or lakeward extremity of the North harbor pier, a permanent tide-gauge for the purpose of making daily observations of the relative heights and fluctuations of the surface of this lake. The position thus chosen for the observations projects into the lake, entirely beyond the mouth of the Chicago River, and altogether out of the reach of any influence from the river current, upon the fluctuations of the tide-gauge. It was the fluctuations of the lake surface alone, that could affect the readings of the tide-gauge.

"On the first day of September, 1854, a course of observations was commenced on this tide-gauge, and continued at least once a day, until the 31st day of December, inclusive, 1858. During each of the first three winters a portion of the daily observations was lost, owing to the tide-gauge being frozen fast in its box, but they constituted only a small number in proportion to that embraced in the series. During the subsequent winters artificial means were resorted to, to prevent this freezing.

"These observations were instituted chiefly for the purpose of ascertaining with accuracy the amount of the annual and also of the secular variation in the elevation of the lake surface, with a view to regulating the heights of break-waters and piers to be erected for the protection of vessels, and for improving the lake harbors."

After a series of close observations from 1854 to 1858, Lieut.-Colonel Graham observes:—

"The difference of elevation of the lake surface, between the periods of lunar low and lunar high-water at the mean spring tides is here shown to be two hundred and fifty-four thousandths (.254) of a foot, and the time of high-water at the full and

change of the moon is shown to be thirty (30) minutes after the time of the moon's meridian transit.

"We, therefore, in accordance with custom in like cases, indicate as the *establishment* for the port of Chicago,

h. m.

$\frac{1}{2}$ Foot, 0 30.

"Although this knowledge may be of but small practical advantage to navigators, yet it may serve as a memorandum of a physical phenomenon whose existence has generally heretofore been either denied or doubted.

"We think it probable that, if the effect of unfavorable winds and all other extraneous forces which produce irregular oscillations in the elevation of the lake surface could be fully eliminated, a semi-diurnal lunar spring tide would be shown of as much as one-third of a foot for the periods of highest tides.

The time of low-water and the relative times of duration of the flood and ebb tides are given only approximately. The extreme rise of the tide being so little, the precise time of the change from ebb to flood, and hence the duration of the flow of each, can only be accurately determined by numerous observations at short intervals, say three to five minutes of time apart, from about an hour before to an hour after the actual time of low-water.

"In conclusion, we offer the above observations as solving the problem in question, and as proving the existence of a semi-diurnal lunar tidal wave on Lake Michigan, and consequently on the other great freshwater lakes of North America, whose co-ordinate of altitude is, at its summit, as much as .15 to .25 ($\frac{1}{10}$ to $\frac{1}{4}$) of a foot, United States' measure."

REMARKABLE PHENOMENA.

Prof. Mather, who observed the barometer at Fort Wilkins, Copper Harbor, 47° 30' north lat., during the prevalence of one of these remarkable disturbances which are peculiar to all the Upper Lakes, remarks:—"As a general thing, fluctuations in the barometer accompanied the fluctuations in the level of the water, but sometimes the water-level varied rapidly in the harbor, while no such variation occurred in the barometer at the place of observation. The variation in the level of the water may be caused by varied barometric pressure of the air on the water, either at the place of observation, or at some distant point. A local increased pressure of the atmosphere at the place of observation, would lower the water-level where there is a wide expanse of water; or a diminished pressure, under the same circumstances, would cause the water to rise above its usual level."

In the summer of 1854, according to the Report of Foster and Whitney, made to Congress in 1850, "an extraordinary retrocession of the waters took place at the Saut Ste Marie. The river here is nearly a mile in width, and the depth of water over the sandstone rapids is about three feet. The phenomena occurred at noon; the day was calm but cloudy; the water retired suddenly, leaving the bed of the river bare, except for the distance of about twenty rods where the channel is deepest, and remained so for the space of an hour. Persons went out and caught fish in the pools formed in the rocky cavities. The return of the waters was sudden, and presented a sublime spectacle. They came down like an immense surge, roaring and foaming, and those who had incautiously wandered into the river bed, had barely time to escape being overwhelmed."

Rising and Falling of the Waters of Lake Michigan.

[From the *Chicago Tribune*, May 28, 1861.]

One of those singular oscillations in the Lakes, or "Inland Seas," which have been observed occasionally from the time of the exploration of the Jesuit Fathers, was witnessed yesterday in Lake Michigan. A variety of signs, such as the mirage of the distant shore, unusual depression of the barometer, and a sudden rise of the temperature from a cool, bracing air, to a sultry heat, indicated an unusual commotion in the atmospheric elements. About eleven o'clock A. M., when our attention was first called to the phenomena, the waters of the lake had risen about thirty-one inches above the ordinary level, and in the course of half an hour they again receded. Throughout the whole day they continued to ebb and flow at intervals of fifteen or twenty minutes, and

the current between the outer and inner breakwater, near the Illinois Central Railroad House, was so great at times that a row-boat made little or no headway against it. The extreme variation between high and low water was nearly three feet. The wind all day was off shore (from the southwest), the effect of which was to keep down the waters instead of accumulating them at this point. About eight o'clock in the evening it veered suddenly to the northwest, and blew a violent gale, accompanied by vivid electrical displays. This morning (Monday) we hear of telegraphic lines prostrated, of persons killed by lightning, &c., while the lake, although agitated, exhibits none of the pulsations of yesterday.

COMMERCE OF THE LAKES

Extract from the Annual Report of the Trade and Commerce of Buffalo,



"In presenting to the public our Annual Review of the Trade and Commerce of Buffalo, for the last year it will not be inappropriate to revert to the past to show the rise and progress, the extent and growth of the commerce of these vast 'Inland Seas.'

"When in the year 1679, the Chevalier de La Salle obtained permission of the Seneca Indians to build a vessel at Cayuga Creek, six miles above Niagara Falls, which was launched in 1679, and was the first vessel moved with sails upon the waters of Lake Erie, every portion of the great West was covered with its ancient forests. The echoing axe had never rung through their solitudes, and the battle for mastery was yet undecided between the wild beast and his wild foe the savage hunter. The three guns which were fired when the 'GRIFFIN' was launched, were, probably, the first sounds of gunpowder that ever broke upon the stillness of this vast region. The wondering Senecas heard in them the thunders, and saw the lightnings of heaven. The white man was equally an object of admiration and fear.

"The arts of navigation, at this period,

upon this great inland sea, were confined to the bark canoe and the rude paddle with which it was propelled. Never before had the canvas here opened itself to the wind. The voyage of La Salle was an era in the history of this portion of the world. The immense fur trade with the natives at the extremities of these lakes, which was carried on first by the French and afterward by the English, was then almost entirely unknown. It was but the year before the sites of the first trading-houses had been selected. La Salle set sail from the foot of Lake Erie, on the 7th day of August, 1679, with a crew of thirty men, and arrived at Mackinac on the 28th day of that month. The first cargo of furs was put on board the Griffin, and she was ordered by La Salle to return with a crew of six men to Niagara. But a storm was encountered, and the vessel and cargo, valued at fifty to sixty thousand francs, with all on board, was lost. Thus was made the first great sacrifice of life and property to the commerce of Lake Erie.

"Since that period the changes that have been wrought in the country bordering upon and lying beyond these lakes, surpass the dreams of enchantment. Enterprise and energy have penetrated those vast solitudes; the beasts of prey have slunk back into the deep fastnesses of the woods, the native tribes have vanished away like their own majestic forests, and the white man following fast upon their rustling footsteps, has subdued the wilderness to the forms of civilization.

"The country from which the furs were gathered at the trading posts at Niagara

Detroit, and Mackinac, including a large portion of Ohio, Indiana, Illinois, Michigan, and Wisconsin, now contains a population of 6,926,874. Since the day when La Salle first opened, as it were, to future generations the great highway upon the waters of Lakes Erie and Huron, the progenitors of this mighty multitude have been borne upon its waves by favoring winds; and innumerable little bands gaining the mouth of some fair river, have thence radiated over the wide-spread domain from which their descendants are now pouring down upon the trusting bosom of the lake, the abundant products of an almost inexhaustible fertility.

"Great as has been the change since the country was first explored, it has almost wholly taken place since the year 1800. The population of Ohio in that year was only 45,365; and that was the only State, with the exception of New York and Pennsylvania, of all those bordering upon the great lakes, which contained any considerable settlements, or in which any enumeration of the people was taken. Even Ohio was not then admitted into the Union; and the commercial advantage of Lake Erie were scarcely begun to be developed till twenty-five years afterward. The first vessel bearing the American flag upon Lake Erie was the sloop Detroit, of seventy tons, which was purchased of the Northwest Fur Company, by the General Government, in 1796. She was, however, soon condemned as unseaworthy, and abandoned. Up to the time of the declaration of war in 1812, the whole number of vessels of all descriptions on these lakes, did not exceed twelve, and these were employed either in the fur trade, or in transporting to the West such goods and merchandise as were required for the scattered population that had found their way there. A few vessels were built during the war, but, probably, as many or more were destroyed. And during the three years of its continuance, as all emi-

gration to the West, if any had before existed, must have ceased, there cannot be said to have been any commerce on the lakes.

"In March, 1791, Col. Thomas Procter visited the Senecas of Buffalo Creek, and from him the first authentic notice of Buffalo is given. He mentions a storehouse kept by an Indian trader named Winne, at Lake Erie.

"In June, 1795, a French nobleman, named La Rochefoucauld Liancourt, visited Buffalo and the neighboring Indian villages. At this place there were then but few houses. He mentions an Inn where he was obliged to sleep on the floor in his clothes.

"In August, 1795, Judge Porter, accompanied by Judah Colt, went to Presque Isle, now Erie, through Buffalo. Judge Porter makes mention 'that one Johnson, the British Indian interpreter, Winne, the trader, and Middaugh, a Dutchman, with his family, lived at Buffalo.' The only road between Buffalo and Avon, in the year 1797, was an Indian trail, and the only house on this trail was one, about one and one-half miles east of the present village of Le Roy, occupied by a Mr. Wilder. As late as 1812 the roads were next to impassable, and to obtain supplies from Albany, trade was carried on by a circuitous route, 'through the Niagara river to Schlosser, thence by portage to Lewiston, thence by water to Oswego and up the Oswego River, through the Oneida Lake and Wood Creek, and across a short portage to the Mohawk River, thence by that river and around the portage of Little Falls to Schenectady—and thence over the arid pine plains to Albany.' The late Judge Townsend and George Coit, Esq., came to Buffalo as traders, in 1811 by this route, bringing about twenty tons of merchandise from Albany at a cost of fifty dollars a ton. At this time there were less than one hundred dwellings here, and the population did not exceed five hundred.

dred. The mouth of Buffalo Creek was then obstructed by a sand-bar, frequently preventing the entrance of small vessels, and even frail Indian bark canoes were frequently shut out, and footmen walked across its mouth on dry land. Vessels then received and discharged their cargoes at Bird Island wharf, near Black Rock. To remedy the obstructions in the creek by the sand-bar at its outlet into the lake, it was proposed, in the year 1811, to run a pier into the lake, but nothing of moment was done till the spring of 1820, when a subscription was raised, by the then villagers of Buffalo, amounting to \$1,361. The late Hon. Samuel Wilkson was the originator and projector of this movement, and temporary improvements were made which carried away the obstructing sand-bar. In 1822 the village in its corporate capacity paid John T. Lacy for building a mud-scow for working in the harbor \$534. The first corporate notice of the harbor was made in the latter year. Buffalo was incorporated as a village in April, 1813, and as a city on 20th of April, 1832.

"Melish says, 'the population by the last census was 365, and it was computed in 1811 at 500, and is rapidly increasing.' In 1825 the population was 2,412; in 1830, 8,668; in 1835, 15,661; in 1840, 18,213; in 1845, 29,973; in 1850, 42,261; in 1860, 81,129; and at the end of the year 1862 the population is estimated at over 100,000. In 1817 the taxable property of the village was \$134,400, and on this valuation an assessment of \$400 was made during that year. The valuation of the real and personal property of the city in 1862 is \$30,911,014.

"The population and valuation of property, the harbor and harbor improvements, the manufactures and commerce, the canal, railway, and water connections by lake with other portions of the country, the population and productions of the West and Northwest, the large lake, canal, and railway facilities for transportation at

the present time, when compared with what they were fifty years ago, 'are marvellous in our eyes,' and if some far-seeing mind, a half century since, had prophesied results of such vast magnitude, he would have been denominated an idle dreamer, and a fit subject for a lunatic asylum.

"The States and Territories bordering on, and tributary to the great lake basin that had fifty years ago but a few thousand population, have now nearly seven millions, which will soon be augmented by the natural increase and by immigration to thirty millions, and Buffalo with its 500 inhabitants in 1811, 81,000 in 1860, will have a population of three or four hundred thousand before the present century shall have passed away. Within the limits of these lake States, where, less than forty years ago, there were neither canals nor railways, there are now 14,484 miles of railway, and 3,345 miles of navigable canals, of which later about 760 miles are slack-water navigation.

"The whole West and Northwest is now traversed by a net-work of railways, with important canal connections between the different States, where there was a sparsely populated, almost interminable forest or uninhabited prairie. In this march of improvement, making more intimate the social and commercial relations of these widely separated sections of the country, the Empire State has nobly led the way. The far-seeing mind of her honored son, Governor Clinton, projected the Erie Canal, which was completed in 1825, uniting the waters of the Hudson with the lakes. A brighter day then dawned upon the West, the population was rapidly augmented, which was soon succeeded by largely increased agricultural productions that gave new life to commerce. The era of railways was commenced in about the year 1830.

"With these largely increased rail facilities, and the capacity of the New York canals nearly quadrupled, the augmenting

facilities do not keep pace with the rapidly augmenting population and largely increased production. Improved channels of communication, both by rail and water, must be made, to enable the producer at the West to get his products more cheaply to market. A country vast in extent, bordering upon the upper Mississippi, the Ohio, Cumberland, Tennessee, Arkansas, Red, and Missouri rivers and their tributaries, and the Red river of the North, traversed by more than twenty thousand miles of navigable waters, will soon be densely peopled; new States to the west of those already admitted will soon knock for admission into the Union; the superabundant products of an almost inexhaustible fertility will be pouring over the lakes and railways, and through the rivers and canals, imparting activity to trade, giving life, strength and vital energy to the largely augmenting commerce of the West. As the star of empire westward wends its way, widening the distance from the great sea-board marts of trade, the prospective wants and increased productions of scores of millions of people will from necessity create cheaper and more expeditious facilities for the transportation of their surplus products to market. There is no country on the face of the globe that has so many natural advantages for a large and extended internal trade as the great West and Northwest.

"The great basin east of the Rocky Mountains is drained by the Mississippi and Missouri Rivers and their tributaries, and their waters find an outlet in the Gulf of Mexico. The great lakes, having an area equal to one twenty-fifth part of the Atlantic Ocean, are drained by the river St. Lawrence, and find an outlet in the Gulf of St. Lawrence. The construction of a few miles of canal makes a navigable connection from the ocean to the great chain of lakes. These natural advantages have been improved to some extent in the United States by the construc-

tion of a canal through the State of New York, that now has a prism forty-five feet at the bottom and seventy feet at the top, with seven feet of water, with locks 18 feet 6 inches wide by 100 feet long. There is also a canal one hundred miles long connecting the Illinois river with lake Michigan at Chicago, and slack water navigation connecting Green Bay, Wisconsin, with the Mississippi river. By the construction of a ship canal about three-fourths of a mile in length, from Big Stone Lake to Lake Traver in Minnesota, steamboats from St. Paul could navigate both the Minnesota river and the Red river of the North to Lake Winnepeg, a distance of seven hundred miles. The country traversed by these rivers is surpassingly fertile and capable of sustaining a dense population. Lake Winnepeg is larger than Lake Ontario, and receives the Sas-katch-e-wan river from the West. The Sas-katch-e-wan river is navigable to a point (Edmonton House) near the Rocky Mountains, seven hundred miles west of Lake Winnepeg, and only 150 miles east of the celebrated gold diggings on Frazer river in British Columbia. The digging of that one mile of canal, would, therefore, enable a steamboat at New Orleans to pass into Lake Winnepeg and from thence to Edmonton House, some 5,000 miles. A move has already been made for constructing this short canal. By enlarging the Illinois and Michigan canal and improving the navigation of the Illinois river, and improving and completing the slack water navigation of the Fox river in Wisconsin, connecting Green Bay with the Mississippi river, and still further enlarging the main trunk of the New York canals, steamers could be passed from New York or the Gulf of St. Lawrence, either through the canals of New York or Canada into the great lakes, and from thence to the head waters of the Sas-katch-e-wan, the Missouri, the Yellow Stone rivers, being some 5 000 to 6,000

miles. The cereal product of the States bordering on and tributary to the lakes was 267,295,877 bushels in 1840; 434,862,661 bushels in 1850, against 679,031,559 bushels in 1860, and the population of these States has kept pace with their cereal products, being 6,259,345 in 1840; 9,178,003 in 1850, against 13,355,093 in 1860, an increase of nearly fifty per cent. in population and cereal products in each decade. If the same rate per cent. of increase in population and cereal products shall be continued, these States in 1870 will have a population of 20,032,639, with a cereal product of 1,008,557,338 bushels; in 1880, a population of 30,048,958, with a cereal product of 1,512,821,000 bushels; in 1890, a population of 55,073,437, with a cereal product of 2,269,231,510 bushels, and in 1900 a population of 67,610,155, with a cereal product of 3,403,847,265.

"The grain trade of Buffalo for a series of years, given in this report, has already reached upwards of 72,000,000 bushels for the year 1862. If a crop of 680,000,000 of bushels of cereal products, gives Buffalo 72,000,000 of bushels of that crop; in the year 1900, with a crop of 3,403,847,265 bushels of cereal products, the grain trade of Buffalo will be upward of 360,000,000 of bushels. The calculations of the forty years of the future are based on the actual results of the last thirty years. The year 1870 will give to Buffalo a grain trade of upwards of 107,000,000 of bushels, and if there shall be a proportionate increase in the grain trade of Oswego, the present capacity of the New York canals will be entirely inadequate to pass through them this large amount of grain in addition to the large increase in the tonnage of other commodities, saying nothing of the capacity that will be required for the augmented business in 1880, 1890, and 1900."

The First Steamboat on Lake Erie.

The *Detroit Tribune* furnishes some interesting extracts on this subject, taken from the files of the *Detroit Gazette*, of 1818. We select the following description of the reception of this monster of the great deep by the "Wolverines" of that day.

"AUGUST 26, 1818:—Yesterday, between the hours of 10 and 11 A. M., the elegant steamboat *Walk-in-the-Water*, Capt. J. Fish, arrived.—As she passed the public wharf, and that owned by Mr. J. S. Roby, she was cheered by hundreds of the inhabitants, who had collected to witness this (in these waters) truly novel and grand spectacle. She came to at Wing's wharf. She left Buffalo at half-past 1 o'clock on the 23d, and arrived off Dunkirk at 35 minutes past 6 on the same day. On the next morning she arrived at Erie, Capt. Fish having reduced her steam during the night, in order not to pass that place, where she took in a supply of wood. At half-past 7 P. M. she left Erie, and came to at Cleveland at 11 o'clock. On Friday, at 20 minutes past 6 o'clock, P. M., sailed and arrived off Sandusky Bay at 1 o'clock on Wednesday; lay at anchor during the night, and then proceeded to Venice to wood; left Venice at 3 P. M., and arrived at the mouth of the Detroit River, where she anchored during the night—the whole time employed in sailing, in this first voyage from Buffalo to this, being about 44 hours and 10 minutes; the wind ahead during nearly the whole passage. Not the slightest accident happened during the voyage, and all our machinery worked admirably.

"Nothing could exceed the surprise of the sons of the forest on seeing the *Walk-in-the-Water* moving majestically and rapidly against a strong current, without the assistance of sails or oars. They lined the banks near Malden, and expressed

their astonishment by repeated shouts of 'Tai-yoh niches.' A report had been circulated among them, that a 'big canoe' would soon come from the noisy waters, which, by order of the great father of the *Cho-mo-ko-mons*, would be drawn through the lakes and rivers by *sturgeon*! Of the truth of the report they are now perfectly satisfied. The cabins of this boat are fitted up in a neat, convenient, and elegant style; and the manner in which she is found, does honor to the proprietors and to her commander. A passage between this place and Buffalo is now not merely tolerable, but truly pleasant. To-day she will make a trip to Lake St. Clair, with a large party of ladies and gentlemen. She will leave for Buffalo to-morrow, and may be expected to visit us again next week."

TABLE,

EXHIBITING THE TONNAGE of the several **Lake Districts** in the United States, on the 30th June, 1866.

DISTRICTS.	State.	Lakes, &c.	Total Tonnage.
Burlington.....	Vermont.....	Champlain.....	2,946
Champlain.....	New York.....	".....	6,131
Oswego.....	".....	Ontario.....	93,512
Niagara.....	".....	".....	2,588
Genesee.....	".....	".....	1,725
Oswegatchie.....	".....	St. Lawrence River...	2,025
Buffalo.....	".....	Erie.....	94,603
Dunkirk.....	".....	".....	7,667
Erie.....	Pennsylvania.....	".....	8,730
Cuyahoga (Cleveland).....	Ohio.....	".....	52,529
Sandusky.....	".....	".....	13,000
Toledo.....	".....	".....	11,691
Detroit.....	Michigan.....	Detroit River.....	72,638
Mackinac.....	".....	Huron.....	1,392
Milwaukee.....	Wisconsin.....	Michigan.....	24,616
Chicago.....	Illinois.....	".....	86,685
Total Lake Tonnage.....			482,473
Total Tonnage in the United States.. ..			3,368,475

RAILROAD AND STEAMBOAT ROUTES

From Buffalo to Niagara Falls, Toronto, etc.



THE most usual mode of conveyance from Buffalo to the Falls of Niagara, and thence to Lake Ontario, or into Canada, is by the *Buffalo, Niagara Falls and Lewiston Railroad*, 28 miles in length. It runs through Tonawanda, 11 miles; Niagara Falls, 22 miles; Suspension Bridge, 24 miles, connecting with the Great Western Railway of Canada, and terminates at Lewiston, the head of navigation on Niagara River, 28 miles.

American and Canadian steamers of a large class leave Lewiston several times daily, for different ports on Lake Ontario and the St. Lawrence River.

There is also another very desirable mode of conveyance, by Steamboat, descending the Niagara River, from Buffalo to Chippewa, C. W., thence by the *Erie and Ontario Railroad*, 17 miles in length; passing in full view of the Falls, to the Clifton House, three miles below Chippewa; Suspension Bridge, five miles; Queenston, eleven miles, terminating at Niagara, C. W., thirty-five miles from Buffalo.

As the steamboat leaves Buffalo, on the latter route, a fine view may be obtained of Lake Erie and both shores of Niagara River. On the Canada side, the first objects of interest are the ruins of old FORT ERIE, captured by the Americans, July 3d, 1814. It is situated at the foot of the lake, opposite the site of a strong fortress which the United States

government have recently erected for the protection of the river and the city of Buffalo.

WATERLOO, C. W., three miles below Buffalo and opposite Black Rock (now a part of Buffalo), with which it is connected by a steam-ferry, is handsomely situated on the west side of Niagara River, which is here about half a mile wide. The *Buffalo and Lake Huron Railroad* runs from Fort Erie, near Waterloo, to Paris, C. W., where it connects with the Great Western Railway of Canada. It is now completed to Goderich, C. W., lying on Lake Huron.

GRAND ISLAND, belonging to the United States, is passed on the right in descending the river. It is a large and valuable tract of good land, abounding with white oak of a superior quality.

NAVY ISLAND, belonging to the British, is next passed, lying within gun-shot of the mainland. This island obtained great notoriety in the fall and winter of 1837-'8, when it was occupied by the "Patriots," as they were styled, during the troubles in Canada. The Steamer *Caroline* was destroyed on the night of December 29th, 1837, while lying at Schlosser's Landing, on the American shore, having been engaged in transporting persons to and from the island, which was soon after evacuated.

Opposite Navy Island, on the Canada side, near Chippewa battle-ground, is the house in which Captain Usher resided, when murdered in 1838. It is supposed he fell by the hands of some of the deluded patriots, having been shot by a secret foe, while in his own house.

CHIPPEWA, 20 miles below Buffalo, and two miles above the Falls, is on the west side of Niagara River, at the mouth of a

creek of the same name, which is navigable to PORT ROBINSON, some eight or ten miles west; the latter place being on the line of the Welland Canal. The village of *Chippewa* contains a population of about 1,000 souls. Steamboats and lake craft of a large size are built at this place for the trade of Lake Erie and the Upper Lakes. It has obtained a place in history on account of the bloody battle which was fought near it in the war of 1812, between the United States and Great Britain. The battle was fought on the 5th of July, 1814, on the plains, a short distance south of the steamboat landing. The American forces were commanded by Major-General Jacob Brown, and the British, by Major-General Riall, who, after an obstinate and sanguinary fight, was defeated, with considerable loss.

At Chippewa commences the railroad extending to Niagara, at the mouth of the river, a distance of 17 miles. Steamboats continue the line of travel from both ends of this road, thus furnishing an interesting and speedy conveyance between Lakes Erie and Ontario.

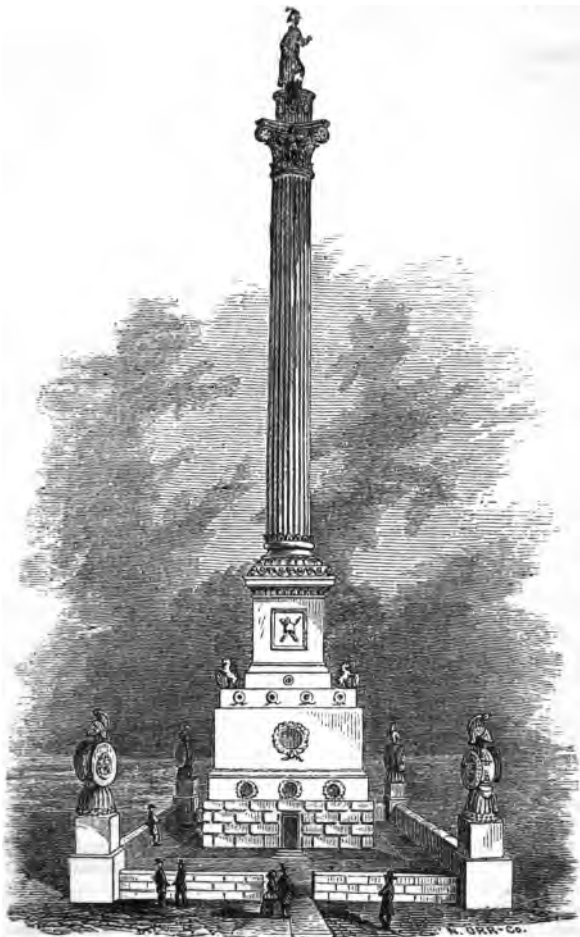
On arriving in the vicinity of the FALLS OF NIAGARA, the cars stop near the *Clifton House*, situated near the ferry leading to the American side. The site of this house was chosen as giving the best view of both the American and Canadian or Horse-Shoe Falls, which are seen from the piazzas and front windows. This is the most interesting approach to the Falls.

In addition to the Falls, there are other points of attraction on the Canada side of the river. The collection of curiosities at the Museum, and the Camera Obscura, which gives an exact and beautiful, though miniature image of the Falls, are well worthy of a visit. The *Burning Spring*, two miles above the Falls, is also much frequented; and the rides to the battle-grounds in this vicinity makes an exhilarating and very pleasant excursion. For further description of Falls, see page 149.

DRUMMONDSVILLE, one mile west of the Falls, and situated on *Lundy's Lane*, is celebrated as the scene of another sanguinary engagement between the American and British forces, July 25, 1814.

The following is a brief, though correct account of the engagement: "On the afternoon of the above day, while the American army was on their march from *Fort George* toward *Fort Erie*, ascending the west bank of the river, their rear-guard, under the immediate command of Gen. Scott, was attacked by the advanced guard of the British army, under Gen. Riall, the British having been reinforced after their defeat at Chippewa, on the 5th of the same month. This brought on a general conflict of the most obstinate and deadly character. As soon as attacked, Gen. Scott advanced with his division, amounting to about 3,000 men, to the open ground facing the heights occupied by the main British army, where, were planted several heavy pieces of cannon. Between eight and nine o'clock in the evening, on the arrival of reinforcements to both armies, the battle became general and raged for several hours, with alternate success on both sides; each army evincing the most determined bravery and resistance. The command of the respective forces was now assumed by Major Gen. Brown and Lieut.-Gen. Drummond, each having under his command a well-disciplined army. The brave (American) Col. Miller was ordered to advance and seize the artillery of the British, which he effected at the point of the bayonet in the most gallant manner. Gen. Riall, of the English army, was captured, and the possession of the battle-ground contested until near midnight, when 1,700 men being either killed or wounded, the conflicting armies, amounting altogether to about 6,000 strong, ceased the deadly conflict, and for a time the bloody field was left unoccupied, except by the dead and wounded.

When the British discovered that the Americans had encamped one or two miles



BROCK'S MONUMENT.—Queenston Heights.

distant, they returned and occupied their former position. Thus ended one of the most bloody conflicts that occurred during the last war; and while each party boasted a victory, altogether too dearly bought, neither was disposed to renew the conflict."

CLIFTON is a new and flourishing village, situated at the western termination of the Great Western Railway, where it connects with the *Suspension Bridge*. For description of route to Detroit, &c., see page 50.

QUEENSTON, situated seven miles below the Falls, and about the same distance above the entrance of Niagara River into Lake Ontario, lies directly opposite the village of Lewiston, with which it is connected by a Suspension Bridge 850 feet in length. It contains about 500 inhabitants, 60 dwelling-houses, one Episcopal, one Scotch Presbyterian, and one Baptist church, four taverns, four stores, and three warehouses. This place is also celebrated as being the scene of a deadly strife between the American and British forces, October 13, 1812. The American troops actually engaged in the fight were commanded by Gen. Solomon Van Rensselaer, and both the troops and their commander greatly distinguished themselves for their bravery, although ultimately overpowered by superior numbers. In attempting to regain their own side of the river many of the Americans perished; the whole loss in killed, wounded, and prisoners amounting to at least 1,000 men.

Major-General BROOK, the British commander, was killed in the middle of the fight, while leading on his men. A new monument stands on the heights, near where he fell, erected to his memory. The first monument was nearly destroyed by gunpowder, April 17, 1840; an infamous act, said to have been perpetrated by a person concerned in the insurrection of 1837-'38.

BROCK'S NEW MONUMENT was commenced in 1853, and finished in 1856;

being 185 feet high, ascended on the inside by a spiral staircase of 235 stone steps. The base is 40 feet square and 35 feet in height, surmounted by a tablet 35 feet high, with historical devices on the four sides. The main shaft, about 100 feet, is fluted and surmounted by a Corinthian capital, on which is placed a colossal figure of Major-General Brock, 18 feet in height. This beautiful structure cost £10,000 sterling, being entirely constructed of a cream-colored stone quarried in the vicinity. A massive stone wall, 80 feet square, adorned with military figures and trophies at the corners, 27 feet in height, surrounds the monument, leaving space for a grass-plot and walk on the inside of the enclosure.

The following is the inscription:

Upper Canada

Has dedicated this Monument
to the memory of the late

Major-General Sir ISAAC BROOK, K. B.
Provisional Lieut.-Governor and Commander
of the Forces in this Province,
Whose remains are deposited
in the vault beneath.

Opposing the invading enemy
He fell in action, near the Heights,
on the 13th October, 1812.

In the 43d year of his age,
Revered and lamented by the people
whom he governed, and deplored by
the Sovereign to whose service
His life had been devoted.

The last words of Major-General Brock, when he fell mortally wounded by a musket-shot through the left breast, were, "Never mind, my boys, the death of one man—I have not long to live." Thus departed one of the many noble spirits that were sacrificed on this frontier during the war of 1812.

The village of NIAGARA is advantageously situated on the Canada side, at the entrance of the river into Lake Ontario, directly opposite *Fort Niagara*, on the American side. It contains about 3,000 inhabitants, a court-house and jail; one Episcopal, one Presbyterian, one Metho-

dist, and one Roman Catholic Church; 6 hotels and taverns; and 20 stores of different kinds; also, an extensive locomotive and car factory. This is the most noted place in Canada West for building steamboats and other craft navigating Lake Ontario. Here is a dockyard with a marine railway and foundry attached, capable of making machinery of the largest description, and giving employment to a great number of men. It is owned by the "Niagara Dock Company." Steamers leave daily for Toronto, etc.

FORT GEORGE, situated a short distance south or up-stream from the mouth of the

river, is now in ruins. This was the scene of a severe contest in 1813, in which the Americans were victorious. A new fort has been erected on the point of land at the mouth of the river, directly opposite old *Fort Niagara* on the American side. The new fortification is called *Fort Massasauga*.

The whole frontier on the Canada side, from Fort George to Fort Erie, opposite Buffalo, was occupied by the American army in 1814, when occurred a succession of battles of the most determined and brilliant character.

NIAGARA RIVER,

ITS RAPIDS, FALLS, ISLANDS, AND ROMANTIC SCENERY.

"Majestic stream! what river rivals thee,
Thou child of many lakes, and sire of one—
Lakes that claim kindred with the all-circling
sea—
Large at thy birth as when thy race is run!
Against what great obstructions has thou won
Thine angust way—the rock-formed mountain-
plain
Has opened at thy bidding, and the steep
Bars not thy passage, for the ledge in vain
Stretches across the channel—thou dost leap
Sublimely down the height, and urge again
Thy rock-embattled course on to the distant
main."

THIS most remarkable and romantic stream, the outlet of Lake Erie, through which flows all the accumulated waters of the Upper Lakes of North America, very appropriately forms the boundary between two great countries, the British province of Upper Canada on the one side, and the State of New York, the "Empire State" of the Union, on the opposite side. In its whole course, its peculiar character is quite in keeping with the stupendous Cataract from which its principal interest is derived.

The amount of water passing through

this channel is immense; from a computation which has been made at the outlet of Lake Erie, the quantity thus discharged is about twenty millions of cubic feet, or upwards of 600,000 tons per minute, all of which great volume of water, 20 miles below, plunges over the Falls of Niagara.

The Niagara River commences at Bird Island, nearly opposite the mouth of Buffalo harbor, and passes by the site of old Fort Erie and Waterloo on the Canada side. At the later place a steam ferry-boat plies across the river to Black Rock, now forming a part of the city of Buffalo. It is here proposed to construct a railroad bridge across the stream, about 1,800 feet in width.

SQUAW ISLAND and STRAWBERRY ISLAND are both small islands lying on the American side of the stream, near the head of Grand Island. The river is here used in part for the Erie Canal, a pier extending from Squaw Island to Bird Island, forming a large basin called Black Rock Harbor.

GRAND ISLAND, attached to Erie Co.,

N. Y., is a large and important body of land, about ten miles long from north to south, and seven miles wide. This island is partly cleared and cultivated, while the larger portion is covered with a large growth of oaks and other forest trees.

The ship or steamboat channel runs along the bank of Grand Island to nearly opposite Chippewa, where the whole stream unites before plunging over the Falls of Niagara, being again separated at the head of Goat Island. From this point the awe-struck traveller can scan the quiet waters above, and the raging rapids below, preparing to plunge over the Cataract.

CAYUGA ISLAND and BUCKHORN ISLAND are small bodies of land belonging to the United States, situated immediately below Grand Island.

NAVY ISLAND, lying opposite the village of Chippewa, 18 miles below the head of the river, is a celebrated island belonging to the Canadians, having been taken possession of by the sympathizing patriots in 1837, when a partial rebellion occurred in Upper and Lower Canada.

TONAWANDA, 11 miles below Buffalo, is situated at the mouth of Tonawanda Creek, opposite Grand Island. The *Erie Canal* here enters the creek, which it follows for several miles on its course toward Lockport. A railroad also runs to Lockport, connecting with the *New York Central Railroad*, extending to Albany. A *ship canal* is proposed to be constructed from Tonawanda to some eligible point on Lake Ontario, thus forming a rival to the Welland Canal of Canada.

SCHLOSSER'S LANDING, two miles above Niagara Falls village, is a noted steamboat landing, opposite Chippewa, from whence the steamer *Caroline* was cut adrift by the British and destroyed, by being precipitated over the Falls during the Canadian rebellion, December 29th, 1837.

THE RAPIDS.—Below Navy Island, be-

tween Chippewa and Schlosser, the river is nearly three miles in width, but soon narrows to one mile, when the Rapids commence, and continue for about one mile before reaching the edge of the precipice at the Horse-Shoe Fall.

At the commencement of the Rapids, "the bed of the river declines, the channel contracts, numerous large rocks heave up the rolling surges, and dispute the passage of the now raging and foaming floods. The mighty torrent leaping down successive ledges, dashing over opposing elevations, hurled back by ridges, and repelled from shores and islands—plunging, boiling, roaring—seems a mad wildness of waters striving against its better fate, and hurried on to destruction by its own blind and reckless impetuosity. Were there no cataract, these Rapids would yet make Niagara the wonder of the world."

IRIS, or GOAT ISLAND, commences near the head of the Rapids, and extends to the precipice, of which it forms a part, separating the American Fall from the Canadian or Horse-Shoe Fall. It is about half a mile in length, eighty rods wide, and contains over sixty acres of arable land, being for the most part covered with a heavy growth of forest trees of a variety of species, and native plants and flowers. A portion of the island, however, has been cleared off, and a garden enclosed, in which are some excellent fruit-trees, and a variety of native and foreign plants and flowers, and a fish-pond. The island is remarkably cool, shady, and pleasant, and is an object of unceasing admiration from year to year. Comfortable seats and arbors are placed at the most interesting points, where the visitor can sit at ease and enjoy the beautiful and sublime views presented to his sight—often entranced by a deafening roar of mighty waters in their descent, accompanied by changing rainbows of the most gorgeous description.

Niagara.

WRITTEN BY LYDIA H. SIGOURNEY.

Flow on forever, in thy glorious robe
Of terror and of beauty; God hath set
His rainbow on thy forehead, and the cloud
Mantles around thy feet, and He doth give
Thy voice of thunder power to speak of Him
Eternally; bidding the lip of man
Keep silence, and upon thy rocky altar
Pour incense of awe-struck praise.

GOAT ISLAND BRIDGE.—The Niagara Falls *Gazette* gives the following description of this new structure:

"This bridge across the east branch of the Niagara River is situated in the Rapids, about sixty rods above the Cataract, on the site of the old wooden bridge. It is 360 feet long, and consists of four arches of ninety feet span each, supported between the abutments of three piers. The piers above water are built of heavy cut stone, and are twenty-two feet long and six feet wide, tapering one foot in the height. The foundations are formed of foot-square oak timber, strongly framed and bolted together in cribs, filled with stone, and covered with timber at the surface of the water. These timber-foundations are protected against wear and injury from ice by heavy plates of iron, and being always covered with water, will be as durable as the stone.

"The superstructure is of iron, on the plan of Whipple's iron-arched bridge. The whole width is twenty-seven feet, affording a double carriage-way of sixteen and a half feet, and two foot-ways of five and a fourth feet each, with iron railings. The arches are of cast iron, and the chords, suspenders, and braces of wrought iron. All the materials used in the construction are of the best quality, and the size and strength of all the parts far beyond what are deemed necessary in bridges exposed to the severest tests.

"This substantial and beautiful structure, spanning a branch of this majes-

tic river in the midst of the rapids, and overlooking the cataract, is worthy of the site it occupies, and affords another instance of the triumph of human ingenuity over the obstacles of nature.

"The islands connected by this bridge with the American shore are the property of Messrs. Porter, and constitute the most interesting features in the scenery surrounding the cataract. This bridge has been erected by them to facilitate communication with these interesting localities not otherwise accessible."

This is a toll-bridge, every foot passenger being charged 25 cents for the season, or single crossing.

There are upward of thirty islands and islets in the Niagara River or Strait, above the cataract. Most of those not described are small, and scarcely worthy of enumeration, although those immediately contiguous to Goat Island form beautiful objects in connection with the rushing and mighty waters by which they are surrounded. *Bath Island*, *Brig Island*, *Chapin's Island*, and *Bird Island*, all situated immediately above the American Fall, are reached by bridges.

When on Goat Island, turning to the right toward the Falls, the first object of interest is *Hogg's Back*, a point of land facing the American Fall,—Bridge to Adington Island immediately above the Cave of the Winds, 160 feet below. Sam. Patch's Point is next passed on the right, from which he took a fearful leap some years since. Biddle's Stairs descend to the water's edge below and the Cave of the Winds, which are annually visited by thousands of visitors. Terrapin Bridge and Terrapin Tower afford a grand view of the Canadian or Horse-Shoe Fall and Rapids above the Falls. Three Sister Islands are contiguous to Goat Island, on the American side. Passing around Goat Island toward the south, a grand view is afforded of the river and rapids above the Canadian and American Falls.



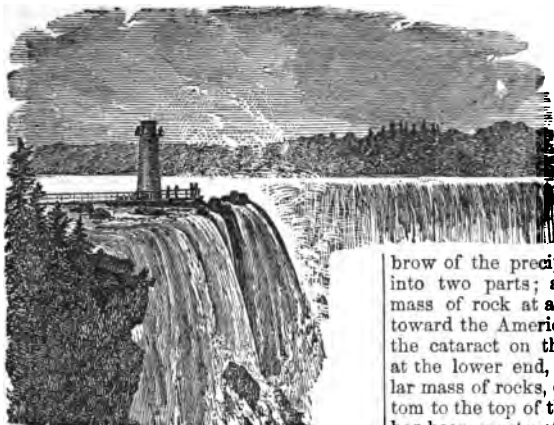


W. G. B. N. S.

THE AMERICAN RAFTS, FROM THE BRIDGE.



THE AMERICAN FALLS BY MOONLIGHT.



Niagara is a word of Indian origin—the orthography, accentuation, and meaning of which are variously given by different authors. It is highly probable that this diversity might be accounted for and explained by tracing the appellation through the dialects of the several tribes of aborigines who formerly inhabited the neighboring country. There is reason to believe, however, that the etymon belongs to the language of the Iroquois, and signifies the “*Thunder of Waters*.”

“When the traveller first arrives at the cataract he stands and gazes, and is lost in admiration. The mighty volume of water which forms the outlet of the great Lakes Superior, Michigan, Huron, and Erie, is here precipitated over a precipice

60 feet high, with a roar like that of thunder, which may be heard, in favorable circumstances, to the distance of fifteen miles, though, at times, the Falls may be nearly approached without perceiving much to indicate a tremendous cataract in the vicinity. In consequence of a bend in the river, the principal weight of water is thrown on the Canadian side, down

what is called the *Horse-Shoe Fall*, which name has become inappropriate, as the edges of the precipice have ceased to be a curve, and form a moderately acute angle. Near the middle of the fall, *Goat Island*, containing 75 acres, extends to the

brow of the precipice, dividing the river into two parts; and a small projecting mass of rock at a little distance from it, toward the American shore, again divides the cataract on that side. Goat Island, at the lower end, presents a perpendicular mass of rocks, extending from the bottom to the top of the precipice. A bridge has been constructed from the American shore to Bath Island, and another connects the latter with Goat Island, and a tower is erected on the brow of the Horse-Shoe Fall, approached from Goat Island by a short bridge, on which the spectator seems to stand over the edge of the mighty cataract, and which affords a fine view of this part of it. The distance of the fall from the American shore to Goat Island is 65 rods; across the front of Goat Island is 78 rods; around the Horse-Shoe Fall, on the Canadian side, 144 rods; directly across the Horse-Shoe, 74 rods. The height of the fall near the American shore is 163 feet; near Goat Island, on the same side, 158 feet; near Goat Island, on the Canada side, 154 feet. Table Rock, a shelving projection on the Canadian side, at the edge of the precipice, is 150 feet high. This place is generally thought to present the finest view of the Falls; though, if the spectator will visit the tower on the opposite side on Goat Island, at sunrise, when the whole cavity is enlightened by the sun, and the gorgeous bow trembles in the rising spray, he cannot elsewhere, the world over, enjoy such an

incomparable scene. A covered stairway on the American side descends from the top to the bottom of the precipice.

"It has been computed that 100 million tons of water are discharged over the precipice every hour. The Rapids commence about a mile above the Falls, and the water descends 57 feet before it arrives at the cataract. The view from the bridge to Goat Island, of the troubled water dashing tumultuously over the rocks of the American fall, is terrific. While curiosity constitutes an attribute of the human character, these falls will be frequented by admiring and delighted visitors as one of the grandest exhibitions in nature.

"This stupendous Cataract, situated in north latitude 43° 6', and west longitude 2° 6' from Washington, is 22 miles north from the efflux of the river at Lake Erie, and 14 miles south of its outlet into Lake Ontario. The whole length of the river is therefore 36 miles, its general course is a few points to the west of north. Though commonly called a river, this portion of the St. Lawrence is, more properly speaking, a *strait*, connecting, as above mentioned, the Lakes Erie and Ontario, and conducting the superfluous waters of the great seas and streams above, through a broad and divided, and afterward compressed, devious, and irregular channel to the latter lake, into which it empties—the point of union being about 40 miles from the western extremity of Lake Ontario.

"The climate of the Niagara is in the highest degree healthful and invigorating. The atmosphere, constantly acted upon by the rushing water, the noise, and the spray, is kept pure, refreshing, and salutary. There are no stagnant pools or marshes near to send abroad their fetid exhalations and noxious miasmas, poisoning the air and producing disease.

"Sweet-breathing herbs and beautiful wild flowers spring up spontaneously even on the sides, and in the crevices of the

giant rocks; and luxuriant clusters of firs and other stately forest trees cover the islands, crown the cliffs, and overhang the banks of Niagara. Here are no mosquitoes to annoy, no reptiles to alarm, and no wild animals to intimidate, yet there is life and vivacity. The many-hued butterfly sips ambrosia from the fresh opened honey-cup; birds carol their lays of love among the spray-starred branches; and the lively squirrel skips chattering from tree to tree. Varieties of water-fowl, at certain seasons of the year, sport among the rapids, the sea-gull plays around the precipice, and the eagle—the banner bird of freedom—hovers above the cataract, plumes his gray pinions in its curling mists, and makes his home among the giant firs of its inaccessible islands.

"No place on the civilized earth offers such attractions and inducements to visitors as Niagara, and they can never be fully known except to those who see and study them, from the utter impossibility of describing such a scene as this wonderful cataract presents. When motion can be expressed by color, there will be some hope of imparting a faint idea of it; but until that can be done, Niagara must remain undescribed."

Cataract of Niagara.

"Shrine of Omnipotence! how vast, how grand,
How awful, yet how beautiful thou art!
Pillar'd around thy everlasting hills,
Robed in the drapery of descending floods,
Crowned by the rainbow, canopied by clouds,
That roll in incense up from thy dread base,
Hid by their mantling o'er the vast abyss
Upon whose verge thou standest, whence ascends
The mighty anthem of thy Maker's praise,
Hymn'd in eternal thunders!"

Below the Falls, the first objects of interest are the Ferry Stairs and Point View on the American side; while on the op-

posite side is a ferry-house and landing, where carriages are usually to be found to convey passengers to the Clifton House, Table Rock, and other places of great interest.

About 30 rods below the Ferry Stairs is the spot where the hermit Abbot was drowned. Half a mile below the latter point is Catlin's Cave, formerly much frequented.

The *SUSPENSION BRIDGE*, the greatest artificial curiosity in America, is situated two miles and a half below the Falls, where has recently sprung into existence *Niagara City*, or better known as the *Suspension Bridge*, on the American side, and *Clifton* on the Canadian side of the river, here being about 800 feet in width, with perpendicular banks of 325 feet.

The *Whirlpool* and *Rapids*, one mile below the Bridge, are terrific sights of great interest, and well worthy a visit.

The *Devil's Hole*, one mile farther down, is also a point of great attraction, together with the *Bloody Run*, a small stream where a detachment of English soldiers were precipitated in their flight from an attack by Indians during the old French war in 1759. An amphitheatre of high ground spreads around and perfectly encloses the valley of the Devil's Hole, with the exception of a narrow ravine formed by Bloody Run—from which, against a large force, there is no escape, except over the precipice. The *Ice Cave* is another object of interest connected with the Devil's Hole.

The *Rapids* below the Whirlpool are the next object of attraction; then Queens-ton Heights and Brock's Monument on the Canadian side, and the *Suspension Bridge* at Lewiston; altogether forming objects of interest sufficient to fill a well-sized volume.

The Niagara River is navigable from Lewiston to its mouth at Fort Niagara, a farther distance of seven miles, or fourteen below the Falls of Niagara.

The village of NIAGARA FALLS, Niagara Co., N. Y., is situated on the east side of Niagara River, in the immediate vicinity of the grand Cataract, 22 miles from Buffalo and 303 miles from Albany by railroad route. No place in the Union exceeds this favored spot as a fashionable place of resort during the summer and fall months, when hundreds of visitors may be seen every day flocking to Goat Island, or points contiguous to the Rapids and Falls. The village contains several large hotels for the accommodation of visitors, the most noted of which are the Cataract House and the International Hotel; the Monteagle Hotel, situated two miles below the Falls, near the Suspension Bridge, and the Clifton House, on the Canada side, are all alike popular and well-kept hotels; there are five churches of different denominations; 15 stores, in many of which are kept for sale Indian curiosities and fancy work of different kinds. The water-power here afforded by the descending stream, east of Goat Island, is illimitable. A paper-mill, a flouring-mill, two saw-mills, a woollen factory, a furnace and machine shop, together with other manufacturing establishments, here use the water-power so bountifully supplied. The population is about 3,500.

The railroads centring at the Falls are the *Buffalo, Niagara Falls and Lewiston Railroad*, and the *New York Central Railroad*; the latter road connecting at Buffalo with the *New York and Erie Railroad*, and forming with other roads a direct route to Philadelphia, Baltimore, and Washington.

An *omnibus line* and hacks run from the village of Niagara Falls to Niagara City, or Suspension Bridge, during the summer months, and thence to the Clifton House and Table Rock on Canada side.

NIAGARA CITY, situated two miles below the Falls, at the *Suspension Bridge*, is a new and flourishing place containing about 1,500 inhabitants. Here is situated the *Monteagle Hotel*.

SUSPENSION BRIDGE AND THE Cataract and Rapids of Niagara.

To give the reader some idea of the grandeur of this triumph of engineering skill—**THE SUSPENSION BRIDGE**—we copy the following article from a late Buffalo paper:

AN ENGINEER'S MONUMENT.

Spanning the chasm of the Niagara River, uniting the territories of two different Governments, and sustaining the uninterrupted railroad traffic of the Provinces of Canada with the United States, 250 feet above a flood of water which man has never been able to ferry, stands the monument of JOHN A. ROEBLING. The *Niagara Railway Suspension Bridge*, is the grandest and the most distinguishing achievement of Art in this world. It is the proudest, it is the most beautiful, and will prove to be the most enduring monument anywhere set up on this continent.

Regard this wonderful product of engineering skill. Its span is 822 feet. Yet an engine, tender and passenger car, loaded with men, and weighing altogether 47 tons, depress the long floor in the centre but 5½ inches. The Bridge, loaded with a loaded freight train, covering its whole length, and weighing 326 tons, is deflected in the middle only 10 inches. This extreme depression is perceptible only to practised eyes. The slightest changes of level require to be ascertained with instruments. Delicate as lace work, and seemingly light and airy, it hangs there high between heaven and the boiling flood below, more solid than the earthbeds of the adjacent railways. The concussions of fast moving trains are sensibly felt miles

off through solid rocky soil. In cities locomotives shake entire blocks of stone dwellings. The waters of the Cayuga Lake tremble under the wheels of the express trains, a mile away from the bridge. But a freight train traversing JOHN A. ROEBLING'S Monument, at the speed of five miles an hour, communicates no jar to passengers walking upon the carriage way below. The land cables of the bridge do not tremble under it—the slight concussions of the superstructure do not go over the summits of the towers. This last fact in the stiffness of the great work is of much importance. It furnishes a guarantee of the durability of the masonry. Fast anchored with stone and grouted in solid rock cut down to the depth of twenty-five feet, the great cables are immovable by any mechanical force incidental to the use of the bridge, or the natural influences it will be subject to. The ultimate strength of these cables is 12,400 tons. The total weight of the material of the bridge, and of the traffic to which it will ordinarily be subjected is 2,262 tons, to sustain which the Engineer has provided in his beautiful and scientific structure, a strength of 12,400 tons. He demonstrates, too, that while the strength of the cables is nearly six times as great as their ordinary tension, **THAT STRENGTH WILL NEVER BE IMPAIRED BY VIBRATION.** This was the question raised by **THE DEMOCRACY**, a year ago, which excited such general, and in instances such angry discussion. ROEBLING treated our doubts with a cool reason and the stores of an extensive engineering experience, which gave us to believe that Art had at last attained to a method of suspending Iron Bridges for Railroad use, that should en-

tirely obviate the objections to them felt by most of the Iron-Masters of the United States. He has since that demonstrated it in a most wonderful structure.

There are in the bridge 624 "suspenders," each capable of sustaining 30 tons—and all of sustaining 18,720 tons. The weight they have ordinarily to support is only 1,000 tons. But the Engineer has skilfully distributed the weight of the burdens, by the means of "girders" and "trusses." These spread the 34 tons heft of a locomotive and tender over a length of 200 feet. How ample is this provision made for defective iron or sudden strains!

The Anchor Chains are composed of 9 links, each 7 feet long, save the last, which is 10 feet. The lowest link is made of 7 bars of iron, 7 inch by 1½. It is secured to a cast iron anchor plate 3½ inches thick, and 6 feet 6 inches square. The other links are equally strong. The iron used was all made from Pennsylvania charcoal, Ulster county, N Y., and Salisbury Pig, and can be depended upon for a strength of 64,000 pounds to the square inch. The central portions of the anchor plates, through which the links pass is 12 inches thick. The excavations in the solid rock were not vertical. They inclined from the river. The rock upon which the work may rely on the New York side of the chasm is 100 feet long, 70 feet wide, and 20 feet deep. It weighs 160 pounds to the cubic foot, and presents a resistance of 14,000 tons, exclusive of the weight of the superincumbent masonry and embankment.

The TOWERS are each 15 feet square at the base, 60 feet high above the arch, and 8 feet square at the top. The limestone of which they are built will support a pressure of 500 tons on each square foot without crushing. While the greatest weight that can fall upon the tower will rarely exceed 600 tons, a pressure of 32,000 tons will be required to crush the top course. There are 4,000 tons' weight in each of the towers on the New York side.

The cables are 4 in number, 10 inches in diameter, and composed each of 3,640 small No. 9 wires. Sixty wires form one square inch of solid section, making the solid section of the entire cable 60.40 square inches, wrapping not included. These immense masses of wire are put together so that each individual wire performs its duty, and in a strain all work together. On this, Mr. ROEBLING, who is a moderate as well as a modest man, feels justified in speaking with the word PERFECT. Each of the large cables is composed of four smaller ones, called "strands." Each strand has 520 wires. One is placed in the centre. The rest are placed around that. These strands were manufactured nearly in the same position the cables now occupy. The preparatory labors, such as oiling, straightening, splicing, and reeling, were done in a long shed on the Canada side. Two strands were made at the same time, one for each of the two cables under process of construction. On the completion of one set, temporary wire bands were laid on, about nine inches apart, for the purpose of keeping the wires closely united, and securing their relative position. They were then lowered to occupy their permanent position in the cable. On completion of the seven pairs of strands, two platform carriages were mounted upon the cables, for laying on a continuous wrapping, by means of ROEBLING'S patent wrapping machines. During this process the whole mass of wire was again saturated with oil and paint, which, together with the wrapping, will protect them effectually against all oxidation. Five hundred tons of this wire is English. American manufacturers did not put in proposals. That used was remarkably uniform, and most carefully made.

The law deduced from large use of wire rope in Pennsylvania, is, that its durability depends upon its usage. It will last much longer under heavy strains moving

slowly, than it will under light strains moving rapidly. This law was borne constantly in mind by the Engineer of the Niagara Railway Bridge. The cables and suspenders are, so to speak, at rest. They are so well protected, too, from rust, that they may be regarded as eternally durable.

Among the interesting characteristics of this splendid architecture, is its elasticity. The depression under a load commences at the end, of course, and goes regularly across. After the passage of a train, the equilibrium is perfectly restored. The elasticity of the cables is fully equal to this task, and WILL NEVER BE LOST.

The equilibrium of the Bridge is less affected in cold weather than in warm. If a change of temperature of 100 degrees should take place, the difference in the level of the floor would be 2 feet 3 inches.

So solid is this Bridge in its weight, its stiffness, and its staying, that not the slightest motion is communicated to it by the severest gales of wind that blow up through the narrow gorge which it spans.

Next to violent winds, suspension bridge builders dread the trotting of cattle across their structures. Mr. ROEBLING says that a heavy train running 20 miles an hour across his Bridge, would do less injury to it than would 20 steers passing on a trot. It is the severest test, next to that of troops marching in time, to which bridges, iron or wooden, suspension or tubular, can be subjected. Strict regulations are enforced for the passage of hogs, horses, and oxen, in small bodies, and always on a walk.

This great work cost only \$500,000. The same structure in England (if it could possibly have been built there) would have cost \$4,000,000. It is unquestionably the most admirable work of art on this continent, and will make an imperishable monument to the memory of its Engineer, JOHN A. ROEBLING.

We append a Table of Quantities for the convenience of our readers, and the more easy comprehension of the character of the structure:

Length of span from centre to centre of Towers.....	822 feet
Height of Tower above rock on American side.....	89 feet
Height of Tower above rock, Canada side.....	78 feet
Height of Tower above floor of Railway.....	60 feet
Number of Wire Cables.....	4
Diameter of each Cable.....	10 inches
Number of No. 9 wires in each Cable.....	3,569
Ultimate aggregate strength of Cables, 12,400 tons	
Weight of Superstructure.....	750 tons
Weight of Superstructure and maximum loads.....	1,250 tons
Ultimate supporting strength.....	790 tons
Height of Track above water.....	250 feet
Base of Towers.....	16 feet square
Top of Towers.....	8 " " "
Length of each Upper Cable.....	1,256½ feet
" " Lower Cable.....	1,190 feet
Depth of Anchor Pits below surface of Rock.....	30 feet
Number of Suspenders.....	624
Ultimate strength of Suspenders.....	18,720 tons
Number of Overfloor Stays.....	64
Aggregate strength of Stays.....	1,920 tons
Number of River Stays.....	56
Aggregate strength of Stays.....	1,680 tons
Elevation of Railway Track above middle stage of River.....	245 feet
Total length of Wires.....	4,000 miles
The weights of the materials in the bridge are as follows:	
	LBS.
Timber.....	919,180
Wrought Iron and Suspenders.....	118,180
Castings.....	44,832
Rails.....	66,740
Cables (between towers).....	585,400
Total.....	1,678,732

The GREAT WESTERN RAILWAY OF CANADA, which unites with the *New York Central Railroad*, terminating on the American side of the river, here commences and extends westward through Hamilton, London, and Chatham to Windsor, opposite Detroit, Mich., forming one of the great through lines of travel from Boston and New York to Detroit, Chicago, and the Far West. See page 50.

This road also furnishes a speedy route of travel to Toronto, Montreal, etc.

Objects of Interest.

The following are the principal OBJECTS OF INTEREST above and below the FALLS :

Canada Side.

CHIPPEWA, R. R. and Steamboat Station.
Navy Island.
Rapids.
Burning Spring.
Lundy's Lane, and Battle-field.
Horseshoe Fall.
Table Rock and Stairs.
CLIFTON HOUSE.
Ferry.
New Suspension Bridge.
CLIFTON, Great Western Railway Station.
Suspension Bridge, 822 feet in length.
Whirlpool and Rapids.
Brock's Monument.
QUEENSTON.
NIAGARA, TOWN.

American Side.

Schlösser's Landing.
Goat Island.
Cave of the Winds.
Rapids, and Bridge to Goat Island.
VILLAGE OF NIAGARA FALLS.
American Fall.
Ferry and Stairs.
New Suspension Bridge.
NIAGARA CITY.
Suspension Bridge, New York Central Railroad Station.
Mont Eagle Hotel.
Rapids and Whirlpool.
Mountain Ridge.
LEWISTON, R. R. and Steamboat Station.
YOUNGSTOWN.
Fort Niagara.
LAKE ONTARIO.

THE WANT OF IMPROVEMENTS.

The immense water-power at the Falls, and Rapids above, are used but to a limited extent for manufacturing purposes, while every effort is made by the inhabitants and hangers-on at this great resort to extract a living from the thousands who annually flock here to view this mighty Cataract.

Instead of planting shade-trees, making walks and cooling drives, building cottages, and laying out gardens, every thing seems neglected and suffered to remain unimproved on the American side, while a limited effort is perceptible on the Canada side, where the grounds are admirably situated, affording beautiful sites for summer residences.

LEWISTON, Niagara Co., N. Y., is delightfully situated on the east bank of the Niagara River, seven miles below the

Falls, and seven miles above the mouth of the river where it falls into Lake Ontario. It is an incorporated village, and contains about 1,000 inhabitants, four churches, an incorporated academy; a custom-house, it being the port of entry for the district of Niagara; two hotels, nine stores, and three storehouses. Here is a very convenient steamboat landing, from which steamers depart daily for Oswego, Ogdensburgh, etc., on the American side, and for Torouto, Kingston, etc., on the Canadian side. The *Buffalo, Niagara Falls, and Lewiston Railroad* terminates at this place, where is a steam ferry, connecting Lewiston with Queenston, Canada. The mountain ridge here rises about 300 feet above the river, forming many picturesque and romantic points of great interest. On the American side of the river stands the site of old Fort Gray, erected during the war of 1812, while on the Canadian side are situated

Queenston Heights, surmounted by a beautiful monument erected to the memory of General Brock, of the British army, who was here killed in a sanguinary conflict, October 13th, 1812. From this height a most extensive and grand view is obtained of Lake Ontario and the surrounding country.

YOUNGSTOWN, six miles below Lewiston, and one mile above old Fort Niagara, at

the mouth of the river, is a regular steamboat landing. A ferry plies from Youngstown to the village of Niagara on the Canada side of the river, here about half a mile in width. This is the first landing, on the American side of the river, after leaving the broad waters of Lake Ontario. *Fort Niagara*, an old and important military post, is situated at the mouth of the river.

Route around Lake Ontario.

	Miles.
Kingston, C. W., to Toronto, <i>via Grand Trunk Railway</i>	160
Toronto to Hamilton, C. W., <i>Toronto and Hamilton R. R.</i>	38
Hamilton to Suspension Bridge, <i>via Great Western R. R.</i>	43
Suspension Bridge to Rochester, N. Y., <i>via N. Y. Central Railway</i>	76
Rochester to Oswego, N. Y., <i>by Stage</i>	70
Oswego to Richland, N. Y., ".....	25
Richland to Cape Vincent, <i>via Watertown and Rome R. R.</i>	55
Cape Vincent to Kingston, C. W., <i>via Wolfe Island</i>	12
Total Miles	489

NOTE.—The extreme length of Lake Ontario is 190 miles from Cape Vincent to Hamilton, C. W.; being about four

times as long as its greatest width. The circuit of the water is estimated at 480 miles.—*See Lake Erie, page 14.*

Rapids of the St. Lawrence River.

The Rapids of the St. Lawrence, in connection with the "Thousand Islands," form the most remarkable feature of this truly noble stream. The "Thousand Islands" are situated near the foot of Lake Ontario, where the St. Lawrence proper commences. Here are found delightful resorts for those fond of fishing and hunting, surrounded by scenery of the most enchanting character.

The fall in the St. Lawrence River, between Ogdensburg and Montreal, a distance of 120 miles, exceeds 200 feet. The rapids encountered are the *Gallop Rapids*;

Rapid Plat; *Long Saut Rapids* (descent 48 feet). The *Coteau Rapids*, *Cedar Rapids*, and *Cascade Rapids* have a descent of 82 feet in the distance of 11 miles. The *La Chine Rapids*, the last formidable rapids which impede navigation, have a descent of 45 feet.

The descent of these Rapids by steamers is perfectly safe, affording the most exciting and grand excursion imaginable. In ascending the stream steamers pass through the *St. Lawrence Canals*, affording ship navigation; total length about 40 miles. *See Engraving.*

LAKE ONTARIO.

This Lake, the most eastern of the great chain of Lakes of North America, receives the surplus waters of Niagara River; it is 180 miles in length, and 60 miles in extreme breadth; being about 480 miles in circumference. The boundary line between the British Possessions and the United States runs through the middle of the lake, and so continues down the St. Lawrence to the 45th degree of north latitude, where the river enters Canada.

The lake is navigable throughout its whole extent for vessels of the largest size; and it is said to be in some places upward of 600 feet in depth. Its surface is elevated 234 feet above the Atlantic, and lies 330 feet lower than Lake Erie, with which it is connected by the Niagara River and by the Welland Canal in Canada. It has also been proposed to construct a ship canal on the American side. The trade of Lake Ontario, from the great extent of inhabited country surrounding it, is very considerable, and is rapidly increasing. Many sail vessels and splendid steamers are employed in navigating its waters, which, owing to its great depth, never freeze, except at the sides, where the water is shallow; so that its navigation is not so effectually interrupted by ice as some of the other large lakes. The most important places on the Canadian or British side of Lake Ontario are Kingston, Coburg, Port Hope, Toronto, Hamilton, and Niagara; on the American shore, Cape Vincent, Sacket's Harbor, Oswego, Charlotte or Port Genesee, and Lewiston, on Niagara River. This Lake is connected

with the navigable waters of the Hudson River by means of the Oswego and Erie canals. It receives numerous streams, both from the Canadian and the American sides, and abounds with a great variety of fish of an excellent flavor. The bass and salmon, in particular, have a high reputation, and are taken in large quantities. The principal Bays are Burlington, Irondequoit, Great and Little Sodus, Mexico, Black River, Chaumont, and the picturesque waters of the Bay of Quinte.

The passage across Lake Ontario in calm weather is most agreeable. At times both shores are hidden from view, when nothing can be seen from the deck of the vessel but an abyss of waters. The refractions which sometimes take place in summer, are exceedingly beautiful. Islands and trees appear turned upside down; and the white surf of the beach, translated aloft, seems like the smoke of artillery blazing away from a fort.*

* **BEAUTIFUL MIRAGE.**—That grand phenomenon occasionally witnessed on the Lake—mirage—was seen from the steamer Bay State, on a recent trip from Niagara to Genesee River (August, 1856), with more than ordinary splendor. The *Lockport Journal* says it occurred just as the sun was setting, at which time some twelve vessels were seen reflected on the horizon, in an inverted position, with a distinctness and vividness truly surprising. The atmosphere was overcast with a thick haze such as precedes a storm, and of a color favorable to represent upon the darkened background, vividly, the full outlines of the rigging, sails, etc., as perfect as if the ships themselves were actually transformed to the aerial canvas. The unusual phenomenon lasted until darkness put an end to the scene.

TRIP THROUGH THE LAKES,

Giving a Description of Cities, Towns, &c.



Buffalo, "QUEEN CITY of the LAKES," possessing commanding advantages, being 22 miles above Niagara Falls, is distant from Albany 298 miles by railroad, and about 350 miles by the line of the Erie Canal; in N. lat. $42^{\circ} 53'$, W. long. $78^{\circ} 55'$ from Greenwich. It is favorably situated for commerce at the head of Niagara River, the outlet of Lake Erie, and at the foot of the great chain of Upper Lakes, and is the point where the vast trade of these inland seas is concentrated. The harbor, formed of Buffalo Creek, lies nearly east and west across the southern part of the city, and is separated from the waters of Lake Erie by a peninsula between the creek and lake. This harbor is a very secure one, and is of such capacity, that although steamboats, ships, and other lake craft, and canal-boats, to the number, in all, of from three to four hundred, have sometimes been assembled there for the transaction of the business of the lakes, yet not one-half part of the water accommodations has ever yet been occupied by the vast business of the great and grow-

ing West. The harbor of Buffalo is the most capacious, and really the easiest and safest of access on our inland waters. Improvements are annually made by dredging, by the construction of new piers, wharves, warehouses, and elevators, which extend its facilities, and render the discharge and trans-shipment of cargoes more rapid and convenient; and in this latter respect it is without

an equal.

Buffalo was first settled by the whites in 1801. In 1832 it was chartered as a city, being now governed by a mayor, recorder, and board of twenty-six aldermen. Its population in 1830, according to the United States Census, was 8,668; in 1840, 18,213; and in 1850, 42,261. Since the latter period the limits of the city have been enlarged by taking in the town of Black Rock; it is now divided into thirteen wards, and, according to the Census of 1860, contained 81,130 inhabitants, in 1865, 94,210, being now the third city in point of size in the State. The public buildings are numerous, and many of them fine specimens of architecture; while the private buildings, particularly those for business purposes, are of the most durable construction and modern style. The manufacturing establishments, including several extensive ship-yards for the building and repairing of lake craft, are also numerous, and conducted on a large scale, producing manufactured articles for the American and Canadian markets.

The principal public buildings are an

U. States Custom-House and Post-Office; City Hall; Court-House and Jail; 2 Theatres, and 60 Churches of different denominations. Here are also 8 banking houses, 4 Savings Banks, and several Fire and Marine Insurance Companies.

The Lines of Steamers and Railroads diverging from Buffalo tend to make it one of the greatest thoroughfares in the Union. Steamers and propellers run to Cleveland, Sandusky, Toledo, Detroit, Mackinac, Saut Ste. Marie, Green Bay, Milwaukee, Chicago, &c.

RAILROADS RUNNING FROM BUFFALO.

1. *New York Central*, to Albany and Troy, 298 miles.

2. *Buffalo, Niagara Falls, and Lewiston*, 28 miles.

3. *Buffalo, New York, and Erie*, to the city of New York, 434 miles.

4. *Lake Shore Railroad*, to Cleveland, Ohio, 183 miles.

5. *Buffalo and Lake Huron Railway*, 161 miles.

6. *Great Western (Canada) Railway* (Sus. Bridge to Detroit, Mich.), 230 miles.

There are also four lines of City Railroads running to different points within the limits of Buffalo.

The principal Hotels are the *Tift House*, and *Mansion House*, on Main street; *Bonney's Hotel*, on Washington street; the *Everett House*, and *Western Hotel*, facing the Terrace.

There are now running from Buffalo to

different ports on Lake Erie and the Upper Lakes seven different Lines of Propellers, annually transporting an immense amount of merchandise and produce, which finds its exit eastward by means of the Erie Canal, and the several Railroad Lines.

"The climate of Buffalo is, without doubt, of a more even temperature than any other city in the same parallel of latitude from the Mississippi to the Atlantic coast. Observations have shown that the thermometer never ranges as low in winter, nor as high in summer, as at points in Massachusetts, the eastern and central portions of this State, the northern and southern shores of Lake Erie in Michigan, Northern Illinois, and Wisconsin. The winters are not as keen, nor the summers, cooled by the breezes from the lake, as sultry; and in a sanitary point of view, it is probably one of the healthiest cities in the world.

"London, usually considered the healthiest of cities, has a ratio of one death in forty inhabitants. The ratio of Buffalo is one in fifty-six. The favorable situation of the city for drainage, and for a supply of pure water; its broad, well-paved streets, lined with shrubbery and shade-trees; its comparatively mild winters; its cool summers; its pleasant drives and picturesque suburbs, and its proximity to the 'Falls,' combine to render it one of the most desirable residences on the continent."

BUFFALO TO DETROIT—NORTH SHORE ROUTE.

On leaving the wharf at Buffalo, the Steamers usually run direct for Long Point on the Canada, or North Shore of Lake Erie, proceeding for most of the distance in British waters, to the mouth of Detroit River.

LONG POINT, 65 miles from Buffalo,

is a long strip of land, nearly 20 miles long, and from one to three miles in width, covered for the most part with a stunted growth of forest trees. It was formerly a peninsula, running out from the land in an easterly direction, nearly half way across the lake; but the waters having

made a wide breach across its western extremity, has converted it into an island. There is an important light-house on the east end to guide the mariner on his passage through Lake Erie, here about 40 miles wide, and where is found the greatest depth of water. To this Point both shores of the lake can be seen in a clear morning from the deck of the steamer, affording a most grand sight when the sun rises on a cloudless day. Then may usually be seen a fleet of vessels wending their way toward Buffalo or the mouth of the Welland Canal, through which channel annually passes a great number of steam propellers and sail vessels on their way to Lake Ontario and the St. Lawrence River.

PORT COLBORNE, C. W., situated about 20 miles west of Buffalo, lies at the mouth of the Welland Canal, while

PORT MAITLAND, some 20 miles farther, is situated at the mouth of Grand River, where is a navigable feeder communicating with the canal, thus affording two entrances to the above canal.

PORT DOVER, about 70 miles west of Buffalo, and 40 miles distant from Hamilton by proposed railroad route, is situated on the north shore of Lake Erie, at the mouth of the river Lynn. Here is a good harbor, and the village is a place of growing importance, containing about 1,000 inhabitants.

PORT RYERSE and PORT ROWAN are small villages on the Canada shore, situated on the bay formed by Long Point. Inland there is to be found a rich and fine farming district, consisting of some of the best lands in Canada West.

The *Sand Hills*, immediately west of Long Point, are seen for some distance as the steamer pursues her onward course toward *Point aux Pins*, passing through the widest part of the lake, where both shores are lost sight of for a number of miles. The water usually presents a clear green color in the middle, but near the

shore is more or less tinged with muddy water, proceeding from the streams emptying into the lake.

PORT BURWELL, C. W., about 35 miles west of Long Point, is handsomely situated at the mouth of Otter Creek. Here is a light-house and good harbor. A large amount of lumber and other products are annually exported from this place to Eastern markets.

PORT STANLEY, about 25 miles farther west, is handsomely situated at the mouth of Kettle Creek, being in part surrounded by high and picturesque hills in the immediate vicinity. The harbor is well protected, and much frequented by British and American vessels running on Lake Erie. It is nine miles south of St. Thomas, and twenty-four from London, the chief town of the county of Middlesex, for which place it may be considered the out-port. A plank-road runs between the two places; also, the *London and Port Stanley Railroad*, connecting with the Great Western Railway of Canada. Steamers run from Port Stanley to Buffalo, Cleveland, and other ports on Lake Erie.

POINT AUX PINS, or ROND' EAU (usually called by the American navigators *Round O*), about 100 miles west of Long Point, is a cape which projects from the Canada shore, enclosing a natural basin of about 6,000 acres in extent, with a depth of from ten to twelve feet, thus forming an excellent and secure harbor, the entrance to which has been improved by the Canadian government by running out piers, etc. It is proposed to construct a ship canal from this port to the St. Clair River, a distance of about 35 miles, thus avoiding the *St. Clair Flats*. Another Canadian project is to construct a canal from Goderich to Hamilton, C. W., about 120 miles in length.

POINT PELEE, lying about 40 miles east of the mouth of Detroit River, projects a number of miles into Lake Erie,

and forms, in connection with the island of Point Pelée and other islands in the vicinity, the most picturesque portion of lake scenery to be met with on this inland sea.

POINT PELÉE ISLAND, belonging to Canada, is about seven miles long, and two or three miles in width. It is inhabited by a few settlers. The island is said to abound with red cedar, and possesses a fine lime-stone quarry. A lighthouse is situated on the east side.

The steamers bound for Detroit River usually pass to the north side of Point Pelée Island, and run across *Pigeon Bay* toward *Bar Point*, situated at the mouth of Detroit River. Several small islands are passed on the south, called *East Sister*, *Middle Sister*, and *West Sister*; also, in the distance, may be seen the *BASS ISLANDS*, known as the "North Bass," "Middle Bass," and "South Bass." On the west side of the latter lies the secure harbor of *PUT-IN-BAY*, celebrated as the rendezvous of Com. Perry's fleet, before and after the glorious naval victory which he achieved over the British fleet, September 10th, 1813.

DETROIT RIVER, forming one of the links between the Upper and Lower Lakes, is next approached, near the mouth of which may be seen a light on the Michigan shore called *Gibraltar Light*, and another light on an island attached to Canada, the steamers usually entering the river through the east or *British Channel* of the river, although vessels often pass through the west or *American Channel*.

AMHERSTBURGH, C. W., 18 miles below Detroit, is an old and important town. The situation is good; the banks of the river, both above and below the village, but particularly the latter, where the river emerges into Lake Erie, are very beautiful; several handsome residences

may here be seen, surrounded by highly cultivated grounds. About a mile below the town is a chalybeate spring, which is said to resemble the waters of Cheltenham, in England. British and American vessels frequently land at Amherstburg, on their trips to and from the Upper Lakes.

FORT MALDEN, capable of accommodating a regiment of troops, is situated about half a mile above Amherstburg, on the east bank of the river, the channel of which it here commands.

At BROWNSTOWN, situated on the opposite side of the river, in Michigan, is the *battle-ground* where the Americans, under disadvantageous circumstances, and with a slight loss, routed the British forces, which lay in ambush, as the former were on their way to relieve the fort at Frenchtown, which event occurred August 5, 1812.

SANDWICH, C. W., is beautifully situated on the river, two miles below Detroit, and nine miles below Lake St. Clair. It stands on a gently sloping bank a short distance from the river, which is here about a mile wide. This is one of the oldest settlements in Canada West. The town contains 3,133 inhabitants.

WINDSOR, C. W., situated in the township of Sandwich, is a village directly opposite Detroit, with which it is connected by three steam ferries. It was laid out in 1834, and is now a place of considerable business, having a population of about 2,500 inhabitants. Here terminates the *Great Western Railway* of Canada, which extends from Niagara Falls or Suspension Bridge, *via* Hamilton and London, to opposite Detroit—thus forming an important link in the great line of railroads, now finished, running from the seaboard at different points to the Mississippi and Missouri Rivers.

RAILROAD ROUTE from Niagara Falls to Hamilton and Detroit, via Great Western Railway of Canada.

This great International Line, extending from Niagara River to Detroit River, opposite the city of Detroit, a distance of 229 miles, passes through a fine and interesting section of country, equal in many respects to Western New York. It connects with the New York Central and Buffalo and Niagara Falls Railroad, forming a great through route of travel.

Starting from the *Suspension Bridge* at Clifton, two miles below the Falls of Niagara, the passenger train soon reaches the verge of the mountain ridge overlooking the plain below, while in the distance may be seen the broad waters of Lake Ontario, usually studded with sail vessels and propellers on their way to or from the mouth of the Welland Canal.

"Traced like a map, the landscape lies
In cultured beauty stretching wide."

THOROLD, nine miles, is situated on the line of the Welland Canal, where is abundant water-power propelling five or six flouring mills. A railroad extends to Port Dalhousie, some five or six miles distant, connecting with a steamer running to Toronto. This road will be extended to Port Colbourne, on Lake Erie, about twenty miles distant.

ST. CATHERINES, 12 miles from the Suspension Bridge, is a flourishing town, also situated on the line of the Welland Canal, which connects Erie and Ontario. This has become of late a fashionable place of resort during the summer months, caused by the mineral waters of the "*Artesian Wells*" obtaining great celebrity, owing to their curative properties. Here are several well-kept hotels for the accommodation of visitors. St. Catherines is justly termed "*the Saratoga of Canada*," being annually visited by thousands of invalids and pleasure-seekers.

BEAMSVILLE, 22 miles from the

Suspension Bridge, is a thriving village about one mile from the station.

GRIMSBY, 5 miles farther, is situated on Forty-mile Creek, the scene of some hard fighting during the war of 1812. It is a small village of 350 inhabitants; there are two churches, a hotel, and several stores; also, a grist and saw mills propelled by water-power.

HAMILTON, 43 miles from Suspension Bridge, is the principal station on the line of the Great Western Railway, where are located the principal offices and workshops connected with the company. Here is a commodious *dépôt* and steamboat landing. Carriages and omnibuses are always in readiness to convey passengers to the hotels in the city, and steamboat landings.

The *Toronto Branch* of the Great Western Railway commences at Hamilton, and extends a distance of thirty-eight miles to the city of Toronto, running near the shore of Lake Ontario.

On leaving Hamilton for Windsor or Detroit, the road passes near the mansion of the late Sir Allan M'Nab, and over the Des Jardines Canal, entering the head of Burlington Bay. Here is also a Suspension Bridge in sight, thrown over the stream as it cuts its way through the high bank which encircles the bay or lake. This point presents a beautiful view, both on leaving or arriving at the head-waters of Lake Ontario.

DUNDAS, five miles from Hamilton, is situated on rising ground on the side of the mountain, and is a thriving manufacturing place, having the advantage of a stream which flows, or rather rushes, with great impetuosity through its centre, working on its way numerous mills. The *Des Jardines Canal* runs from hence to Burlington Bay, enabling the manufacturers to ship their goods at their own doors.

HARRISBURGH. 19 miles from Hamilton, is the station of the *Galt Branch* of the Great Western Railway.

PARIS, with the Upper and Lower Town, contains about 3,500 inhabitants; so called from its contiguity to beds of gypsum or plaster of Paris. It possesses a considerable amount of water-power, which works numerous mills. There are two foundries, a tannery, machine-shop, distillery, saw-mill, etc. The *Buffalo and Lake Huron Railway* intersects the Great Western at this point, running to Goderich, on Lake Huron.

WOODSTOCK, 48 miles from Hamilton, and 138 miles from Windsor, is a county town, well situated on rolling ground, and contains about 4,500 inhabitants. It may be called a town of magnificent distances; East and West Woodstock forming a street upward of a mile in length. The vacant spaces, however, are fast being filled up with stately edifices, and it will thus in a short time become one of the handsomest thoroughfares in Canada. In this locality, noted for its handsome country seats—and indeed all the way from Hamilton—the land, as seen from the road (the railroad for the most part passes through a new country), is rolling and well cleared of trees and stumps, presenting more the appearance of “merrie England” than any other section of the Province.

INGERSOLL, nine miles farther, formerly an Indian village, now contains about 2,000 inhabitants. A small arm of the Thames runs through it, and furnishes some water-power, by which several mills are worked. Since the opening of the railway it has risen in a surprising manner; and the town, which before then had a very dingy appearance, the houses being of wood and wanting paint, is now gay with white brick, and the streets resound with the hum of an enterprising population.

LONDON, 119 miles from Suspension

Bridge, and 110 miles from Windsor, if not, like her English namesake,

—————The great resort
Of all the earth—checked with all
Complexions of mankind—

is nevertheless a very stirring business place, and presents another instance of the energy and enterprise of the Canadians. Ten years ago, this then very small village of wooden houses was entirely burned down, and now on its ashes is raised a most flourishing city, containing four banks, several wholesale houses, fifteen churches, many of them handsome structures, and the English Church having a fine peal of bells; life and fire insurances offices, breweries and distilleries. It has three newspapers and several good hotels. Population nearly 18,000. It is well watered by the river Thames, which, however, is only navigable up to Chatham, sixty miles distant.

The *London and Port Stanley R. R.* here joins the Great Western Railway; length 24 miles, running south to Lake Erie.

CHATHAM, 46 miles from Windsor, situated on the river Thames, possesses the great advantage of a navigation, and is therefore a place of considerable business. It contains eight churches; and being the county town of Kent, it has a court-house, a very handsome building, several grist and saw mills, woollen factory, two foundries, machine-shop, etc. Steamers ply between Chatham, Detroit, and Amherstburg. Population about 5,000.

WINDSOR, 229 miles from Suspension Bridge, opposite Detroit, prettily situated on the banks of the river, is a place of considerable business, and is rapidly increasing in wealth and population, owing to the advantage it has of being the western terminus of the Great Western Railway.

Three steam-ferries ply between Windsor and Detroit, making close connections for the benefit of railroad passengers.

BUFFALO TO GODERICH, C. W., *via* BUFFALO AND LAKE HURON RAILWAY.

This important line of travel extends from Buffalo, N. Y., crossing Niagara River by means of a steam ferry at Black Rock to Fort Erie, on the Canada side. It is proposed to construct a permanent railroad bridge of about one mile in length, a short distance above the present ferry. From Fort Erie the line of the railway extends westward within a short distance of Lake Erie for forty miles, to Dunville, situated at the mouth of Grand River, crossing the Welland Canal.

From Dunville the road runs along the valley of the river on the north side to Brantford, 38 miles farther, and from thence extends westward to Paris, where it connects with the Great Western Railway of Canada. The line thence runs to Stratford, C. W., where it connects with the Grand Trunk Railway, a total distance from Buffalo of 116 miles. From this point the road is now completed and in running order to Goderich, situated on Lake Huron, a total distance of 163 miles.

DUNVILLE is advantageously situated on the Grand River, at a point where it is intersected by the feeder of the Welland Canal. It is a place of considerable business, and contains several grist, saw, and plaster mills, and a tannery. Population about 1,500.

The *Welland Canal* is one of the many works of the same kind of which Canadians may be proud. This Canal affords a passage for propellers, sloops, and schooners of 125 tons burden, around the Falls of Niagara, and connects Lake Erie with Lake Ontario. It is 42 miles long, including feeder, 56 feet wide, and from 8½ to 16 feet deep. The whole descent from one lake to the other is 334 feet, which is accomplished by 37 locks.

BRANTFORD, 78 miles from Buffalo, and 82 miles from Goderich, is beautifully

situated on Grand River, and named after Brant, the renowned chief of the Six Nations Indians, who, with his tribe, steadily supported the British Crown during the American War. "In '*Gertrude of Wyoming*' he is alluded to in disparaging terms:

'The mammoth comes—the fiend, the monster
Brant.'

But some years afterward Campbell was obliged to apologize to Brant's son, who happened to visit London; as it appeared, on satisfactory evidence, his father was not even present at the horrible desolation of Wyoming. This much is due to the memory of Brant, who was a brave warrior and a steadfast ally of the British, and always exerted himself to mitigate the horrors of war."

BRANTFORD, until the opening of the Great Western Railway, was a great wheat market, the streets being crowded with hundreds of wagons daily; but that road created other markets, and to this extent the town has suffered. It has, however, other sources of prosperity. There is no place in the Province which commands such extensive water-power, and which is made available for the working of numerous mills. The iron foundries, machine shops, and potteries are on a large scale, and have caused the place to be regarded as the Birmingham of Canada. It has a goodly number of churches of various denominations, and one of the largest and handsomest hotels in the Province—"The Kirby House." Population about 6,000.

STRATFORD is a new and thriving town, favorably situated on the line of the *Grand Trunk Railway* of Canada. This section of Canada enjoys a good climate and fertile soil, producing cereal grains in great abundance.

Goderich, C. W., 163 miles distant from Buffalo, by railroad route, is advantageously situated on the east shore of Lake Huron, enjoying a healthy and delightful climate. Here is a good and secure harbor, being easily accessible to the largest steamers and sail vessels navigating the Upper Lakes. Here is erected an extensive railroad depot, warehouses, grain elevator, and wharves, owned by the Buffalo and Lake Huron Railway company. The town is beautifully situated on elevated ground, rising about 150 feet above the waters of Lake Huron, here celebrated for their purity. The population amounts to about 5,000, and is

rapidly increasing in numbers and wealth. Steamers run daily from this port to Sarnia, Detroit, Saginaw, and other ports on Lake Huron. A line of propellers, carrying passengers and freight, also run from Goderich to Mackinac, Milwaukee, Chicago, etc.—connecting with the Buffalo and Lake Huron Railway—thus forming a through line of travel from Buffalo to the above ports.

There are several other ports of importance lying north of Goderich, on the Canada side of the lake, from whence steamers run to and fro almost daily, during the season of navigation.

TABLE OF DISTANCES.

FROM BUFFALO TO TOLEDO—SOUTH SHORE ROUTE.

Ports, etc.	Miles.	Ports, etc.	Miles.
Buffalo, N. Y	0	Toledo, Ohio	0
Silver Creek, N. Y	34	Maumee Bay	7
Dunkirk, "	42	Turtle Island	10
Portland, "	52	West Sister Island	22
Erie, Pa	90	South Bass Island	40
Conneaut, Ohio	117	Sandusky, Ohio	40
Ashtabula, "	131	Kelley's Island	45
Painesville, "	156	Cleveland, Ohio	100
Cleveland, "	185	Painesville, "	129
Kelley's Island	240	Ashtabula, "	154
Sandusky, Ohio	245	Conneaut, "	168
South Bass Island	245	Erie, Pa	195
West Sister Island	263	Portland, N. Y	233
Turtle Island	275	Dunkirk, "	243
Maumee Bay	278	Silver Creek, N. Y	251
Toledo, Ohio	285	Buffalo, N. Y	285

NOTE.—The direct through route as run by the steamers from Buffalo to Toledo is about 250 miles; the circuit of Lake Erie being about 560 miles.

BUFFALO TO CLEVELAND, TOLEDO, ETC.—SOUTH SHORE ROUTE.

Steamers and Propellers of a large class leave Buffalo daily, during the season of navigation, for the different ports on the American or South Shore of Lake Erie, connecting with railroad cars at Cleveland, Sandusky, Toledo, and Detroit.

On leaving Buffalo harbor, which is formed by the mouth of Buffalo Creek, where is erected a breakwater by the United States government, a fine view is afforded of the city of Buffalo, the Canada shore, and Lake Erie stretching off in the distance, with here and there a steamer or sail vessel in sight. As the steamer proceeds westward through the middle of the lake, the landscape fades in the distance, until nothing is visible but a broad expanse of green waters.

STURGEON POINT, 20 miles from Buffalo, is passed on the south shore, when the lake immediately widens by the land receding on both shores. During the prevalence of storms, when the full blast of the wind sweeps through this lake, its force is now felt in its full power, driving the angry waves forward with the velocity of the race-horse, often causing the waters to rise at the lower end of the lake to a great height, so as to overflow its banks, and forcing its surplus waters into the Niagara River, which causes the only perceptible rise and increase of the rush of waters at the Falls.

DUNKIRK, N. Y., 42 miles from Buffalo, is advantageously situated on the shore of Lake Erie where terminates the *New York and Erie Railroad*, 460 miles in length. Here is a good and secure harbor, affording about twelve feet of water over the bar. A light-house, a beacon-light, and breakwater, the latter in a dilapidated state, have here been erected by the United States government. As an

anchorage and port of refuge this harbor is extremely valuable, and is much resorted to for that purpose by steamers and sail vessels during the prevalence of storms.

The village was incorporated in 1837; and now contains about 4,000 inhabitants, 500 dwelling-houses, five churches, a bank, three hotels, and 20 stores of different kinds, besides several extensive store-houses and manufacturing establishments.

The *Buffalo and State Line Railroad*, extending to Erie, Pa., runs through Dunkirk, forming in part the Lake Shore line of railroad, which, in connection with the railroad leading direct to the city of New York, affords great advantages to this locality, which is no doubt destined to increase with the growing trade of the lake country.

FREDONIA, three miles from Dunkirk, with which it is connected by a plank-road, is handsomely situated, being elevated about 100 feet above Lake Erie. It contains about 2,300 inhabitants, 300 dwelling-houses, five churches, one bank, an incorporated academy, four taverns, twenty stores, besides some mills and manufacturing establishments situated on Canadaway Creek, which here affords good water-power. In the village, near the bed of the creek, is an inflammable spring, from which escapes a sufficient quantity of gas to light the village. A gasometer is constructed which forces the gas through tubes to different parts of the village, the consumer paying \$4 per year for each burner used. It is also used for lighting the streets of the village. The flame is large, but not so strong or brilliant as that obtained from gas in our cities; it is, however, in high favor with the inhabitants.

BARCELONA, N. Y., 58 miles from

Buffalo, is the westernmost village in the State. It is a port of entry, and is much resorted to by steamers and large vessels navigating the lake, affording a tolerably good harbor, where is situated a light-house which is lighted by inflammable gas; it escapes from the bed of a creek about half a mile distant, and is carried in pipes to the light-house.

Erie, "THE LAKE CITY OF PENNSYLVANIA," distant 90 miles from Buffalo and 95 miles from Cleveland, is beautifully situated on a bluff, affording a prospect of Presque Isle Bay and the Lake beyond. It has one of the largest and best harbors on Lake Erie, from whence sailed Perry's fleet during the war of 1812. The most of the vessels were here built, being finished in seventy days from the time the trees were felled; and here the gallant victor returned with his prizes after the battle of Lake Erie, which took place September 10th, 1813. The remains of his flag-ship, the *Lawrence*, lie in the harbor, from which visitors are allowed to cut pieces as relics. On the high bank, a little distance from the town, are the ruins of the old French fort, Presque Isle. The city contains a court-house, nine churches, a bank, three hotels, a ship-yard, several extensive manufacturing establishments, and about 10,000 inhabitants. In addition to the *Lake Shore Railroad*, the *Philadelphia and Erie Railroad** terminates at this place, affording a direct communication with New York, Philadelphia, and Baltimore.

Presque Isle Bay is a lovely sheet of water, protected by an island projecting into Lake Erie. There is a light-house on the west side of the entrance to the bay, in lat, 42° 8' N. ; it shows a fixed light, elevated 93 feet above the surface of the

lake, and visible for a distance of 15 miles. The beacon shows a fixed light, elevated 28 feet, and is visible for nine miles.

CONNEAUT, Ohio, 117 miles from Buffalo and 68 from Cleveland, situated in the northeast corner of the State, stands on a creek of the same name, near its entrance into Lake Erie. It exports large quantities of lumber, grain, pork, beef, butter, cheese, etc., being surrounded by a rich agricultural section of country. The village contains about 2,000 inhabitants. The harbor of Conneaut lies two miles from the village, where is a light-house, a pier, and several warehouses.

ASHTABULA, Ohio, 14 miles farther west, stands on a stream of the same name, near its entrance into the lake. This is a thriving place, inhabited by an intelligent population estimated at 3,500. The harbor of Ashtabula is two and a half miles from the village, at the mouth of the river, where is a light-house.

FAIRPORT stands on the east side of Grand River, 155 miles from Buffalo. It has a good harbor for lake vessels, and is a port of considerable trade. This harbor is so well defended from winds, and easy of access, that vessels run in when they cannot easily make other ports. Here is a light-house and a beacon to guide the mariner.

PAINESVILLE, Ohio, three miles from Fairport and 30 miles from Cleveland, is a beautiful and flourishing town, being surrounded by a fine section of country. It is the county seat for Lake County, and contains a court-house, five churches, a bank, 20 stores, a number of beautiful residences, and about 3,000 inhabitants.

* This great line traverses the Northern and Northwest counties of Pennsylvania to the city of Erie on Lake Erie. It has been leased by the Pennsylvania Railroad Company, and under their auspices is being managed throughout its entire length, 451 miles.



Perry Monument, Erected Sept. 10, 1860.

Cleveland, "THE FOREST CITY," Cuyahoga County, Ohio, is situated on a plain, elevated 80 feet above the waters of Lake Erie, at the mouth of the Cuyahoga river, which forms a secure harbor for vessels of a large class; being in N. lat. $41^{\circ} 30'$, W. long. $81^{\circ} 42'$. The bluff on which it

is built rises abruptly from the lake level, where stands a light-house, near the entrance into the harbor, from which an extensive and magnificent view is obtained, overlooking the city, the meandering of the Cuyahoga, the line of railroads, the shipping in the harbor, and the vessels passing on the Lake.

The city is regularly and beautifully laid out, ornamented with numerous shade-trees, from which it takes the name of "Forest City." Near its centre is a large public square, in which stands a beautiful marble statue of Commodore OLIVER H. PERRY, which was inaugurated Sept. 10, 1860, in the presence of more than 100,000 people. It commemorates the glorious achievement of the capture of the British fleet on Lake Erie, September 10th, 1813. Cleveland is the mart of one of the greatest grain-growing States in the Union, and has a ready communication by railroad with New York, Boston, and Philadelphia on the east, while continuous lines of railroads run south, and west to the confines of settlement in Kansas and Nebraska. It is distant 185 miles from Buffalo, 135 miles from Columbus, 107 miles from Toledo, and 144 miles from Pittsburgh by railroad route; 120 miles from Detroit by steambot route.

It contains a County Court-House and Jail, City Hall, U. S. Custom-House and Post Office building; 1 Theatre; a Library Association with a public reading-room; 2 Medical Colleges, 2 Orphan Asylums, 35 Churches of different denominations; 4 Banks, a Savings Bank, and 2 Insurance Companies; also, numerous large manufacturing companies, embracing iron and copper works, ship-building, &c.; Gas-works, Water-works, and two City Railroad Companies. The stores and warehouses are numerous, and many of them well built. It now boasts of 56,000 inhabitants, and is rapidly increasing in numbers and wealth. The Lake Superior trade is a source of great advantage and

profit, while the other lake traffic, together with the facilities afforded by railroads and canals, makes Cleveland one of the favored cities bordering on the Inland Seas of America.

The principal Hotels are the *American Hotel*, *Kennard House*, *Forest City House*, *Johnson House*, and *Weddell House*; all being large and well-kept public houses.

RAILROADS DIVERGING FROM CLEVELAND.

1. *Cleveland and Erie*, 95 miles in length.
2. *Cleveland, Columbus, and Cincinnati*, 135 miles.
3. *Cleveland and Toledo*, Northern Division, 107 miles.
4. *Cleveland and Mahoning*, 67 miles finished.
5. *Cleveland and Pittsburgh*, connecting with Wheeling, Va., 200 miles.
6. *Cleveland, Zanesville, and Cincinnati*, 87 miles; diverging from Cleveland and Pittsburgh R. R. at Hudson.
7. *Atlantic and Great Western Railway*, connects with New York and Erie Railroad, forming a through line of travel.

STEAMERS and PROPELLERS of a large class leave daily, during the season of navigation, for Buffalo, Toledo, Detroit, Mackinac, Green Bay, Milwaukee, Chicago,

the Saut Ste. Marie, and the different ports on Lake Superior, altogether transporting an immense amount of merchandise, grain, lumber, iron, and copper ore. The registered Tonnage of this port, in 1861, was 82,518 tons.

The *Northern Transportation Company of Ohio* has its principal office in Cleveland. The Company owns 15 propellers of about 350 tons burden, running from Ogdensburg and Oswego to Cleveland, Toledo, Detroit, Milwaukee, and Chicago. This line affords a cheap and speedy route for travellers and emigrants, as well as for the transportation of merchandise and produce.

The *Cleveland Iron Mining Company*, with a capital stock of \$500,000, has its principal office in this city. The mine is situated near Marquette, Lake Superior, being distant about 14 miles from the steamboat landing. A railroad extends to the Iron Mountain, affording facilities for the transportation of 2,000 tons of iron ore per day. This ore yields on an average 66½ per cent. of iron. The greater proportion of this ore finds a ready market in Cleveland, from whence the most of it is transported to the Mahoning Valley, where it meets the coal of that region and is smelted and manufactured into merchantable iron.

Steamboat Route from Cleveland to Detroit.

Ports, etc.	Miles.	Ports, etc.	Miles.
CLEVELAND, Ohio.....	0	DETROIT, Mich.....	0
Point Pelee Is. and Light.....	60	Windsor, C. W.....	1
Bar Point, C. W.....	97	Fighting Island.....	8
Bois Blanc Is. Light, }.....	100	Fish Island.....	9
Detroit River, }.....	100	Wyandotte, Mich.....	11
Malden, C. W.....	101	Mama Juba Is. and Light.....	12
Gibraltar, Mich.....	102	Grosse Isle.....	18
Grosse Isle, ".....	102	Gibraltar, Mich.....	19
Mama Juba Is. and Light.....	108	Malden, C. W.....	19
Wyandotte, Mich.....	109	Bois Blanc Is. Light, }.....	20
Fish Island Light.....	111	Lake Erie, }.....	20
Fighting Island.....	112	Bar Point, C. W.....	28
Windsor, C. W.....	119	Point Pelee Island.....	60
DETROIT.....	190	CLEVELAND.....	120

FARE, \$3 00.

USUAL TIME, 7 hours.

BLACK RIVER, 28 miles from Cleveland, is a small village with a good harbor, where is a ship-yard and other manufacturing establishments.

VERMILION, 10 miles farther on the line of the Cleveland and Toledo Railroad, is a place of considerable trade, situated at the mouth of the river of the same name.

HURON, Ohio, 50 miles from Cleveland and 10 miles from Sandusky, is situated at the mouth of Huron River, which affords a good harbor. It contains several churches, 15 or 20 stores, several warehouses, and about 2,000 inhabitants.

The islands lying near the head of Lake Erie, off Sandusky, are **KELLEY'S ISLAND**, **NORTH BASS**, **MIDDLE BASS**, and **SOUTH BASS** islands, besides several smaller islands, forming altogether a handsome group. *Kelley's Island*, the largest and most important, is famous for its grape culture, and has become a place of summer resort by the citizens of Ohio and other States. On the north side of South Bass Island, lies the secure harbor of **PUT-IN-BAY**, made celebrated by being the rendezvous of Com. Perry's flotilla before and after the decisive battle of Lake Erie, which resulted in the capture of the entire British fleet.

NAVAL BATTLE ON LAKE ERIE.

September 10th, 1813, the hostile fleets of England and the United States on Lake Erie met near the head of the Lake, and a sanguinary battle ensued. The fleet bearing the "red cross" of England consisted of six vessels, carrying 64 guns, under command of the veteran Com. Barclay; and the fleet bearing the "broad stripes and bright stars" of the United States, consisted of nine vessels carrying 54 guns, under command of the young and inexperienced, but brave, Com. Oliver H. Perry. The result of this important conflict was made known to the world in the following laconic dispatch, written at 4 P. M. of that day:

"Dear General: We have met the enemy, and they are ours: Two ships, two brigs, one schooner, and one sloop. With esteem, etc., O. H. PERRY
"Gen. William H. Harrison."

Sandusky, "THE BAY CITY" capital of Erie Co., Ohio, is a port of entry and a place of considerable trade. It is advantageously situated on Sandusky Bay, three miles from Lake Erie, in N. lat. 41° 27', W. long. 82° 45'. The bay is about 20 miles long, and five or six miles in width, forming a capacious and excellent harbor, into which steamers and vessels of all sizes can enter with safety. The average depth of water is from ten to twelve feet. The city is built on a bed of limestone, producing a good building material. It contains about 10,000 inhabitants, a court-house and jail, eight churches, two banks, several well-kept hotels, and a number of large stores and manufacturing establishments of different kinds. This is the terminus of the *Sandusky, Dayton, and Cincinnati Railroad*, 153 miles to Dayton, and the *Sandusky, Mansfield, and Newark Railroad*, 116 miles in length. The *Cleveland and Toledo Railroad*, northern division, also terminates at Sandusky.

Toledo, one of the most favored Cities of the Lakes, is situated on the Maumee river, four miles from its mouth, and ten miles from the Turtle Island Light, at the outlet of the Maumee Bay into Lake Erie. The harbor is good, and the navigable channel from Toledo of sufficient depth for all steamers or sail vessels navigating the lakes. Toledo is the eastern terminus of the *Wabash and Erie Canal*, running through the Maumee and Wabash valleys, and communicating with the Ohio River at Evansville, a distance of 474 miles; also of the *Miami and Erie Canal*, which branches from the above canal 68 miles west of Toledo, and runs southwardly through the Miami

Valley in Western Ohio, and communicates with the Ohio River at Cincinnati, forming together the longest line of canal navigation in the United States.

The railroads diverging from Toledo are the *Michigan Southern and Northern Indiana Railroad*, running through the southern counties of Michigan and the northern counties of Indiana, and making its western terminus at Chicago, Illinois, at a distance of 243 miles; the *Air Line Railroad*, running due west from Toledo, through Northwestern Ohio and the northern counties of Indiana to Goshen, a distance of 110 miles, where it connects with the Northern Indiana Railroad, running to Chicago; and the *Detroit, Monroe, and Toledo Railroad*. It is also the eastern terminus of the *Toledo, Wabash, and Western Railroad*, running in a southwesterly direction through the Maumee and Wabash valleys, crossing the eastern line of the State of Illinois, about 125 miles south of Chicago, and continuing in a southwesterly course through Danville, Springfield, Jacksonville, Naples, etc., in Central Illinois, to the Mississippi River, and connecting with the Hannibal and St. Joseph Road, which stretches nearly due west through the State of Missouri to St. Joseph, on the Mississippi River. The *Dayton and Michigan Railroad*, which connects Toledo with Cincinnati, is much the shortest railroad line connecting Lake Erie with the Ohio River. Besides the above important roads, the *Cleveland and Toledo Railroad* terminates here.

Toledo is the nearest point for the immense country traversed by these canals and railroads, where a transfer can be made of freight to the more cheap transportation by the lakes, and thence through the Erie Canal, Welland Canal, or Oswego Canal, to the seaboard. It is not merely the country traversed by these canals and railroads that send their products, and receive their merchandise, through Toledo,

but many portions of the States of Kentucky, Tennessee, and Missouri, find Toledo the cheapest and most expeditious lake-port for the interchange and transfer of their products and merchandise.

This city is the capital of Lucas County, Ohio, where is situated a court-house and jail, several fine churches, a magnificent High School edifice, and five large brick ward school houses; a young men's association that sustains a course of lectures during the winter; two banks, two insurance companies, six hotels, and a great number of stores and storehouses; also several extensive manufacturing establishments. The principal hotels are the *Island House* and *Oliver House*.

The population of Toledo in 1850 was about 4,000, and now it is supposed to contain 30,000 inhabitants, and is rapidly increasing in wealth and numbers. The shipping interest is increasing, here being transhipped annually an amount of grain exceeded only by Chicago, and other kinds of agricultural products of the great West. This city is destined, like Chicago, to export direct to European ports.

At this time there are in process of erection in Toledo many handsome dwellings, numerous handsome blocks of stores, a post-office and custom-house by the general government, and a first-class hotel; these two latter buildings, from the plans we have seen, would do credit to any city, and when completed can be classed among the most elegant structures. No city in the State can boast of finer private residences than Toledo; and the general character of the buildings erected in the past four years is substantial and elegant.

PERRYSBURGH, the capital of Wood Co., Ohio, is situated on the right bank of the Maumee River, 18 miles above its entrance into Maumee Bay, the southern termination of Lake Erie. It contains a court-house and jail, four churches, 20 stores of different kinds, three steam saw-

mills, a tannery, and several other manufacturing establishments. Population about 1,500. Here is the head of steamboat navigation on the Maumee River, affording thus far a sufficient depth of water for steamers of a large class.

Old *Fort Meigs*, famous for having withstood a siege by the British and Indians in 1813, is one mile above this place.

MAUMEE CITY, Lucas Co., Ohio, is a port of entry, situated on the Maumee River, opposite Perrysburgh, at the foot of the rapids and at the head of navigation, nine miles above Toledo. A side cut here connects the *Wabash and Erie Canal* with the river. The Toledo and Illinois Railroad also passes through this place. It contains five churches, ten stores, four flouring-mills, three saw-mills, one oil-mill, and other manufacturing establishments propelled by water-power, the supply being here almost inexhaustible. Three miles above the city is the site of the famous battle fought against the Indians by Gen. Wayne, in 1794, known as the *Battle of Miami Rapids*. One mile below the town is Old *Fort Miami*, one of the early British posts.

MAUMEE RIVER rises in the northeast part of Indiana, and flowing northeast enters Lake Erie, through *Maumee Bay*. It is about 100 miles long, navigable 18 miles, and furnishing an extensive water-power throughout its course.

The City of **MONROE**, capital of Monroe Co., Mich., is situated on both sides of the River Raisin, three miles above its

entrance into Lake Erie, and about 140 miles from Detroit. It is connected with the lake by a ship canal, and is a terminus of the *Michigan Southern Railroad*, which extends west, in connection with the Northern Indiana Railroad, to Chicago, Ill. The town contains about 4,000 inhabitants, a court-house and jail, a United States land-office, eight churches, several public houses, and a number of large stores of different kinds. Here are two extensive piers, forming an outport at the mouth of the river; the railroad track running to the landing. A plank-road also runs from the outport to the city, which is an old and interesting locality, being formerly called *Frenchtown*, which was known as the scene of the battle and massacre of River Raisin in the war of 1812. The *Detroit, Monroe, and Toledo Railroad*, just completed, passes through this city. Steamers run from Detroit to Toledo, stopping at Monroe.

TRENTON, situated on the west bank of Detroit river, is a steamboat landing and a place of considerable trade. Population, 1,000.

WYANDOTTE, ten miles below Detroit, is a new and flourishing manufacturing village, where are located the most extensive Iron Works in Michigan. The iron used at this establishment comes mostly from Lake Superior, and is considered equal in quality to any in the world. The village contains about 1,600 inhabitants.

Railroad Route around Lake Erie.

This important body of water being encompassed by a band of iron, we subjoin the following *Table of Distances*:

	Miles		Miles.
Buffalo to Paris, C. W., via <i>Buffalo and Lake Huron Railroad</i> ,	84	Detroit to Toledo, Ohio, via <i>Detroit and Toledo R. R.</i> ,	63
Paris to Windsor or Detroit, via <i>Great Western Railway</i> ,	158	Toledo to Cleveland, via <i>Cleveland and Toledo R. R.</i> ,	107
		Cleveland to Erie, Pa., via <i>Cleveland and Erie R. R.</i> ,	95
		Erie to Buffalo, via <i>Lake Shore Road</i> ,	88
		Total miles,	596

The extreme length of Lake Erie is lake about 560 miles, being about 100 miles less distance than has been stated by some writers on the great lakes.

Ohio River and Lake Erie Canals.

The completion of the MIAMI CANAL makes four distinct channels of communication from the Ohio River through the State of Ohio to Lake Erie, namely:

1. The *Erie Extension Canal*, from Beaver, twenty or thirty miles below Pittsburgh, to Erie, 136 miles.
2. The *Cross-Cut Beaver Canal*, which is an extension or branch from Newcastle, Pa., on the Beaver Canal, to Akron, Ohio, where it unites with the Portsmouth and Cleveland Canal—making a canal route from Beaver to Cleveland of 143 miles.
3. The *Ohio Canal*, from Cleveland to Portsmouth, through the centre of the State, 309 miles.
4. The *Miami Extension*, which is a union of the Miami Canal with the Wabash and Erie Canal, through Dayton, terminating at Toledo, at the mouth of the Maumee River on Lake Erie, 247 miles. The vast and increasing business of the Ohio Valley may furnish business for all these canals. They embrace rich portions of Pennsylvania, Ohio, and Indiana; but are not so located as to be free from competition with one another. At no distant time, they would unquestionably command a sufficient independent business, were it not probable that they may be superseded by railways. The capacity of railways—both for rapid and cheap transportation—as it is developed by circumstances and the progress of science, is destined to affect very materially the value and importance of canals.

Fort Wayne.

The United States Government is now engaged in making extensive improvements at *Fort Wayne*, below Detroit,

which will render it one of the strongest fortifications in the country, and almost impregnable against a land assault. The site of the fort, as is well known, is in Springwells, about three miles below the city of Detroit. Its location is admirable, being on a slight eminence, completely commanding the river, which at that point is narrower than in any other place of its entire length. Guns properly placed there could effectually blockade the river against ordinary vessels, and, with the aid of a few gunboats, could repulse any fleet which might present itself.

The present works were erected about the years 1842-'43, mainly under the supervision of General Meigs. The form of the works is that of a star, mounting thirty-two barbette guns at the angles which rake the moat, and protect it against an assault by land. The height from the bottom of the ditch is about forty feet. The exterior of the embankments was supported by timbers, which, in the twenty years in which they have stood, have become unsound, and now give unmistakable evidence of decay. This fact has rendered necessary the improvements which are now being made. They consist of a wall around the entire fort, built against these timbers, which will not be removed, and which will not only sustain the embankments, but will render the place much more impregnable. The wall is seven feet and a half in thickness, and twenty feet in height on every side. The outside facing, two feet in thickness, is of brick, the remainder is filled in with pounded stone, water-lime,

sand, and mortar, making a solid wall of great strength. From the nature of the surrounding grounds, artillery cannot be brought to bear upon the wall, with the exception of about two feet at the top, which extends above the level of the ditch. The wall, therefore, could not be battered down, and the only possible way by which the place could be taken would be by a land assault and scaling the walls from the moat by means of ladders. This is effectually provided against by the placing of the guns, eight of which rake the moat on each side. The improvements now being made still further contemplate placing these guns in casemates,

which will render them still more secure, protecting the guns and gunners. Barbette guns will also be mounted on the bastions in addition to the casemate guns, which will be placed in a manner similar to that in which they are now placed. These improvements will greatly strengthen the works and render them more permanent. The place is an important one, as the expense the government is at in rendering it impregnable clearly shows. In case of a war with Great Britain it would become of the highest importance. And acting on the maxim, "in time of peace prepare for war," it is the best time to attend to these improvements.

TABLE OF DISTANCES

FROM CLEVELAND AND DETROIT TO SUPERIOR CITY, FORMING A GRAND STEAM-BOAT EXCURSION OF OVER TWO THOUSAND MILES.

Ports, &c.	Place to Place.	Miles.	Ports, &c.	Place to Place.	Miles.
CLEVELAND, Ohio.....	0	0	SUPERIOR CITY, Wis.....	0	0
Malden, C. W.....	100	100	Point de Tour.....	70	70
DETROIT, Mich.....	20	120	Bayfield, Wis.....	10	80
Lake St. Clair.....	7	127	La Pointe ".....	4	84
Algonac, Mich.....	83	160	Ontonagon, Mich.....	74	158
Newport, ".....	6	166	Eagle River ".....	60	218
St. Clair, ".....	10	176	Eagle Harbor ".....	10	228
PORT HURON ".....	17	198	Copper Harbor ".....	16	244
Port Sarnia, C. W. }.....	17	198	Manitou Island.....	15	259
Point au Barque— }.....	67	260	Portage Entry.....	55	314
Off Saginaw Bay }.....	75	335	Houghton, Mich.....	(on Portage Lake).	
Thunder Bay Island.....	75	335	Marquette ".....	70	384
Point de Tour }.....	85	420	Grand Island.....	40	424
St. Mary's River }.....	86	456	Pictured Rocks.....	10	434
Church's Landing.....	14	470	Point au Sable.....	20	454
SAUT STE. MARIE.....	15	485	White Fish Point.....	50	504
Point Iroquois.....	25	510	Point Iroquois.....	25	529
White Fish Point.....	50	560	SAUT STE. MARIE.....	15	544
Point au Sable.....	20	580	Church's Landing.....	14	558
Pictured Rocks.....	10	590	Point de Tour, }.....	36	594
Grand Island.....	40	630	Lake Huron, }.....	85	679
Marquette, Mich.....	70	700	Thunder Bay Island.....	85	679
Portage Entry.....	(on Portage Lake).		Off Saginaw Bay }.....	75	754
Houghton, Mich.....	55	755	Point au Barque }.....	67	821
Manitou Island.....	15	770	PORT HURON, Mich. }.....	17	838
Copper Harbor.....	16	786	Port Sarnia, C. W. }.....	10	848
Eagle Harbor.....	10	796	St. Clair, Mich.....	6	854
Eagle River.....	60	856	Newport ".....	10	864
Ontonagon, Mich.....	74	890	Algonac, Mich.....	10	874
La Pointe, Wis.....	4	934	St. Clair Flats.....	80	954
Bayfield, Wis.....	10	944	DETROIT, Mich.....	20	974
Point de Tour.....	70	1,014	Malden, C. W.....	20	994
SUPERIOR, City, Wis.....			CLEVELAND, Ohio.....	100	1,014



Detroit, "THE CITY OF THE STRAITS," a port of entry, and the great commercial mart of the State, is favorably situated in N. lat. $42^{\circ} 20'$, W. long. $82^{\circ} 58'$, on a river or strait of the same name, elevated some 30 or 40 feet above its surface, being seven miles below the outlet of Lake St. Clair and twenty above the mouth of the river, where it enters into Lake Erie. It extends for the distance of upward of a mile upon the southwest bank of the river, where the stream is three-fourths of a mile in width. The principal public and private offices and wholesale stores are located on Jefferson and Woodward avenues, which cross each other at right angles, the latter running to the water's edge. There may usually be seen a great number of steamboats, propellers, and sail vessels of a large class, loading or unloading their rich cargoes, destined for Eastern markets or for the *Great West*, giving an animated appearance to this place, which is aptly called the *City of the Straits*. It was incorporated in 1815, being now divided into ten wards, and governed by a mayor, recorder, and board of aldermen. Detroit contains the old State-house, from the dome of which a fine view is obtained of the city and vicinity; the City Hall, Masonic Hall, Firemen's Hall, Mechanic's Hall, Odd Fellows' Hall, the Young Men's Society Building, two Market Buildings, forty Churches, ten Hotels, besides a number of taverns; a United States Custom-house and Post-office, and United States Lake Survey office, a theatre, a museum, two orphan asylums, four banks, and a savings' fund

institute, water-works, and gas-works, four grain elevators, five steam grist-mills, and several steam saw-mills, besides a great number of other manufacturing establishments. There are also several extensive

ship-yards and machine-shops, where are built and repaired vessels of almost every description. The population in 1860 was 45,619. Estimated in 1867, 75,000.

The principal Hotels are the *Biddle House*, and *Michigan Exchange*, on Jefferson avenue, and the *Russell House*, on Woodward avenue, facing *Campus Martius*, an open square near the centre of the City.

Detroit may be regarded as one of the most favored of all the Western cities of the Union. It was first settled by the French explorers as early as 1701, as a military and fur trading post. It changed its garrison and military government in 1760 for a British military commander and troops, enduring under the latter régime a series of Indian sieges, assaults, and petty but vigilant and harassing warfare, conducted against the English garrison by the celebrated Indian warrior Pontiac. Detroit subsequently passed into possession of the American revolutionists; but on the 16th August, 1812, it was surrendered by Gen. Hull, of the United States army, to Gen. Brock, commander of the British forces. In 1813 it was again surrendered to the Americans, under Gen. Harrison.

The following Railroad lines diverge from Detroit:

1. The *Detroit, Monroe, and Toledo Railroad*, 62 miles in length, connecting with the Michigan Southern Railroad at Monroe, and with other roads at Toledo.

2. The *Michigan Central Railroad*, 282 miles in length, extends to Chicago, Ill. This important road, running across the State from east to west, connects at

Michigan City, Ind., with the New Albany and Salem Railroad—thus forming a direct line of travel to Louisville, St. Louis, etc., as well as Chicago and the Far West.

3. The *Detroit and Milwaukee Railroad* runs through a rich section of country to Grand Haven, on Lake Michigan, opposite Milwaukee, Wis.

4. The *Grand Trunk Railway* runs from Detroit to Port Huron, Mich., 62 miles, extending from Sarnia, Canada, to Toronto, Montreal, Quebec, and Portland, Me. Length from Detroit to Portland, 861 miles.

5. The *Great Western Railway* of Canada has its terminus at Windsor, opposite Detroit, the two places being connected by three steam ferries—thus affording a speedy line of travel through Canada, and thence to Eastern cities of the U. States.

Steamers of a large class run from Detroit to Cleveland, Toledo, and other ports on Lake Erie; others run to Port Huron, Saginaw, Goodrich, C. W., and other ports on Lake Huron.

The *Lake Superior* line of steamers running from Cleveland and Detroit direct for the Saut Ste. Marie, and all the principal ports on Lake Superior, are of a large class, carrying passengers and freight. This has become one of the most fashionable and healthy excursions on the continent.

THE DETROIT RIVER, or *Strait*, is a noble stream, through which flow the surplus waters of the Upper Lakes into Lake Erie. It is 27 miles in length, and from half a mile to two miles in width, forming the boundary between the United States and Canada. It has a perceptible current, and is navigable for vessels of the largest class. Large quantities of fish are annually taken in the river, and the sportsman usually finds an abundance of wild ducks, which breed in great numbers in the marshes bordering some of the islands and harbors of the coast.

There are altogether seventeen islands

in the river. The names of these are: *Clay, Celeron, Hickory, Sugar, Bois Blanc, Ella, Fox, Rock, Grosse Isle, Stoney, Fighting, Turkey, Mammy Judy, Grassy, Mud, Belle or Hog, and Ile la Pêche*. The two latter are situated a few miles above Detroit, near the entrance to Lake St. Clair, where large quantities of white-fish are annually taken.

ILE LA PÊCHE, attached to Canada, was the home of the celebrated Indian chief Pontiac. Parkman, in his "History of the Conspiracy of Pontiac," says: "Pontiac, the Satan of this forest-paradise, was accustomed to spend the early part of the summer upon a small island at the opening of Lake St. Clair." Another author says: "The king and lord of all this country lived in no royal state. His cabin was a small, oven-shaped structure of bark and rushes. Here he dwelt with his squaws and children; and here, doubtless, he might often have been seen carelessly reclining his naked form on a rush-mat or a bear-skin, like an ordinary Indian warrior."

The other fifteen islands, most of them small, are situated below Detroit, within the first twelve miles of the river after entering it from Lake Erie, the largest of which is GROSSE ISLE, attached to Michigan, on which are a number of extensive and well-cultivated farms. This island has become a very popular retreat for citizens of Detroit during the heat of summer, there being here located good public houses for the accommodation of visitors.

Father Hennepin, who was a passenger on the "Griffin," the first vessel that crossed Lake Erie, in 1679, in his description of the scenery along the route says: "The islands are the finest in the world: the strait is finer than Niagara; the banks are vast meadows, and the prospect is terminated with some hills covered with vineyards, trees bearing good fruit, groves and forests so well disposed that

one would think that Nature alone could not have made, without the help of art, so charming a prospect."

COMPARATIVE PURITY OF DETROIT RIVER WATER.

The following Table shows the solid matter in a gallon of water, taken from Lakes and Rivers in different cities :

Albany, Hudson River.....	6.820
Troy, Mohawk River.....	7.850
Boston, Cochituate Lake.....	1.850
New York, Croton River.....	6.998
Brooklyn, L. I. Ponds.....	2.367
Philadelphia, Schuylkill R.....	4.260
Cincinnati, Ohio River.....	6.736
Lake Ontario.....	4.190
Detroit, Detroit River.....	4.645
Cleveland, Lake Erie.....	5.000
Montreal, St. Lawrence R.....	5.000

Of the Detroit River water, Prof. Douglass, in his report of the analysis, says : " In estimating the value of your city water, as compared with other cities, due allowance must be made for the fact, that the total solid matter is materially increased by the presence of

silica, alumina, and iron, elements that can produce little or no injury ; while the chlorides, much the most injurious compounds, are entirely absent. The presence of such large quantities of silica and iron is accounted for by the fact that Lakes Superior and Huron are formed, for the most part, in a basin of ferruginous sandstone and igneous rock."

NOTE.—The purity of the waters of Lake Superior, probably exceeds all other bodies of water on the face of the globe, affording a cool and delightful beverage at all seasons.

Comparative Increase of Lake Cities.

	1840.	1850.	1860.
BUFFALO, New York.....	18,218	42,261	81,181*
CHICAGO, Ill.....	4,470	28,260	109,268
CLEVELAND, Ohio.....	6,071	17,084	86,054†
DETROIT, Mich.....	9,102	21,019	45,619
ERIE, Penn.....	.....	5,585	9,419
MILWAUKEE, Wis.....	1,700	20,061	45,254
OSWEGO, New York.....	.....	12,205	16,317
RAVINE, Wis.....	.....	5,107	10,000
SANDUSKY, Ohio.....	1,434	6,008	8,408
TOLEDO, Ohio.....	1,222	8,829	13,768

* Black Rock annexed. † Ohio City annexed.

DETROIT AND MILWAUKEE RAILROAD AND STEAMSHIP LINE,

CONNECTING WITH THE GREAT LINES OF TRAVEL EAST AND WEST.

On leaving the Railroad Depot at Detroit the line of this road runs in a north-west direction to PONTIAC, 26 miles, passing through a rich section of farming country.

The route then continues westerly to FENTONVILLE, 24 miles further, where commences a railroad route, running through Flint, and extending north to Saginaw, favorably situated on Saginaw river. It is intended to continue the Flint and Pere Marquette Railroad, some 150 miles, to the shore of Lake Michigan.

OWASSO, 78 miles from Detroit, and 110 miles from Grand Haven, is an impor-

tant station, from whence a railroad extends southwest to LANSING, the capital of the State of Michigan. It is intended to carry the line of this road north to Saginaw City, and from thence northwest to Traverse Bay on Lake Michigan, where is a good harbor.

From Owasso, the Detroit and Milwaukee Railroad runs westward through St. John's, Ionia, and other stations, passing down the valley of the Grand River, a rich and populous section of country, producing large quantities of wheat and other agricultural productions, all of which find a ready sale in the Eastern markets.

"Up in the northern part of the Grand River Valley, and along and beyond the Muskegen River, an immense amount of pine timber is to be found, giving profitable employment to a large number of lumbermen."

Grand Rapids, 158 miles west of Detroit, and forty miles above Grand Haven, an incorporated city, is favorably situated on both banks of Grand River, where is a fall of about eighteen feet, affording an immense water-power. Steamers run from this place daily to Grand Haven, connecting with steamers for Milwaukee, Chicago, and other ports on Lake Michigan. Here is an active population of about 10,000, and rapidly increasing, surrounded by a new, fertile, and improving country, being alike famous as a wheat and fruit region.

The city now contains a court-house and jail; 6 churches; 5 hotels; 60 stores of different kinds; 3 grist-mills; 5 saw-mills; 3 cabinet-ware factories; 2 machine-shops, and other manufacturing establishments. The private dwellings and many of the stores are elegant edifices, constructed of building material which is found in the immediate vicinity. Extensive and inexhaustible beds of gypsum are found near this place, producing large quantities of stucco and plaster, all of which find a ready sale in Eastern and Western markets. It is estimated that 25,000 tons of stucco for building, and plaster for fertilizing purposes, can be quarried and ground yearly from the different quarries in this vicinity. At the Eagle Mills, two miles below the city, is already formed an immense excavation, extending several hundred feet under ground, which is well worthy of a visit, where rich specimens of the gypsum can be obtained.

Steamboat Route from Grand Rapids to Grand Haven.

GRAND RAPIDS.....	0
Eagle Plaster Mill.....	2
Grandville.....	5 7
Lamont.....	13 20
Eastmanville.....	2 22
Mill Point.....	16 38
GRAND HAVEN.....	2 40

On leaving Grand Rapids for Grand Haven, by railroad, the route extends north of the river, through a fertile section of country, mostly covered by a heavy growth of hardwood, although the pine predominates as you approach the lake shore.

Grand Haven, Ottawa Co., Mich., is situated on both sides of Ottawa River, near its entrance into Lake Michigan, here eighty-five miles wide; on the opposite side lies Milwaukee, Wisconsin. The different settlements, comprising Grand Haven, contain about 3,000 inhabitants. Here are a court-house and jail; 3 churches; six hotels and taverns, and a number of stores and warehouses; 8 large steam saw-mills, pail and tub factories, a foundry and machine-shop, and other manufacturing establishments.

Steamers and sail vessels run from Grand Haven, which has a well-protected harbor, to Milwaukee, Chicago, and other ports on Lake Michigan, carrying a large amount of produce and lumber. The fisheries in this vicinity are also productive and extensive.

The sand hills on the east shore of Lake Michigan rise from 100 to 200 feet, presenting a sterile appearance, although the land in the interior is very rich and productive.

Trip across Lake Michigan.

The staunch and well-built steamships, *Detroit*, Capt. McBride, and *Milwaukee*, Capt. Trowell, run twice daily across Lake Michigan, connecting with trains on the Detroit and Milwaukee railroad. This trip is delightful during the summer and autumn months when Lake Michigan is usually calm, affording a safe and delightful excursion of about six hours' continuance. The spacious cabins, and well-arranged dining-saloons of these ships, together with the well-provided tables, renders this route to and from the Eastern

cities one of the most pleasant and desirable as regards speed and objects of interest. Usual fare from Milwaukee to Detroit, \$8.00. Distance, 271 miles; time, 14 hours.

From Milwaukee, westward, there is a direct connection both with the *Milwaukee and Prairie du Chien Railroad*, and the *La Crosse and Milwaukee Railroad* running to the Mississippi River. A daily line of steamers run from the termination of both of the above railroads to St. Paul, Minnesota.

TRIP FROM DETROIT TO MACKINAC, SAUT STE MARIE.

During the season of navigation propellers of a large class, with good accommodations for passengers, leave Detroit daily direct for Mackinac, Green Bay, Milwaukee, and Chicago, situated on Lake Michigan.

Steamers of a large class, carrying passengers and freight, also leave Detroit, almost daily for the Saut Ste Marie, from thence passing through the *Ship Canal* into Lake Superior—forming delightful excursions during the summer and early autumn months.

For further information of steamboat routes, see *Advertisements*.

On leaving Detroit the steamers run in a northerly direction, passing *Bell* or *Hog Island*, two miles distant, which is about three miles long and one mile broad, presenting a handsome appearance. The Canadian shore on the right is studded with dwellings and well cultivated farms.

PECHE ISLAND is a small body of land attached to Canada, lying at the mouth of Detroit River, opposite which, on the Michigan shore, is *Wind-Mill Point* and light-house.

LAKE ST. CLAIR commences seven

miles above Detroit; it may be said to be 20 miles long and 25 miles wide, measuring its length from the outlet of St. Clair River to the head of Detroit River. Compared with the other lakes it is very shallow, having a depth of only from 8 to 24 feet as indicated by Bayfield's chart. It receives the waters of the Upper Lakes from the St. Clair Strait by several channels forming islands, and discharges them into the Detroit River or Strait. In the upper portion of the lake are several extensive islands, the largest of which is *Walpole Island*; it belongs to Canada, and is inhabited mostly by Indians. All the islands to the west of Walpole Island belong to Michigan. The Walpole, or "Old Ship Channel," forms the boundary between the United States and Canada. The main channel, now used by the larger class of vessels, is called the "North Channel." Here are passed the "*St Clair Flats*," a great impediment to navigation, for the removal of which Congress will no doubt make ample appropriation sooner or later. The northeastern channel, separating Walpole Island from

the main Canada shore, is called "*Chenail Ecarte*." Besides the waters passing through the Strait of St. Clair, Lake St. Clair receives the river Thames from the Canada side, which is navigable to Chatham, some 24 miles; also the waters of Clinton River from the west or American side, the latter being navigable to Mt. Clemens, Michigan. Several other streams flow into the lake from Canada, the principal of which is the River Sydenham. Much of the land bordering on the lake is low and marshy, as well as the islands; and in places there are large plains which are used for grazing cattle.

ASILEY, or NEW BALTIMORE, situated on the N. W. side of Lake St. Clair, 30 miles from Detroit, is a new and flourishing place, and has a fine section of country in the rear. It contains three steam saw-mills, several other manufactories, and about 1,000 inhabitants. A steamboat runs from this place to Detroit.

MT. CLEMENS, Macomb Co., Mich., is situated on Clinton River, six miles above its entrance into Lake St. Clair, and about 30 miles from Detroit by lake and river. A steamer plies daily to and from Detroit during the season of navigation. Mt. Clemens contains the county buildings, several churches, three hotels, and a number of stores and manufacturing establishments, and about 2,000 inhabitants. Detroit is distant by plank road only 20 miles.

CHATHAM, O. W., 46 miles from Detroit by railroad route, and about 24 miles above the mouth of the river Thames, which enters into Lake St. Clair, is a port of entry and thriving place of business, where have been built a large number of steamers and sail-vessels.

ALGONAC, Mich., situated near the foot of St. Clair River, 40 miles from Detroit, contains a church, two or three saw-mills, a grist-mill, woollen factory, and about 700 inhabitants.

NEWPORT, Mich., seven miles farther

north, is noted for steamboat building, there being extensive ship-yards, where are annually employed a large number of workmen. Here are four steam saw-mills, machine shops, etc. Population about 1,200. Belle River here enters the St. Clair from the west.

ST. CLAIR STRAIT connects Lake Huron with Lake St. Clair, and discharges the surplus waters of Lakes Superior, Michigan, and Huron. It flows in a southerly direction, and enters Lake St. Clair by six channels, the north one of which, on the Michigan side, is the only one at present navigated by large vessels in ascending and descending the river. It receives several tributaries from the west, or Michigan; the principal of which are Black River, Pine River, and Belle River, and several rivers flow into it from the east, or Canadian side. It has several flourishing villages on its banks. It is 48 miles long, from a half to a mile wide, and has an average depth of from 40 to 60 feet, with a current of three miles an hour, and an entire descent of about 15 feet. Its waters are clear and transparent, the navigation easy, and the scenery varied and beautiful—forming for its entire length, the boundary between the United States and Canada. The banks of the upper portion are high; those of the lower portion are low and in parts inclined to be marshy. Both banks of the river are generally well settled, and many of the farms are beautifully situated. There are several wharves constructed on the Canada side, for the convenience of supplying the numerous steamboats passing and repassing with wood. There is also a settlement of the Chippewa Indians in the township of Sarnia, Canada; the Indians reside in small log or bark houses of their own erection.

The CITY OF ST. CLAIR, Mich., is pleasantly situated on the west side of St. Clair Strait, 56 miles from Detroit and 14 miles from Lake Huron. This is a thriving

place, with many fine buildings, and is a great lumber depôt. It contains the county buildings for St. Clair Co., several churches and hotels, one flouring-mill, and five steam saw-mills, besides other manufacturing establishments, and about 3,000 inhabitants. St. Clair has an active business in the construction of steamers and other lake craft. The site of old *Fort St. Clair*, now in ruins, is on the border of the town.

SOUTHERLAND, C. W., is a small village on the Canada shore, opposite St. Clair. It was laid out in 1833 by a Scotch gentleman of the same name, who here erected an Episcopal church, and made other valuable improvements.

MOORE, is a small village ten miles below Sarnia on the Canada side.

FROMFIELD, or TALFOURD'S, C. W., is another small village, handsomely situated four and a half miles below Sarnia. Here is an Episcopal church, a windmill, and a cluster of dwellings.

The city of **PORT HURON, St. Clair Co., Mich.**, a port of entry, is advantageously situated on the west bank of St. Clair River, at the mouth of Black River, two miles below Lake Huron. It was chartered in 1858, and now contains one Congregational, one Episcopal, one Baptist, one Methodist, and one Roman Catholic Church; six hotels, and public houses, forty stores, and several warehouses; one steam flouring-mill, eight steam saw-mills, producing annually a large amount of lumber, the logs being rafted down Black River, running through an extensive pine region; here are also, two yards for building of lake craft, two refineries of petroleum oil, one iron foundry, and several other manufacturing establishments. Population in 1860, 4,000.

During the season of navigation, there is daily intercourse by steamboats with Detroit, Saginaw, and ports on the Upper Lakes. A steam ferry-boat also plies between Port Huron and Sarnia, C. W., the

St. Clair River here being about one mile in width. A branch of the Grand Trunk Railway runs from Fort Gratiot, one mile and a half above Port Huron, to Detroit, a distance of 62 miles, affording altogether speedy modes of conveyance. A railroad is also proposed to run from Port Huron, to intersect with the Detroit and Milwaukee Railroad, at Owasso, Michigan.

FORT GRATIOT, one and a half miles north of Port Huron, lies directly opposite Point Henry, C. W., both situated at the foot of Lake Huron, where commences St. Clair River. It has become an important point since the completion of the Grand Trunk Railway of Canada, finished in 1859, which road terminates by a branch at Detroit, Mich., thus forming a direct railroad communication from Lake Huron, eastward, to Montreal, Quebec, and Portland, Maine.

The village stands contiguous to the site of Fort Gratiot, and contains besides the railroad buildings, which are extensive, one church, five public houses, the Gratiot House being a well-kept hotel; two stores, one oil refinery, and about 400 inhabitants. A steam ferry-boat plies across the St. Clair River, to accommodate passengers and freight; the river here being about 1,000 feet wide, and running with considerable velocity, having a depth of from 20 to 60 feet.

In a military and commercial point of view, this place attracts great attention, no doubt, being destined to increase in population and importance. The Fort was built in 1814, at the close of the war with Great Britain, and consists of a stockade, including a magazine, barracks, and other accommodations for a garrison of one battalion. It fully commands the entrance to Lake Huron from the American shore, and is an interesting landmark to the mariner.

SARNIA, C. W., situated on the east bank of St. Clair River, two miles below

Lake Huron and 68 above Detroit, is a port of entry and a place of considerable trade; two lines of railroad terminate at this point, and it is closely connected with Port Huron on the American shore by means of a steam ferry. The town contains a court-house and jail, county register's office and town hall; one Episcopal, one Methodist, one Congregational, one Baptist, one Roman Catholic, and one Free Church; seven public houses, the principal being the *Alexander House* and the *Western Hotel*; twenty stores and several groceries; two grain elevators, two steam saw-mills; one steam grist-mill, one large barrel factory, one steam cabinet factory, one steam iron foundry, and one refinery of petroleum oil, besides other manufacturing establishments. Population, 2,000.

The Grand Trunk Railway of Canada terminates at Point Edward, 2 miles from Sarnia, extending eastward to Montreal, Quebec, and Portland, Me.; a branch of the Great Western Railway also terminates at Sarnia, affording a direct communication with Niagara Falls, Boston, and New York. Steamers run from Sarnia to Goderich and Saugeen, C. W.; also to and from Detroit, and ports on the Upper Lakes.

The celebrated *Enniskillen Oil Wells*, yielding an immense quantity of petroleum oil of a superior quality, are distant some 18 or 20 miles from Sarnia, this being the nearest shipping port. These wells are easy of access by means of railway and plank-roads; the oil is brought to Sarnia in barrels, and much of it shipped from hence direct to European ports, passing down the St. Lawrence River.

The St. Clair River, opposite Sarnia, here one mile in width, flows downward with a strong current, at the rate of about six miles an hour.

Steamboat Route from Sarnia to Goderich, Saugeen, etc.

Steamers running to and from Detroit on their way to the different ports on the east shore of Lake Huron, usually hug the Canada side, leaving the broad waters of the lake to the westward.

POINT EDWARD, 2 miles above Sarnia, lies at the foot of Lake Huron, opposite Fort Gratiot, where are erected a large depot and warehouses connected with the *Grand Trunk Railway* of Canada. Here terminates the grand railroad connection extending from the Atlantic ocean to the Upper Lakes. It also commands the entrance into Lake Huron and is an important military position although at present unfortified. In the vicinity is an excellent fishery, from whence large quantities of fish are annually exported.

BAYFIELD, C. W., 108 miles from Detroit, is a new and flourishing place, situated at the mouth of a river of the same name.

GODERICH, 120 miles north of Detroit, is situated on elevated ground at the mouth of Maitland River, where is a good harbor. This is a very important and growing place, where terminates the *Buffalo and Huron Railroad*, 160 miles in length. (See page 53.)

KINCARDINE, thirty miles from Goderich, is another port on the Canadian side of Lake Huron, where the British steamers land and receive passengers on their trips to Saugeen.

SAUGEEN, C. W., is situated at the mouth of a river of the same name, where is a good harbor for steamers and lake craft. This is the most northern port to which steamers now run on the Canada side of Lake Huron, and will no doubt, ere long be reached by railroad.

Steamboat Route from Port Huron to Saginaw City, etc.

On leaving the wharf at Port Huron, the steamers pass Fort Gratiot and enter the broad waters of Lake Huron, one of the Great Upper Lakes, all alike celebrated for the sparkling purity of their waters. The shores are for the most part low, being covered by a heavy growth of forest trees.

LAKEPORT, 11 miles from Port Huron, is a small village lying on the lake shore.

LEXINGTON, 11 miles further, is the capital of Sanilac County, Michigan, where is a good steamboat landing and a flourishing settlement.

PORT SANILAC, 34 miles above Port Huron, is another small settlement.

FORRESTVILLE, Mich., 47 miles from Port Huron, and 120 miles north of Detroit, situated on the west side of Lake Huron, is a new settlement, where is erected an extensive steam saw-mill. It has some three or four hundred inhabitants, mostly engaged in the lumber trade. Several other small settlements are situated on the west shore of Lake Huron, which can be seen from the ascending steamer, before reaching Point aux Barques, about seventy-five miles above Port Huron.

SAGINAW BAY is next entered, presenting a wide expanse of waters; Lake Huron here attaining its greatest width, where the mariner often encounters fierce storms, which are prevalent on all of the Upper Lakes. To the eastward lies the Georgian Bay of Canada, with its innumerable islands.

BAY CITY, or **LOWER SAGINAW**, near the mouth of Saginaw River, is a flourishing town, with a population of about 3,500. Here is a good harbor, from whence a large amount of lumber is annually exported. It has fifteen saw-mills, and other manufacturing establishments.

Steamers run daily to Detroit and other ports.

EAST SAGINAW, situated on the right bank of the river, about one mile below Saginaw City, is a new and flourishing place, and bids fair to be one of the most important cities of the state. It is largely engaged in the lumber trade, and in the manufacture of salt of a superior quality. There are several large steam saw-mills, many with gangs of saws, and capable of sawing from four to five million feet of lumber annually; grist and flouring-mills, with four run of stones, planing-mills, foundries, machine shops, breweries, a ship-yard, and other manufacturing establishments, giving employment to a great number of workmen. Here is a well-kept hotel, and several churches; a banking office and a number of large stores and warehouses. Coal of a good quality is abundant, being found near the river, and the recent discovery of *salt springs* in the neighborhood is of incalculable value, the manufacture of salt being carried on very extensively. Population in 1867, 10,000.

Several lines of steamers, and one of propellers, sail from this port regularly for Detroit and other lake ports. It is near the head of navigation for lake craft, where five rivers unite with the Saginaw, giving several hundred miles of water communication for river rafting and the floating of saw-logs. The surrounding country is rich in pine, oak, cherry, black-walnut, and other valuable timber. A railroad is finished from this place to *Holly*, connecting with the Detroit and Milwaukee Railroad.

SAGINAW CITY, Saginaw County, Mich., is handsomely situated on the left bank of the river, 23 miles above its mouth. It contains a court-house and jail, several churches, two hotels, fifteen stores, two warehouses, and six steam saw-mills. Population about 8,000. There is a fine section of country in the rear of Saginaw

much of which is heavily timbered; the soil produces grain in abundance, while the streams afford means of easy transportation to market. Steamers run daily from Saginaw City and East Saginaw to Detroit, Chicago, &c., and other ports on the lakes, during the season of navigation.

LAKE HURON.

The waters of Lake Huron, lying between 43° and 46° north latitude, are surrounded by low shores on every side. The most prominent features are Saginaw Bay on the southwest, and the Georgian Bay on the northeast; the latter large body of water being entirely in the limits of Canada. The lake proper, may be said to be 100 miles in width, from east to west, and 250 miles in length, from south to north, terminating at the Straits of Mackinac. It is nearly destitute of islands, presenting one broad expanse of waters. It possesses several good harbors on its western shores, although as yet but little frequented. Point aux Barques, Thunder Bay, and Thunder Bay Islands, are prominent points to the mariner.

TAWAS, or OTTAWA BAY, lying on the northwest side of Saginaw Bay, affords a good harbor and refuge during storms, as well as THUNDER BAY, lying farther to the north. Off Saginaw Bay, the widest part of the lake, rough weather is often experienced, rendering it necessary for steamers and sail vessels to run for a harbor or place of safety.

In addition to the surplus waters which Lake Huron receives through the Straits of Mackinac and the St. Mary's River from the north, it receives the waters of Saginaw River, and several other small streams from the west. This lake drains but a very small section of country compared to its magnitude, while its depth is a matter of astonishment, being from 100 to 750 feet, according to recent surveys;

altitude above the ocean, 574 feet, being 26 feet below the surface of Lake Superior. Its outlet, the St. Clair River, does not seem to be much larger than the St. Mary's River, its principal inlet, thus leaving nearly all its other waters falling in the basin, to pass off by evaporation. On entering the *St. Clair River*, at Fort Gratiot, after passing over the Upper Lakes, the beholder is surprised to find all these accumulated waters compressed down to a width of about 1,000 feet, the depth varying from 20 to 60 feet, with a strong downward current.

The *Straits of Mackinac*, connecting Lakes Huron and Michigan, is a highly interesting body of water, embosoming several picturesque islands, with beautiful headlands along its shores. It varies in width from 5 to 30 miles, from mainland to mainland, and may be said to be from 30 to 40 miles in length. Here are good fishing grounds, as well as at several other points on Lake Huron and Georgian Bay.

The climate of Lake Huron and its shores is perceptibly warmer than Lake Superior during the spring, summer, and autumn months, while the winter season is usually rendered extremely cold from the prevalence of northerly winds passing over its exposed surface. On the 30th of July, 1860, at 8 A. M., the temperature of the air near the middle of Lake Huron, was 64° Fahr., the water on the surface, 52°, and at the bottom, 50 fathoms (300 feet) 42° Fahr.

THE LOWER PENINSULA OF MICHIGAN.

The *Lower Peninsula of Michigan* is nearly surrounded by the waters of the Great Lakes, and, in this respect, its situation is naturally more favorable for all the purposes of trade and commerce than any other of the Western States.

The numerous streams which penetrate every portion of the Peninsula, some of which are navigable for steamboats a considerable distance from the lake, being natural outlets for the products of the interior, render this whole region desirable for purposes of settlement and cultivation. Even as far north as the Strait of Mackinac, the soil and climate, together with the valuable timber, offer great inducements to settlers; and if the proposed railroads, under the recent grant of large portions of these lands by Congress, are constructed from and to the different points indicated, this extensive and heavily timbered region will speedily be reclaimed, and become one of the most substantial and prosperous agricultural portions of the West.

It is well that in the system of compensation, which seems to be a great law of the universe, the vast prairies which comprise so large a portion of this great Western domain are provided so well with corresponding regions of timber, affording the necessary supply of lumber for the demand of the increasing population which is so rapidly pouring into these Western States.

The State of Michigan—all the waters of which flow into the Basin of the St. Lawrence—Northern Wisconsin, and Minnesota are the sources from which the States of Ohio, Indiana, Illinois, and Iowa, and a large portion of the prairie country west of the Mississippi, must derive their supply of this important article (lumber). The supply in the West is now equal to the demand, but the consumption is so great, and the demand so constantly increasing

with the development and settlement of the country, that of necessity, within comparatively a very few years, these vast forests will be exhausted. But as the timber is exhausted the soil is prepared for cultivation, and a large portion of the northern part of the southern Peninsula of Michigan will be settled and cultivated, as it is the most reliable wheat-growing portion of the Union.

Besides the ports and towns already described, there are on *Lake Huron*, after leaving *Saginaw Bay*, going north, several settlements and lumber establishments, fisheries, &c. These are at *Tawas Bay*, mouth of the River au Sable, Black River, &c.

ALPENA, situated at the head of Thunder Bay, is a very flourishing town, and the capital of Alpena County. It contains about 700 inhabitants, and four saw-mills, possessing a superior water-power on the river here emptying into the bay. It is both a lumber and fishing station of considerable importance.

DUNCAN is the next place of importance on the lake coast, situated near the mouth of Cheboygan River. The United States Land Office for this district is located at this place. Nearly opposite lies *Bois Blanc Island*, a large and fertile tract of land.

The celebrated ISLAND OF MACKINAC is next reached, lying within the straits, surrounded by a cluster of interesting points of land justly celebrated in Indian legends and traditions.

OLD MACKINAC, lying on the mainland, is one of the most interesting points, being celebrated both in French and English history when those two great powers contended for the possession of this vast Lake Region. It is proposed to build a railroad from Old Mackinac to Saginaw, and one to the southern confines of the State, while another line of road will extend north-westward to Lake Superior, crossing the

straits by a steam ferry. A town plot has been surveyed, and preparations made for settlement.

Passing around the western extremity of the Peninsula, at the *Waugoshance Light and Island*, the next point is *Little Traverse Bay*, a most beautiful sheet of water.

About fifteen miles southwesterly from Little Traverse we enter GRAND TRAVERSE BAY, a large and beautiful arm of the lake, extending about thirty miles inland. This bay is divided into two parts by a point of land, from two to four miles wide, extending from the head of the bay about eighteen miles toward the lake. The country around this bay is exceedingly picturesque, and embraces one of the finest agricultural portions of the State. The climate is mild, and fruit and grain of all kinds suitable to a northern latitude are produced, with less liability to injury from frost than in some of the southern portions of the State.

GRAND TRAVERSE CITY is located at the head of the west arm of the bay, and is the terminus of the proposed railroad from Grand Rapids, a distance of about 140 miles.

Passing out of the bay and around the point dividing the west arm from the lake, we first arrive at the river *Aux Becs Soeis*. There is here a natural harbor, capable of accommodating the larger class of vessels and steamboats. A town named FRANKFORT has been commenced at this place, and with its natural advantages, and the enterprise of parties who now contemplate making further improvements, it will soon become a very desirable and convenient point for the accommodation of navigators.

The islands comprising the Beavers, the Manitous, and Fox Isles should here be noticed. The *Beavers* lie a little south of west from the entrance to the Strait of Mackinac, the Manitous a little south of these, and the Foxes still farther down the lake. These are all valuable for fishing purposes, and for wood and lumber. Lying in the route of all the steamboat lines from

Chicago to Buffalo and the Upper Lakes, the harbors on these islands are stopping-points for the boats, and a profitable trade is conducted in furnishing the necessary supplies of wood, etc.

We next arrive at MANISTEE, a small but important settlement at the mouth of the Manistee River. The harbor is a natural one, but requires some improvement. A large trade is carried on with Chicago in lumber.

The next point of importance is the mouth of the *Père Marquette River*. Here is the terminus of the proposed railroad from Flint, in Genesee County, connecting with Detroit by the Detroit and Milwaukee Railway, a distance of about 180 miles.

The harbor is very superior, and the country in the vicinity is well adapted for settlement. About 16 miles in the interior is situated one of the most compact and extensive tracts of pine timber on the western coast.

About forty miles south of this, in the county of Oceana, a small village is located at the mouth of *White River*. The harbor here is also a natural one, and the region is settled to considerable extent by farmers. Lumber is, however, the principal commodity, and the trade is principally with the Chicago market.

The next point, MUSKEGON, at the mouth of the *Muskegon River*, is supported principally by the large lumber region of the interior. Numerous steam saw-mills are now in active operation here, giving the place an air of life and activity.

The harbor is one of the best on the lake, and is at present accessible for all the vessels trading between Muskegon and Chicago.

GRAND HAVEN, Ottawa Co., Mich, is situated on both sides of Grand River, at its entrance into Lake Michigan, here eighty-five miles wide; on the opposite side lies Milwaukee, Wis. For further description, see page 66.

DIRECT STEAMBOAT ROUTE FROM DETROIT TO GREEN BAY, CHICAGO, &c.

Sailing direct through Lake Huron to Mackinac, or to the De Tour entrance to St. Mary's River, a distance of about 330 miles, the steamer often runs out of sight of land on crossing Saginaw Bay.

Thunder Bay Light is first sighted and passed, and then Presque Isle Light, when the lake narrows and the Strait of Mackinac is soon entered, where lies the romantic Island of Mackinac. The Strait of Mackinac, with the approaches thereto from Lakes Huron and Michigan, will always command attention from the passing traveller. Through this channel will pass, for ages to come, a great current of commerce, and its shores will be enlivened with civilized life.

In this great commercial route, Lake Huron is traversed its entire length, often affording the traveller a taste of sea-sickness and its consequent evils. Yet there often are times when Lake Huron is hardly ruffled, and the timid passenger enjoys the voyage with as much zest as the more experienced mariner.

MACKINAC, crowned by a fortress, where wave the *Stars and the Stripes*, the gem of the Upper Lake islands, may vie with any other locality for the salubrity of its climate, for its picturesque beauties, and for its vicinity to fine fishing-grounds. Here the invalid, the seeker of pleasure, as well as the sportsman and angler, can find enjoyment to their heart's content during warm weather. *For description, see p. 88.*

On leaving Mackinac for Green Bay, the steamer generally runs a west course for the mouth of the bay, passing the Beaver Islands in Lake Michigan before entering the waters of Green Bay, about 150 miles.

SUMMER ISLAND lies on the north side and ROOK ISLAND lies on the south side of the entrance to Green Bay, forming a charming view from the deck of a steamer.

WASHINGTON or POTAWATOMEE ISLAND, CHAMBERS' ISLAND, and other small islands are next passed on the upward trip toward the head of the bay.

WASHINGTON HARBOR, situated at the north end of Washington Island, is a picturesque fishing station, affording a good steamboat-landing and safe anchorage.

GREEN BAY, about 100 miles long and from 20 to 30 miles wide, is a splendid sheet of water, destined no doubt to be enlivened with commerce and pleasure excursions. (*City of Green Bay, see p. 32.*)

Ports of Lake Michigan— East and South Shores.

Michigan City, Ind., situated at the extreme south end of Lake Michigan, is distant 45 miles from Chicago by water and 228 miles from Detroit by railroad route. The *New Albany & Salem Railroad*, 228 miles in length, terminates at this place, connecting with the Michigan Central Railroad. Several plank roads also terminate here, affording facilities for crossing the extensive prairies lying in the rear. Here are several large store-houses, situated at the mouth of Trail Creek, intended for the storage and shipment of wheat and other produce; 20 or 30 stores of different kinds, several hotels, and a branch of the State Bank of Indiana. It now contains 5,000 inhabitants, and is steadily increasing in wealth and numbers.

The harbor of Michigan City, which has been closed for a number of years to large vessels by the accumulation of sand in the channel is again open, with a good depth of water. Vessels loaded with iron ore and with lumber enter and discharge cargoes without difficulty. An efficient dredge is at work, and Michigan City will soon become a lake port of importance.

NEW BUFFALO, Mich., lying 50 miles east of Chicago by steamboat route, is situated on the line of the Michigan Central Railroad, 218 miles west of Detroit. Here have been erected a light-house and pier, the latter affording a good landing for steamers and lake craft. The settlement contains two or three hundred inhabitants, and several stores and storehouses. It is surrounded by a light, sandy soil, which abounds all along the east and south shores of Lake Michigan.

St. JOSEPH, Berrien Co., Mich., is advantageously situated on the east shore of Lake Michigan, at the mouth of St. Joseph River, 194 miles west of Detroit. Here is a good harbor, affording about 10 feet of water. The village contains about 1,000 inhabitants, and a number of stores and storehouses. An active trade in lumber, grain, and fruit is carried on at this place, mostly with the Chicago market, it being distant about 70 miles by water. Steamers of a small class run from St. Joseph to Niles and Constantine, a distance of 120 miles, to which place the St. Joseph River is navigable.

St. Joseph River rises in the southern portion of Michigan and Northern Indiana, and is about 250 miles long. Its general course is nearly westward; is very serpentine, with an equable current, and flowing through a fertile section of country, celebrated alike for the raising of grain and different kinds of fruit. There are to be found several flourishing villages on its banks. The principal are Constantine, Elkhart, South Bend, and Niles.

NILES, situated on St. Joseph River, is 26 miles above its mouth by land, and 191 miles from Detroit by railroad route. This is a flourishing village, containing about 3,000 inhabitants, five churches, three hotels, several large stores and flouring mills; the country around producing large quantities of wheat and other kinds of grain. A small class of steamers run to St. Joseph below and other places

above, on the river, affording great facilities to trade in this section of country.

SOUTH HAVEN, Van Buren Co., lies at the mouth of Black River.

NAPLES, Allegan Co., lies on the east side of Lake Michigan, near the mouth of the Kalamazoo River.

AMSTERDAM, Ottawa Co., is a small village lying near the Lake shore, about 20 miles south of Grand Haven.

HOLLAND, situated on *Black Lake*, a few miles above Amsterdam, is a thriving town, settled mostly by Hollanders. Here is a good and spacious harbor.

The counties of Berrien, Cass, Van Buren, Kalamazoo, Allegan, Kent, and Ottawa are all celebrated as a fruit-bearing region.

The Ports extending from Grand Haven to Saginaw Bay are fully described in another portion of this work, as well as the bays and rivers falling into Lakes Michigan and Huron.

Steamers on Lake Michigan.

STREAMERS leave Chicago daily, during the season of navigation, for Grand Haven and Muskegon, connecting with steamers running to Pere Marquette, Manistee, and other ports on the Michigan side of the lake.

Daily lines of steamers also leave Chicago for Racine, Milwaukee, Port Washington, Sheboygan, Manitowoc, Two Rivers, and other ports on the Wisconsin side of the lake.

Lines of propellers also leave Chicago daily for all the principal ports on the west side of Lake Michigan, stopping at Mackinac, Port Huron, Detroit, etc., affording a speedy and cheap mode of conveyance from Chicago and Milwaukee to all the principal ports on Lakes Erie and Ontario. (*For a description of Chicago, see page 17.*)

COMMERCE OF THE UPPER LAKES.

Estimate of Enlarging the Means of Transit to the Seaboard—Different Routes Compared.

Copied from the CHICAGO TRIBUNE, dated April, 1868.

"**SIR:** I have to state that the cost of all the necessary works to complete and adapt the navigation from the Western lakes to Montreal and New York, for propellers of 850 tons, would be as follows:

The New Welland Canal.....	\$ 6,000,000
Lengthening the Locks of the St. Lawrence Canals.....	1,050,000
Improving the Rapids of the St. Lawrence to 18 feet.....	750,000
The Caughnawaga Canal (28 miles)...	2,500,000
New York Champlain Canal.....	5,000,000
Improving the Hudson River.....	1,000,000
Total.....	\$16,300,000

"Most of these figures are taken from reports, are based on actual surveys of the work to be done, and sufficiently accurate for comparison. I shall now advert to the saving which would be effected by the employment of the 850-ton propeller or sailing vessel, in transport, by the improvements suggested. Raw commodities and those of considerable bulk or weight must necessarily be transported by the cheapest conveyance, and while railways will enjoy the monopoly of carrying valuable goods in proportion to their bulk and those of a perishable character, the propeller and sailing vessel will carry the wheat and other grains, the provisions, ore, &c. On the lakes small vessels only were at first employed, and vessels four times the size of those formerly employed a few years since are now in use, and wherever there is a sufficient amount of trade, the cost of transport is reduced by increasing the size of the vessel. Experienced navigators on the lakes estimate the cost of transport at one-fourth less by the large vessels now employed than by the small vessels formerly in use. The tendency of late years has been toward the increase

of the class of steamers called propellers, of great carrying capacity, with engines adapted to a slow speed to obtain the greatest economy of fuel. The first of this class of vessels employed were of small size, but experience proved that the greatest economy was obtained by enlarging them to the greatest size the lake harbors would admit. The celerity and certainty of their voyages will always give them a preference, for their charges are less than the railway, their deliveries are prompt and but little longer. With the improvements in the navigation completed and adapted for the 850-ton propeller taking cargo, without breaking bulk from the Upper Lakes to Montreal or New York, there can be no doubt that the cost of transport would be greatly reduced below the rates now paid. By the expenditure of fourteen millions of dollars on the Erie Canal, the State of New York opened a route by which a ton of freight could be conveyed from Chicago to New York City for \$8.64, and by a further expenditure of twenty-two million dollars in enlarging her canal she reduced the cost of transport to \$5.56 per ton. Now supposing the reduction in cost of transport, by enlarging the various canals and adapting improvements for the vessel of 850 tons, as proposed, to be only one dollar and fifty cents per ton less than present rates (and eminent engineers have estimated it to be much higher), this would be a reduction of five cents per bushel. Now, let me point out what the saving would be in one year on the grain shipped from Lake Michigan alone. The exports of grain and flour from this lake have already amounted in one year equal to ninety millions of bushels, and within two years will, no

doubt, exceed one hundred million bushels. I have stated that the average freight of this grain from Lake Michigan to New York is about thirty cents per bushel, including two and three-quarters cents for transferring cargo and other charges at Buffalo. A deduction of five cents per bushel on the hundred millions of bushels would be five millions of dollars in one year, which would represent a capital of about ninety millions of dollars, at six per cent. interest, while the total cost of improvements I have suggested, would not exceed seventeen millions in gold. I have not alluded or taken into account the great provision trade so rapidly growing up, nor have I taken in the vast trade which will so soon exist on Lake Superior; neither have I alluded to the grain and other exports from Lakes Huron, Erie, and Ontario. I have preferred to single out the one great fact of the present exports from this lake, so that any one can see at a glance the enormous importance and advantage of perfecting the navigation from the West to the East.

THE ROUTES COMPARED.

"Few persons can look at the map of the Great Lakes without noticing the narrow isthmuses which in several places divide them, and particularly the nearness with which the Georgian Bay of Lake Huron and Lake Simcoe, which empties into it, approach to Lake Ontario (running through Canada). By cutting through an isthmus of about 90 miles a saving of 400 miles in distance would be made from Chicago to Oswego.

"Surveys of this project have been made. Lake Simcoe is 475 feet above Ontario, and 110 feet above Huron, making a total of 585 feet lockage against 360 feet by the Welland Canal and St. Clair River. Moreover, there is a summit ridge between Lakes Simcoe and Ontario, which can not be locked over on account of this deficiency of water to supply the

summit level, and *must be cut through* and led from Lake Simcoe.

"They would require (according to the engineer's reports) a cutting 200 feet deep for some two miles, and an average cutting of some 80 feet deep for six miles and a half. No such cut as this was ever made on any work, and by giving the banks of the cut a slope of one and a half feet to one foot in depth the opening on the surface would be eight hundred feet. Still, this is considered quite a trifle by the friends of the project. Its estimated cost is \$25,000,000, but more likely to be forty millions. Of course the improvements of the St. Lawrence Canals, the Caughnawaga, and the New York Champlain Canal would have to be added to the above sum.

"The next project, which has also been warmly advocated by many, is what is called the *Ottawa Canal*, to connect Montreal with Lake Huron *via* Lake Nippising and French River, which has been surveyed and reported on. This project also shortens the distance from Chicago or Milwaukee to Montreal about 430 miles. To understand its merits, I would begin by stating that it is the breaking up of the ice in the Straits of Mackinac in the spring which opens navigation, and it is the closing of these straits by ice in the fall which puts an end to navigation for the year. Now, suppose two propellers of 850 tons, leaving Milwaukee together, bound for Montreal, one by the Welland Canal and the other by the Ottawa route. Both vessels keep together as far as the point in Lake Huron where it is necessary for one to diverge to enter the French River, emptying into Georgian Bay. This river has to be ascended by a lockage of seventy-five feet to reach the summit level in Lake Nippising, and of course there has to be lockage of seventy-five feet more to get back to the level of lake Huron. This engrafts on the route 150 feet more lockage than on the Welland Canal

route. The Ottawa River is reached through the River Mattawan, both of which are dammed up in various places to admit of their navigation, making them nothing more or less than large canals. At night it would be almost impossible for the propeller to sail, except very slowly, while the other propeller could sail by night as well as by day at her full speed. The whole lockage would be at one place on the Welland Canal, for the St. Lawrence Canals would not require to be used on the downward voyage. Now, I have never seen a shipmaster who has not acknowledged that the propeller would sooner be at Montreal by the long route than he could be by the shorter one of four hundred miles; and from the more northern position of Lake Nippising, navigation would be later in opening and sooner closed. The estimated cost of this work is \$24,000,000 (but probably forty millions), and added to this, again, would be the cost of the Caughnawaga Canal and New York Champlain Canal, without which the propeller *via* the Ottawa could neither reach New York or Lake Champlain.

"Experience has proved that the larger the vessel the cheaper the cost of conveyance. This, of course, has a limit somewhere, but the size of the vessel will, in a great degree, be regulated by the depth of water in the lake harbors. Heretofore the shallowest part of the lake navigation was on the Lake St. Clair Flats, but the obstruction is now being removed. The short canal built by the United States

Government, which gives access to Lake Superior, has locks of three hundred feet in length by seventy-five feet wide, with a depth of water of twelve feet. This depth of water may be assumed as the capacity of lake harbors. The artificial works necessary for the improvement of the navigation should be designed in accordance with the natural magnitude of that navigation. The depth of water, therefore, in the lake harbors, limits the size of vessels for the navigation. The present state of our knowledge is, that propellers are a cheaper mode of conveyance than side-wheel steamers, and are destined to supersede sailing vessels. The suggestions now made for cheapening transports, it is necessary that all the canals on the route from West to East should be adapted for propellers of 850 tons burden, with a depth of twelve feet water."

LAKE SUPERIOR TRADE.

On the completion of a railroad communication between the Upper Mississippi and Lake Superior, the enlargement of the St. Mary's Falls Ship Canal and the Erie Canal, also the improvement of the Welland and St. Lawrence Canals will be imperiously demanded, as well as the construction of the Caughnawaga Canal, running to Lake Champlain, and the enlargement of the Champlain Canal. These great works will form international modes of communication, alike beneficial to the trade of Canada and of the United States.

Canadian Inland and Ocean Navigation.

The following, from a pamphlet published in Montreal, pictures the advantages to be derived from the great inland water highways of the Canadian Pro-

vinces: "Montreal, at the head of sea navigation proper, is the port for the great chain of river, lake, and canal navigation, which extends westward to Fond du Lac,

Lake Superior, and Chicago, on Lake Michigan, a distance of about fifteen hundred miles, embracing the largest extent of inland water communication in the world." For extent of lake and river navigation, see page 16.

Canadian Canals.

	Length in miles.	Depth in feet.	Lockage Lift, feet.	No. Locks.
Lachine	8½	10	44½	5
Beauharnois	11½	10	82½	9
Cornwall	11½	10	48	7
Farrand's Point	} 9½	10	4	1
Rapid Plat		10	11½	2
Point Iroquois		10	6	1
Gallops	10	10	8	2
Welland.....	28	10	390	27
Totals.....	60		543½	54

Proposed Ottawa Ship Canal.

The saving in the distance between Montreal and Chicago, by this direct route, over the present circuitous line through the Lower Lakes and the St. Lawrence is 842 miles. It has 64 locks, with a total lift of 665 feet. The work, in quality at least equal to the St. Lawrence Canals, is estimated to cost \$12,057,680, exclusive of the Lachine Canal, which is already completed.

DEEPENING OF THE CANADA CANALS.

At a late meeting of the Montreal Board of Trade (April, 1868), a report was presented and adopted which contained the following: "The Council has had some correspondence with the Department of Public Works, relative to the enlargement of the Welland and St. Lawrence Canals, and has recommended regarding the improvements contemplated in these works, that, while it is desirable that a depth of two feet and a size of locks in all the canals equal to the largest lock

in the series should be aimed at if practicable, in the mean time the lesser work of enabling vessels of not exceeding 186 feet long, 44½ feet wide, and 10 feet draught of water, to navigate the whole length of Canada, from Lake Superior to the ocean, could, the Council believes, be executed in brief time and at a moderate expense." The deepening of these canals was deemed a matter of urgent necessity, in order to accommodate the increasing trade of the Upper Lakes.

New York Canals.

LENGTH, SIZE, LOCKS, ETC.

	Length.	No. Locks.	Size Locks.	Lift of Locks.
Erie (enlarged).....	350½	71	110x18	569
Genesee Valley and Extension.....	124½	112	90x15	1,469
Cayuga and Seneca.....	24½	11	110x18	761
Crooked Lake.....	8	27	90x15	277
Chemung & Feeder..	39	49	90x15	146
Chenango.....	97	116	110x18	1,015
Oswego.....	33	13	90x15	155
Black River & Feeder.	50	109	....	1,083
Black River Imp't... ..	42½	....	....	....
Champlain.....	66½	33	110x18	....
Glens Falls Feeder... ..	7	....	100x15	227
Oneida Lake.....	7	7	90x15	60
Oneida River Imp't..	20	2	120x30½	16½
Oneida Lake.....	23	....	....	....

The Erie and Champlain Canals, when first completed in 1825, had a prism 29 feet wide at the bottom, and 40 feet wide at the surface of the water, which was four feet in depth. The chambers of the locks were 90 feet long by 15 feet wide, admitting boats 75 feet long, carrying about 45 to 50 tons. The size of the present locks is given in the foregoing table. The boats now navigating the Erie and Oswego Canals have a burden of about 225 to 250 tons in six feet draught of water.

The Erie enlarged Canal has 71 locks, with a total lift of 569 feet, and the Oswego Canal has 18 locks, with a total lift of 155 feet.

Steamboat Route.

FROM CHICAGO TO MACKINAC AND SAUT STE. MARIE.

Ports, &c.	Miles.	Ports, &c.	Miles.
CHICAGO, Ill.....	0	Annapee, Wis.....	11-205
Waukegan, Ill.....	35	Bayley's Harbor, Wis.....	35-240
Kenosha, Wis.....	16-51	Death's Door, Wis.....	20-260
Racine, Wis.....	11-62	(To GREEN BAY, 80 miles.)	
MILWAUKEE, Wis.....	23-85	Washington Harbor, Mich.....	13-273
Port Washington, Wis.....	25-110	Beaver Island, Mich.....	74-347
Sheboygan, Wis.....	25-135	Pt. Waugoshame, Mich.....	30-377
Manitowoc, Wis.....	30-165	MACKINAC, Mich.....	23-400
Two Rivers, Wis.....	7-172	De Tour Passage.....	36-436
Kewaunee, Wis.....	22-194	SAUT STE. MARIE, Mich....	56-492

ROUTE FROM CHICAGO TO MACKINAC AND SAUT STE. MARIE.



On starting from the steamboat wharf near the mouth of the Chicago River, the Marine Hospital and depot of the Illinois Central Railroad are passed on the right, while the Lake House and lumber-yards are seen on the left or north side of the stream. The government piers, long wooden structures, afford a good entrance to the harbor; a light-house has been constructed on the outer end of the north pier, to guide vessels to the port.

The basin completed by the Illinois Central Railroad to facilitate commerce is a substantial work, extending southward for nearly half a mile. It affords ample accommodation for loading and unloading vessels, and transferring the freight to and from the railroad cars.

The number of steamers, propellers, and sailing vessels annually arriving and departing from the harbor of Chicago is

very great; the carrying trade being destined to increase in proportionate ratio with the population and wealth pouring into this favored section of the Union.

On reaching the green waters of Lake Michigan, the city of Chicago is seen stretching along the shore for four or five miles, presenting a fine appearance from the deck of the steamer. The entrance to the harbor at the bar is about 200 feet wide. The bar has from ten to twelve feet water, the lake being subject to about two feet rise and fall. The steamers bound for Milwaukee and the northern ports usually run along the west shore of the lake within sight of land, the banks rising from thirty to fifty feet above the water.

LAKE MICHIGAN is about seventy miles average width, and 340 miles in extent from Michigan City, Ind., on the south, to the Strait of Mackinac on the north; it presents a great expanse of water, now traversed by steamers and other vessels of a large class, running to the Saut Ste. Marie and Lake Superior; to Collingwood and Goderich, Can.; to Detroit, Mich.; to Cleveland, Ohio, and to Buffalo, N. Y. From Chicago to Buffalo the distance is about 1,000 miles by water; while from

Chicago to Superior City, at the head of Lake Superior, or Fond du Lac, the distance is about the same, thus affording two excursions of 1,000 miles each, over three of the great lakes or inland seas of America, in steamers of from 1,000 to 2,000 tons burden. During the summer and early autumn months the waters of this lake are comparatively calm, affording safe navigation. But late in the year, and during the winter and early spring months, the navigation of this and the other great lakes is very dangerous.

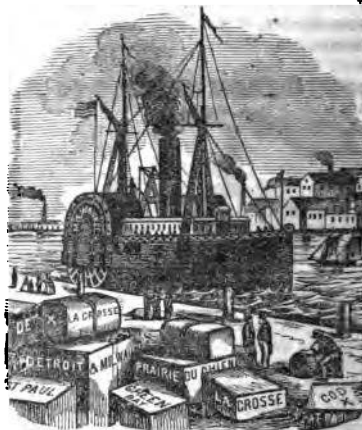
WAUKESHA, Lake Co., Ill., 36 miles north of Chicago, is handsomely situated on elevated ground, gradually rising to 50 or 60 feet above the water. Here are two piers, a light-house, several large storehouses, and a neat and thriving town containing about 4,000 inhabitants, six churches, a bank, several well-kept hotels, thirty stores, and two steam-flouring mills.

KENOSHA, Wis., 52 miles from Chicago, is elevated 30 or 40 feet above the lake. Here are a small harbor, a light-house, storehouses, mills, etc. The town has a population of about 5,000 inhabitants, surrounded by a fine back country. Here is a good hotel, a bank, several churches, and a number of stores and manufacturing establishments doing a large amount of business. The *Kenosha and Rockford Railroad*, 73 miles, connects at the latter place with a railroad running to Madison, the capital of the State, and also to the Mississippi River.

The City of RACINE, Wis., 62 miles from Chicago and 23 miles south of Milwaukee, is built on an elevation some forty or fifty feet above the surface of the lake. It is a beautiful and flourishing place. Here are a light-house, piers, storehouses, etc., situated near the water, while the city contains some fine public buildings and private residences. The population is about 10,000, and is rapidly increasing. Racine is the second city in the State in

commerce and population, and possesses a fine harbor. Here are located the county buildings, fourteen churches, several hotels, *Congress Hall* being the largest: elevators, warehouses, and numerous stores of different kinds.

The *Racine and Mississippi Railroad* extends from this place to the Mississippi River at Savanna, 142 miles. The Chicago and Milwaukee Railroad also runs through the town, near the Lake Shore.



MILWAUKEE HARBOR.

Milwaukee, "THE CREAM CITY," 85 miles from Chicago, by railroad and steamboat route, is handsomely situated on rising ground on both sides of the Milwaukee River, at its entrance into Lake Michigan. In front of the city is a bay or indentation of the lake, affording a good harbor, except in strong easterly gales. The harbor is now being improved, and will doubtless be rendered secure at all times of the season. The river affords an extensive water-power, capable of giving motion to machinery of almost any required amount. The city is built upon

beautiful slopes, descending toward the river and lake. It has a United States Custom House and Post-Office building; a court house, city hall, a United States land-office, the University Institute, a college for females, three academies, three orphan asylums, forty-five churches, several well-kept hotels, the *Newhall House* and the *Walker House* being the most frequented; seven banks, six insurance companies, a Chamber of Commerce, elevators, extensive ranges of stores, and several large manufacturing establishments. The city is lighted with gas, and well supplied with good water. Its exports of lumber, agricultural produce, etc. are immense, giving profitable employment to a large number of steamers and other lake craft, running to different ports on the Upper Lakes, Detroit, Buffalo, etc. The growth of this city has been astonishing; twenty years since its site was a wilderness; now it contains over 60,000 inhabitants, and of a class inferior to no section of the Union for intelligence, sobriety, and industry.

The future of Milwaukee it is hard to predict; here are centring numerous railroads finished and in course of construction, extending south to Chicago, west to the Mississippi River, and north to Lake Superior, which, in connection with the Detroit and Milwaukee Railroad, terminating at Grand Haven, 85 miles distant by water, and the lines of steamers running to this port, will altogether give an impetus to this favored city, blessed with a good climate and soil, which the future alone can reveal.

During the past few years an unusual number of fine buildings have been erected, and the commerce of the port has amounted to \$60,000,000. The bay of Milwaukee offers the best advantages for the construction of a harbor of refuge of any point on Lake Michigan. The city has expended over \$100,000 in the construction of a harbor; this needs extension and

completion, which will no doubt be effected.

The approach to Milwaukee harbor by water is very imposing, lying between two headlands covered with rich foliage, and dotted with residences indicating comfort and refinement not to be exceeded on the banks of the Hudson or any other body of water in the land. This city, no doubt, is destined to become the favored residence of opulent families, who are fond of congregating in favored localities.

THE GRANARIES OF MINNESOTA AND WISCONSIN.—The *La Crosse Democrat* speaks as follows of the great strides of agriculture in a region which ten years ago was a wilderness. It says:

"We begin to think that the granaries of Minnesota and Northwestern Wisconsin will never give out; there is no end to the amount, judging from the heavy loads the steamers continually land at the depot of the *La Crosse* and *Milwaukee* Railroad. Where does it all come from? is the frequent inquiry of people. We can hardly tell. It seems impossible that there can be much more left, yet steamboat men tell us that the grain is not near all hauled to the shipping points on the river. What will this country be ten years hence, at this rate? Imagine the amount of transportation that will become necessary to carry the produce of the upper country to market. It is hard to state what will be the amount of shipments of grain this season (1863), but it will be well into the millions."

RAILROADS RUNNING FROM MILWAUKEE.

Detroit and Milwaukee (Grand Haven to Detroit, 189 miles), connecting with steamers on Lake Michigan.

La Crosse and Milwaukee, 200 miles, connecting with steamers on the Upper Mississippi.

Milwaukee and Prairie du Chien, 192 miles, connecting with steamers on the Mississippi and railroad to St. Paul.

Milwaukee and Horicon, 93 miles.

Milwaukee and Western, 71 miles.

Milwaukee and Chicago, 85 miles; also, the River and Lake Shore City Railway, running from the entrance of the harbor to different parts of the city.

PORT WASHINGTON, Ozaukee Co., Wis., 25 miles north of Milwaukee, is a flourishing place, and capital of the county. The village contains, besides the public buildings, several churches and hotels, twelve stores, three mills, an iron foundry, two breweries, and other manufactories. The population is about 2,500. Here is a good steamboat landing, from which large quantities of produce are annually shipped to Chicago and other lake ports.

SHEBOYGAN, Wis., 50 miles north of Milwaukee and 130 miles from Chicago, is a thriving place, containing about 5,000 inhabitants. Here are seven churches, several public-houses and stores, together with a light-house and piers; the harbor being improved by government works. Large quantities of lumber and agricultural products are shipped from this port. The country in the interior is fast settling with agriculturists, the soil and climate being good. A railroad nearly completed runs from this place to FOND DU LAC, 42 miles west, lying at the head of Lake Winnebago.

MANITOUWOC, Wis., 70 miles north of Milwaukee and 33 miles east from Green Bay, is an important shipping port. It contains about 3,500 inhabitants; five churches, several public-houses, twelve stores, besides several storehouses; three steam saw-mills, two ship-yards, light-house, and pier. Large quantities of lumber are annually shipped from this port. The harbor is being improved so as to afford a refuge for vessels during stormy weather.

"Manitouwoc is the most northern of the harbors of Lake Michigan improved by the United States Government. It derives additional importance from the fact that, when completed, it will afford the first point of refuge from storms for shipping bound from any of the other great lakes to this, or to the most southern ports of Lake Michigan."

TWO RIVERS, Wis., seven miles north from Manitouwoc, is a new and thriving place at the entrance of the conjoined streams (from which the place takes its name) into Lake Michigan. Two piers are here erected, one on each side of the river; also a ship-yard, an extensive leather manufacturing company, chair and pail factory, and three steam saw-mills. The village contains about 2,000 inhabitants.

KEWAUNEE, Wis., 25 miles north of Two Rivers and 102 miles from Milwaukee, is a small shipping town, where are situated several saw-mills and lumber establishments. Green Bay is situated about 25 miles due west from this place.

AHNEEPEE, 12 miles north of Kewaunee, is a lumbering village, situated at the mouth of Ahneepce, containing about 1,000 inhabitants. The back country here assumes a wild appearance, the forest trees being mostly pine and hemlock.

GIBRALTAR, or BAILEY'S HARBOR, is a good natural port of refuge for sailing craft when overtaken by storms. Here is a settlement of some 400 or 500 inhabitants, mostly being engaged in fishing and lumbering.

PORT DES MORTS or DEATH'S DOOR, the entrance to Green Bay, is passed 20 miles north of Bailey's Harbor, *Detroit Island* lying to the northward.

POTTOWATOMEE, or WASHINGTON ISLAND, is a fine body of land attached to the State of Michigan; also, Rock Island, situated a short distance to the north. (*See route to Green Bay, &c.*)

On leaving *Two Rivers*, the steamers passing through the Straits usually run for the Manitou Islands, Mich., a distance of about 100 miles. Soon after the last vestige of land sinks below the horizon on the west shore, the vision catches the dim outline of coast on the east or Michigan shore at *Point aux Bec Scies*, which is about 30 miles south of the Big Manitou Island. From this point, passing northward by *Sleeping Bear Point*, a singular shaped headland looms up to the view. It is said to resemble a sleeping bear. The east shore of Lake Michigan presents a succession of high sand-banks for many miles, while inland are numerous small bays and lakes.

LITTLE, or SOUTH MANITOU ISLAND, 260 miles from Chicago, and 110 miles from Mackinac, lies on the Michigan side of the lake, and is the first island encountered on proceeding northward from Chicago. It rises abruptly on the west shore 2 or 300 feet from the water's edge, sloping toward the east shore, on which is a light-house and a fine harbor. Here steamers stop for wood. **BIG or NORTH MANITOU** is nearly twice as large as the former island, and contains about 14,000 acres of land. Both islands are settled by a few families, whose principal occupation is fishing and cutting wood for the use of steamers and sailing vessels.

FOX ISLANDS, 50 miles north from South Manitou, consist of three small islands lying near the middle of Lake Michigan, which is here about 60 miles wide. On the west is the entrance to Green Bay, on the east is the entrance to Grand Traverse Bay, and immediately to the north is the entrance to Little Traverse Bay.

GREAT and LITTLE BEAVER ISLANDS lying about midway between the Manitou Islands and Mackinac, are large and fertile bodies of land, formerly occupied by *Warrmons*, who had here their most eastern settlement.

GARDEN and HOG ISLANDS are next pass-

ed before reaching the Strait of Mackinac, which, opposite Old Fort Mackinac, is about six miles in width. The site of Old Fort Mackinac is on the south main or Michigan shore, directly opposite Point Ste. Ignace, on the north main shore. *St. Helena Island* lies at the entrance of the strait from the south, distant about fifteen miles from Mackinac.

OLD FORT MACKINAC,* now called *Mackinac City*, is an important and interesting location; it was formerly fortified and garrisoned for the protection of the strait and this section of country, when inhabited almost exclusively by various tribes of Indians. This place can be easily reached by sail-boat from the island of Mackinac.

PTE. LE GROS CAP, lying to the west of old Fort Mackinac, is a picturesque headland well worthy of a visit.

THE STRAIT OF MACKINAC is from five to twenty miles in width, and extends east and west about forty miles, embosoming several important islands besides Mackinac Island, the largest being **BOIS BLANC ISLAND**, lying near the head of Lake Huron. Between this island and the main north shore the steamer **GARDEN CITY** was wrecked, May 16, 1854; her upper works were still visible from the deck of the passing steamer in the fall of the same year.

GROSSE ILE St. MARTIN and **Ile St. Martin** lie within the waters of the strait, eight or ten miles north of the island of Mackinac. In the neighborhood of these different islands are the favorite fishing-grounds both of the Indian and the "pale face."

Mackinac, the Town and Fortress is most beautifully situated on the east shore of the island, and extends for a distance of about one mile along the water's edge, and has a fine harbor protected by a

* Settled by the French under Father Marquette in 1670.

water battery. This important island and fortress is situated in N. lat. $45^{\circ} 54'$, W. lon. $84^{\circ} 30'$ from Greenwich, being seven degrees thirty minutes west from Washington. It is 350 miles north from Chicago, 100 miles south of Saut Ste. Marie by the steamboat route, and about 300 miles northwest from Detroit. *Fort Mackinac*, garrisoned by U. States troops, stands on elevated ground, about 200 feet above the water, overlooking the picturesque town and harbor below. In the rear, about half a mile distant stand the ruins of old *Fort Holmes*, situated on the highest point of land, at an elevation of 320 feet above the water, affording an extensive view.

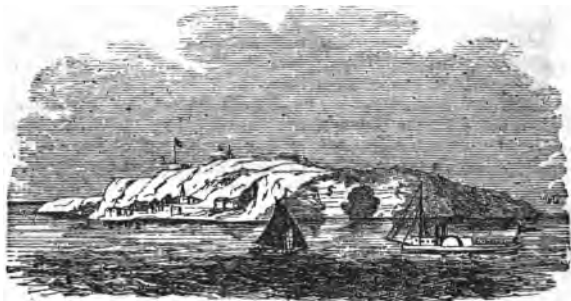
The town contains two churches, five hotels, ten or twelve stores, 100 dwelling-houses, and about 700 inhabitants. The climate is remarkably healthy and delightful during the summer months, when this favored retreat is usually thronged with visitors from different parts of the Union, while the Indian warriors, their squaws and their children, are seen lingering around their favorite island and fishing-ground.

The Island of MACKINAC, lying in the Strait of Mackinac, is about three miles long and two miles wide. It contains many deeply interesting points of attraction in addition to the village and fortress; the principal natural curiosities are known as the Arched Rock, Sugar Loaf, Lover's Leap, Devil's Kitchen, Robinson's Folly, and other objects of interest well worthy

the attention of the tourist. The *Mission House* and *Island House* are the principal hotels, while there are several other good public-houses for the accommodation of visitors.

ISLAND OF MACKINAC.—The view given represents the Island, approaching from the eastward. "A cliff of limestone, white and weather-beaten, with a narrow alluvial plain skirting its base, is the first thing which commands attention;" but, on nearing the harbor, the village (2), with its many picturesque dwellings, and the fortress (3), perched near the summit of the Island, are gazed at with wonder and delight. The promontory on the left is called the "Lover's Leap" (1), skirted by a pebbly beach, extending to the village. On the right is seen a bold rocky precipice, called "Robinson's Folly" (5), while in the same direction is a singular peak of nature called the "Sugar Loaf." Still farther onward, the "Arched Rock," and other interesting sights, meet the eye of the explorer, affording pleasure and delight, particularly to the scientific traveller and lover of nature. On the highest ground, elevated 320 feet above the waters of the Strait, is the signal station (4), situated near the ruins of old *Fort Holmes*.

The settlement of this Island was commenced in 1764. In 1793 it was surrendered to the American government; taken by the British in 1812; but restored by the treaty of Ghent, signed in Nov., 1814





ARCHED ROCK.—Mackinac.

The Lover's Leap.—MACKINAC ISLAND.—The huge rock called the "Lover's Leap," is situated about one mile west of the village of Mackinac. It is a high perpendicular bluff, 150 to 200 feet in height, rising boldly from the shore of the Lake. A solitary pine-tree formerly stood upon its brow, which some Vandal has cut down.

Long before the pale faces profaned this island home of the Genii, Me-che-ne-mock-e-nung-o-qua, a young Ojibway girl, just maturing into womanhood, often wandered there, and gazed from its dizzy heights and witnessed the receding canoes of the large war parties of the combined bands of the Ojibways and Ottawas, speeding South, seeking for fame and scalps.

It was there she often sat, mused, and hummed the songs Ge-niw-e-gwon loved; this spot was endeared to her, for it was there that she and Ge-niw-e-gwon first met and exchanged words of love, and found an affinity of souls or spirits existing between them. It was there she often sat and sang the Ojibway love song—

"Mong-e-do-gwain, in-de-nain-dum,
Mong-e-do-gwain, in-de-nain-dum;
Wain-shung-ish-ween, neen-e-mo-shane,
Wain-shung-ish-ween, neen-e-mo-shane,
A-nee-wau-wau-sau-bo-a-zode,
A-nee-wau-wau-sau-bo-a-zode."

I give but one verse, which may be translated as follows:

A loon, I thought was looming,
A loon, I thought was looming;
Why! it is he, my lover,
Why! it is he, my lover.
His paddle, in the waters gleaming,
His paddle in the waters gleaming.

From this bluff she often watched and listened for the return of the war parties, for amongst them she knew was Ge-niw-e-gwon; his head decorated with war-eagle plumes, which none but a brave could sport. The west wind often wafted far in advance the shouts of victory and death, as they shouted and sang upon leaving Pe-quot-e-nong (old Mackinac), to

make the traverse to the Spirit, or Fairie Island.

One season, when the war party returned, she could not distinguish his familiar and loved war-shout. Her thinking spirit, or soul (presentiment) told her that he had gone to the Spirit Land of the west. It was so, an enemy's arrow had pierced his breast, and after his body was placed leaning against a tree, his face fronting his enemies he died; but ere he died he wished the mourning warriors to remember him to the sweet maid of his heart. Thus he died far away from home and the friends he loved.

Me-che-ne-mock-e-nung-o-qua's heart hushed its beatings, and all the warm emotions of that heart were chilled and dead. The moving, living spirit or soul of her beloved Ge-niw-e-gwon she witnessed, continually beckoning her to follow him to the happy hunting grounds of spirits in the west—he appeared to her in human shape, but was invisible to others of his tribe.

One morning her body was found mangled at the foot of the bluff. The soul had thrown aside its covering of earth, and had gone to join the spirit of her beloved Ge-niw-e-gwon, to travel together to the land of spirits, realizing the glories and bliss of a future, eternal existence.

Yours, &c.,

Wm. M. J * * * * *

ALTITUDE OF VARIOUS POINTS ON ISLAND OF MACKINAC.

Localities.	Above Lake Huron.	Above the Sea.
Lake Huron.....	000 feet.	574 feet.
Fort Mackinac	150 "	724 "
Old Fort Holmes	315 "	889 "
Robinson's Folly.....	123 "	702 "
Chimney Rock.....	181 "	705 "
Top of Arched Rock.....	140 "	714 "
Lover's Leap.....	145 "	719 "
Summit of Sugar Loaf.....	284 "	858 "
Principal Plateau of Mack- inac Island.....	160 "	734 "
Upper Plateau.....	300 "	874 "
La Cloche Mountain, north side Lake Huron, C. W. }	1,200 "	1,774 "

The whole Island of Mackinac is deeply interesting to the scientific explorer, as well as to the seeker of health and pleasure. The following extract, illustrated by an engraving, is copied from "FOSTER and WHITNEY'S *Geological Report*" of that region:

"As particular examples of denuding action on the island, we would mention the 'Arched Rock' and the 'Sugar Loaf.' The former, situated on the eastern shore, is a feature of great interest. The cliffs here attain a height of nearly one hundred feet, while at the base are strewn numerous fragments which have fallen from above. The *Arched Rock* has been excavated in a projecting angle of the limestone cliff, and the top of the span is about ninety feet above the lake-level, surmounted by about ten feet of rock. At the base of a projecting angle, which rises up like a buttress, there is a small opening, through which an explorer may pass to the main arch, where, after clambering over the steep slope of debris and the projecting edges of the strata, he reaches the brow of the cliff.

"The beds forming the summit of the arch are cut off from direct connection with the main rock by a narrow gorge of no great depth. The portion supporting the arch on the north side, and the curve of the arch itself, are comparatively fragile, and cannot, for a long period, resist the action of rains and frosts, which, in this latitude, and on a rock thus constituted, produce great ravages every season. The arch, which on one side now connects this abutment with the main cliff, will soon be destroyed, as well as the abutment itself, and the whole be precipitated into the lake.

"It is evident that the denuding action reducing such an opening, with other attendant phenomena, could only have operated while near the level of a large body of water like the great lake itself; and we find a striking similarity between

the denuding action of the water here in time past, and the same action as now manifested in the range of the *Pictured Rocks* on the shores of Lake Superior. As an interesting point in the scenery of this island, the *Arched Rock* attracts much attention, and in every respect is worthy of examination." (See *Engraving*.)

Other picturesque objects of great interest, besides those enumerated above, occur at every turn on roving about this enchanting island, where the pure, bracing air and clear waters afford a pleasurable sensation, difficult to be described unless visited and enjoyed.

The bathing in the pure waters of the Strait at this place is truly delightful, affording health and vigor to the human frame.

The Island of Mackinac.

ROMANTIC AND PICTURESQUE APPEARANCE OF THE ISLAND AND SURROUNDING COUNTRY—ITS PURITY OF ATMOSPHERE—A MOONLIGHT EXCURSION, &c., &c.

—"From whose rocky turrets battled high,
Prospect immense spread out on all sides round;
Lost now between the welkin and the main,
Now walled with hills that slept above the storm,
Most fits such a place for musing men;
Happiest, sometimes, when musing without aim."
[POLLOCK.]

In this Northern region, Nature has at last fully resumed her green dress. Flowers wild, but still beautiful, bloom and disappear in succession. Birds of various hues have returned to our groves, and welcome us as we trace these shady walks. "In all my wand'rings round this world of care," I have found no place wherein the climate, throughout the summer season, seems to exercise on the human constitution a more beneficial influence than on this Island. In other parts of this country and in Europe, the places of *Resort* are beautiful, indeed; but a certain oppressiveness there at times pervades the

air, that a person even with the best health in the world, feels a lassitude creeping through his frame. Here, we seldom, if ever, experience such a feeling from this cause. For the western breeze even in the hottest days passing over this island, keeps the air cool, and, especially if proper exercise be taken by walking or riding, one feels a bracing up, a certain buoyancy of spirits that is truly astonishing.

Ye inhabitants of warm latitudes, who pant in cities for a breath of cool air, fly to this isle for comfort. Ye invalid, this is the place in which to renovate your shattered constitution. The lovers of beautiful scenery or the curious in nature, and the artist, whose magic pencil delights to trace nature's lineaments, need not sigh for the sunny clime of Italy for subjects on which to feed the taste and imagination.

This island is intersected by fine carriage roads, shaded here and there by a young growth of beech, maple, and other trees. On the highest part of it, about 300 feet, are the ruins of Old Fort Holmes. From this point of elevation, the scenery around is extensive and beautiful. In sight, are some localities connected with "the tales of the times of old," both of the savage and the civilized. Looking westwardly, and at the distance of about four miles across an arm of Lake Huron, is Point St. Ignace, which is the southernmost point of land, of the greater portion of the Upper Peninsula. Immediately south of it are the "Straits of Mackinac," which separating the Northern and Southern Peninsulas from each other, are about four miles wide. On the south shore, may still be seen traces of Old Fort Mackinac, which is well known in history as having been destroyed by Indians, in 1763, at the instigation of Pontiac, an Indian Chief. Turning our gaze southeastwardly, we see the picturesque "Round Island," as it were at our feet. And further on, is "Bois-Blanc Island," stretching away

with its winding shores, far into Lake Huron. Look to the east, and there stands this inland sea, apparently "boundless and deep," and "pure as th' expanse of heaven." Directly north from our place of observation, are the "Islands of St. Martin;" while beyond them in the Bay, are two large rivers—the Pine, and Carp Rivers. And lastly, casting our eyes towards the northwest, we see on the main land the two "Sitting Rabbits;" being two singular looking hills or rocks, and so called by the Indians from some resemblance at a distance to rabbits in a sitting posture. As a whole, this scenery presents, hills, points of land jutting into the lake, and "straits," bays, and islands. Here, the lake contracts itself into narrow channels, or straits, which at times are whitened by numerous sails of commerce; and there, it spreads itself away as far as the eye can reach. And, while contemplating this scene, perhaps a dark column of smoke, like the Genii in the Arabian Tales, may be seen rising slowly out of the bosom of Lake Huron, announcing the approach of the Genii of modern days, the Steamboat! Let us descend to the shore.

It is evening! The sun, with all his glory has disappeared in the west; but the moon sits in turn the arbitress of heaven. And now—

"How sweet the moonlight sleeps upon this bank;
Here will we sit, and let the sounds of music
Creep in our ears; soft stillness and the night,
Becomes the touches of sweet harmony."

Such a moonlight night I once enjoyed. The hum of day-life had gradually subsided, and there was naught to disturb the stillness of the hour, save the occasional laughter of those who lingered out in the open air. In the direction of the moon, and on the Lake before me, there was a broad road of light trembling upon its bosom. A few moments more, two small boats with sails up to catch the gentle breeze, were seen passing and re-passing

this broad road of light. Then the vocal song was raised on the waters, and woman's voice was borne on moonlight beam to the listening ear in the remotest shades. The voices became clearer and stronger as the boats approached nearer; then, again, dying away in the distance, seemed to be merged with the mellow rays of the moon. But let us leave poetry and fancy aside, and come to matters of fact, matters of accommodation, prepared for those who may favor our island with their visits this summer.

There are several large hotels, with attentive hosts, ever ready to contribute towards the comforts of their visitors. Walking, riding, fishing, shooting, and sailing can be here pursued with great benefit to health. We have billiard-rooms and bowling-alleys; in the stores are found Indian curiosities; and, perhaps, the Indians themselves, who resort to this island on business, may be curiosities to those who have never seen them; they are the true "native Americans," the *citizens* of this North American Republic.

ROUND ISLAND is a small body of land lying a short distance southeast of Mackinac, while BOIS BLANC ISLAND is a large body of land lying still farther in the distance, in the Straits of Mackinac.

ST. MARTIN'S BAY, and the waters contiguous, lying north of Mackinac, afford fine fishing grounds, and are much resorted to by visitors fond of aquatic sports. *Great St. Martin's* and *Little St. Martin's Islands* are passed before entering the bay, and present a beautiful appearance.

CARP and PINE rivers are two small streams entering into St. Martin's Bay, affording an abundance of brook trout of a large size. From the head of the above bay to the foot of Lake Superior, is only about 30 miles in a northerly direction, passing through a wilderness section of country, sparsely inhabited by Indians, who have long made this region their favored hunting and fishing grounds.

POINT DE TOUR, 36 miles east from Mackinac, is the site of a light-house and settlement, at the entrance of St. Mary's River, which is here about half a mile in width; this passage is also called the West Channel. At a distance of about two miles above the Point is a new settlement, where have been erected a steam-boat pier, a hotel, and several dwellings.

DRUMMOND ISLAND, a large and important body of land belonging to the United States, is passed on the right, where are to be seen the ruins of an old fort erected by the British. On the left is the main land of Northern Michigan. Ascending St. Mary's River, next is passed ROUND or PIPE ISLAND, and other smaller islands, on the right, presenting a beautiful appearance, most of them belonging to the United States.

ST. JOSEPH ISLAND, 10 miles above Point de Tour, is a large and fertile island belonging to Canada. It is about 20 miles long from east to west, and about 15 miles broad, covered in part with a heavy growth of forest-trees. Here are seen the ruins of an old fort erected by the British, on a point of land commanding the channel of the river.

CARLTONVILLE is a small settlement on the Michigan side of the river, 12 miles above the De Tour. Here is a steam saw-mill and a few dwelling-houses.

LIME ISLAND is a small body of land, belonging to the United States, lying in the main channel of the river, about 12 miles from its mouth. The channel here forms the boundary between the United States and Canada.

MUD LAKE, as it is called, owing to its waters being easily riled, is an expansion of the river, about five miles wide and ten miles long, but not accurately delineated on any of the modern maps, which appear to be very deficient in regard to St. Mary's River and its many islands—presenting at several points most beautiful river scenery. In the St. Mary's River there

are about fifty islands belonging to the United States, besides several attached to Canada.

NEBISH ISLAND, and *Sailor's Encampment*, situated about half way from the Point to the Saut, are passed on the left while sailing through the main channel.

SUGAR ISLAND, a large body of fertile land belonging to the United States, is reached about 30 miles above Point de Tour, situated near the head of St. Joseph Island. On the right is passed the *British or North Channel*, connecting on the east with Georgian Bay. Here are seen two small rocky islands belonging to the British Government, which command both channels of the river.

The *Nebish Rapids* are next passed by the ascending vessel, the stream here running about five knots per hour. The mainland of Canada is reached immediately above the rapids, being clothed with a dense growth of forest-trees of small size. To the north is a dreary wilderness, extending through to Hudson Bay, as yet almost wholly unexplored and unknown, except to the Indian or Canadian hunter.

LAKE GEORGE, twenty miles below the Saut, is another expansion of the river, being about five miles wide and eight miles long. Here the channel is only from eight to ten feet in depth for about one mile, forming a great impediment to navigation.*

CHURCH'S LANDING, on Sugar Island, twelve miles below the Saut, is a steamboat landing; opposite it is **SQUIRREL ISLAND**, belonging to the Canadians. This is a convenient landing, where are situated a store and dwelling. The industrious occupants are noted for the making of *raspberry jam*, which is sold in large quantities, and shipped to Eastern and Southern markets.

Garden River Settlement is an Indian

village ten miles below the Saut, on the Canadian shore. Here are a missionary church and several dwellings, surrounded by grounds poorly cultivated, fishing and hunting being the main employment of the Chippewa Indians who inhabit this section of country. Both sides of the river abound in wild berries of good flavor, which are gathered in large quantities by the Indians, during the summer months.

Extract from a letter dated SAUT STE MARIE, Sept., 1854:

"The scenery of the St. Mary's River seems to grow more attractive every year. There is a delicious freshness in the countless evergreen islands that dot the river in every direction, from the Falls to Lake Huron, and I can imagine of no more tempting retreats from the dusty streets of towns, in summer, than these islands; I believe the time will soon come when neat summer cottages will be scattered along the steamboat route on these charming islands. A summer could be delightfully spent in exploring for new scenery and in fishing and sailing in these waters.

"And Mackinac, what an attractive little piece of *terra firma* is that island—half ancient, half modern! The view from the fort is one of the finest in the world. Perched on the brink of a precipice some two hundred feet above the bay—one takes in at a glance from its walls the harbor, with its numerous boats and the pretty village; and the whole rests on one's vision more like a picture than a reality. Every thing on the island is a curiosity; the roads or streets that wind around the harbor or among the grove-like forests of the island are naturally pebbled and macadamized; the buildings are of every style, from an Indian lodge to a fine English house. The island is covered with charming natural scenery, from the pretty to the grand, and one may spend weeks constantly finding new objects of interest and new scenes of beauty. It is unnecessary to particularize—every visitor will find

* A new channel has been formed, by dredging, which gives a greater depth of water.

them, and enjoy the sight more than any description.

"The steamers all call there, on their way to and from Chicago, and hundreds of small sail vessels, in the fishing trade, have here their head-quarters. Drawn upon the pebbled beach or gliding about the little bay are bark canoes and the far-famed 'Mackinac boats,' without number. These last are the perfection of light sail-boats, and I have often been astonished at seeing them far out in the lake, beating up against winds that were next to gales. Yesterday the harbor was thronged with sail boats and vessels of

every description, among the rest were the only two iron steamers that the United States have upon all the lakes, the 'Michigan' and the 'Surveyor,' formerly called the 'Abert,' employed in the Coast Survey.

"For a wonder, Lake Huron was calm and at rest for its entire length, and the steamer 'Northerner' made a beautiful and quick passage from Mackinac to this place. The weather continues warm and dry, and hundreds are regretting they have so early left the Saut and Mackinac, and we believe you will see crowds of visitors yet.

JAY.



St. Mary's River.

By a careful examination of the Government Charts of the Straits of Mackinac and River Ste. Marie, published in 1857, it

appears that the *Point De Tour Light-House* is situated in 45° 57' N. Lat., being 36 miles to the eastward of Fort Mackinac. The width of the De Tour passage is about one mile, with a depth of water of 100 feet and upwards, although but 50 feet is found off the light, as you run into Lake Huron. *Drummond Island*, attached to the United States, lies on the east, while the main shore of Michigan lies to the west of the entrance. *Pipe Island*, 4 miles, is first passed on ascending the stream, and then *Lime Island*, 6 miles further. *St. Joseph's Island*, with its old fort, attached to Canada, lies 8 miles from

the entrance. *Potagannosing Bay*, dotted with numerous small islands, mostly belonging to the United States, is seen lying to the eastward, communicating with the North Channel. *Mud Lake*, 6 miles

further, is next entered, having an expansion of about 4 miles in width, when *Sailor's Encampment Island* is reached, being 20 miles from Lake Huron. The head of St. Joseph's and part of *Sugar Island* are reached 26 miles northward from the De Tour, where diverges the Canadian or North Channel, running into the Georgian Bay; this channel is followed by the Canadian steamers. The *Nebish Rapids* are next passed, and *Lake George* entered, 6 miles further, being 32 miles from Lake Huron. This lake or expansion of the river is 9 miles in length and 4 miles broad, affording 12 feet of water over the shoals and terminating at *Church's Landing*, lying opposite *Squirrel Island*, attached to Canada. *Garden River Settlement*, 3 miles, is an Indian town on the Canada side. *Little Lake George* is passed and *Point Aux Pins* reached, 3 miles further. From Little

Lake George to the *Saut Ste. Marie*, passing around the head of Sugar Island, is 8 miles further, being 55 miles from Lake Huron. The *Rapids*, or *Ship Canal*, extend for about one mile, overcoming a fall of 20 feet, when a beautiful stretch of the river is next passed and *Waiska Bay* entered, 6 miles above the rapids; making the St. Mary's River 62 miles in length. The channel forming the boundary line between Canada and the United States is followed by the ascending steamer from the lower end of St. Joseph's Island to Lake Superior, while a more direct passage is afforded for vessels of light draught through *Hay Lake*, lying west of Sugar Island and entering Mud Lake. Nothing can be more charming than a trip over these waters, when sailing to or from the Straits of Mackinac, thus having in view rich and varied lake and river scenery, once the exclusive and favored abode of the red man of the forest, now fast passing away before the march of civilization.

Saut Ste. Marie,* capital of Chippewa Co., Mich., is advantageously situated on St. Mary's River, or Strait, 350 miles N.N.W. of Detroit, and 15 miles from the foot of Lake Superior, in N. lat. 46° 31'. The Rapids at this place, giving the name to the settlements on both sides of the river, have a descent of 20 feet within the distance of a mile, and form the natural limit of navigation. The Ship Canal, however, which has recently been constructed on the American side, obviates this difficulty. Steamers of a large class now pass through the locks into Lake Superior,

* Settled in 1668, by the French.

greatly facilitating trade and commerce. The village on the American side is pleasantly situated near the foot of the rapids, and contains a court-house and jail; a Presbyterian, a Methodist, and a Roman Catholic church; 2 hotels, and 15 or 20 stores and storehouses, besides a few manufacturing establishments, and about 1,200 inhabitants. Many of the inhabitants and Indians in the vicinity are engaged in the fur trade and fisheries, the latter being an important and profitable occupation. Summer visitors flock to this place and the Lake Superior country for health and pleasure. The *Chippewa House*, a well kept hotel on the American side, and one on the Canadian side of the river, both afford good accommodations.

FORT BRADY is an old and important United States military post contiguous to this frontier village, where are barracks for a full garrison of troops. It commands the St. Mary's River and the approach to the mouth of the canal.

SAUT STE. MARIE, C. W., is a scattered settlement, where is located a part of the Hudson Bay Company. Here is a steamboat landing, a hotel, and two or three stores, including the Hudson Bay Company's; and it has from 500 to 600 inhabitants. Indians of the Chippewa tribe reside in the vicinity in considerable numbers, they having the exclusive right to take fish in the waters contiguous to the rapids. They also employ themselves in running the rapids in their frail canoes, when desired by citizens or strangers—this being one of the most exhilarating enjoyments for those fond of aquatic sports. (See Engraving.)



SAULT STE. MARIE—FROM AMERICAN SIDE.

APPENDIX.

Father Marquette and his Discovery of the Mississippi River.

[Written for the "*Lake Superior Mining Journal*," by ADRIAN J. EBELL.]

OUR hero, JAMES MARQUETTE, was born of the noble family of Marquette, in the northern part of France, in the year 1637. In the city of Laon, on the meandering, vine-clad, olive-girt little River Oise, where his ancestors had raised and exerted a wide influence for generations before him, he also spent his youthful days till the age of seventeen; he then attached himself to the Society of Jesus, or Jesuits, and with them pursued a course of study preparatory to the priesthood. When invested with orders, having a strong preference for the missionary work, he determined to make the wilds of America the fields for his future labor. So, in the summer of 1666, he sailed for Canada, on the 20th of September, and landed at Quebec, then but a trading-post. He was soon recognized, by his courage and zeal, as a man specially fitted to advance the efforts that had been made among the Algonquins on Lake Superior, but which had been nearly extinguished by the incursions of the warlike Iroquois. Accordingly, Father James Marquette, on the 10th of October of the same year that he landed, embarked again, but now in a bark canoe, conducted by a couple of the Mission Indians, for the "Three Rivers," there to commence the study of the language, and soon after he proceeded to the Ottawa Mission on Lake Superior. At first he was stationed at the Sault Ste.

Marie, but in a few months it was deemed expedient to remove him farther on to the mission at La Pointe.

The bands that lived about the southwestern shores of the lake were annually visited by the Illinois, who came from their broad prairie-homes on the "Great Mississippi," for the purpose of obtaining by barter the trinkets and chattels distributed by the French. The glowing description given by these of the "Great Water," the Mississippi, that flowed south through many nations, and emptied itself, after many moons' journeyings, into the salt sea, awakened in Father Marquette an ardent desire to explore this mysterious river, find whether or no the sea it emptied in was the Western Ocean, and carry to the southern nations the Gospel of peace.

The Hurons at La Pointe were about abandoning their homes, from fear of the Sioux warriors; and our missionary, though loth to remove farther from his cherished desire of going southwest to the Illinois and other Mississippi nations, yet accompanied them back in their canoes to Mackinac, and there rebuilt the old church that had been for a time deserted.

In the summer of 1672, the Comte de Frontenac, Governor of Canada, clearly perceiving the importance of an exploration of the Mississippi River and its outlet, appointed Sieur M. Jolliet, accompa-

nied by Father Marquette, to make the discovery; but on their return, Jolliet's journals and reports were lost by the upsetting of their canoe below the Sault St. Louis, near Montreal, and thus the only remaining account of the expedition was that prepared by Marquette.

In two bark canoes, their entire outfit a stock of corn and dried meat, with five Indian attendants, Jolliet and Marquette, on the 17th of May, 1673, started from the Mission of St. Ignatius, at Michilimackinac, for the exploration of the Mississippi. Coasting along the shore, with every precaution to avoid surprise, they entered and went up Green Bay, and ascended the Fox River for a distance of 260 miles to its source, in a level prairie flat, but a little distance from the springs of the Wisconsin, which flowed into the Great Waters they were in search of. Having carried their canoes over the narrow portage, they continued their voyage down the shallow river, often quite hid from sight by the growth of wild oats, through which they had to open a way for their canoe, as one would through the thicket. As they descended, it grew broader, and dashed about among reeds and sandy shoals. About 30 leagues below its source they found what they took to be an iron mine, and somewhat farther on, about 120 miles below the portage, on the 17th of June, "with," says Marquette, "a joy that I cannot express," they entered the Mississippi River. Down its gentle current they glided, by the unique though varied scenes, with countless herds of buffalo and deer on its shores, and innumerable fish in its waters, until, in some ten days, for the first time since they left the lakes, they perceived some indications of humanity. From the river-side a winding foot-path led off through the prairie; following this, Jolliet and Marquette soon came to an Indian village, in which they were cordially received, and which proved to be of the Illinois, the very people among

whom Father Marquette had so long desired to plant a mission. They strongly urged our adventurers not to proceed farther, for danger would encompass them on every side; but, nothing daunted, again they embarked, and after a journey southward of some 60 miles, they came to the river Onabonbigan, or Ohio, a little after which they discovered what they supposed to be a very rich iron mine.

On they still went, through several nations of hostile Indians, encountering dangers of every kind, until they came among the Akameea or Arkansas Indians, nearly where De Soto had breathed his last, 130 years before. From this tribe they learned they were only ten days' journey from the sea, where were stationed traders who appeared much like themselves, and came and went in great ships. Judging these correctly to be Spaniards, our travellers were in doubt whether it would be best for them to push on to the mouth of the river or not. They had already ascertained for a certainty that the Mississippi emptied, not, as was supposed, on the eastern coast of Virginia, or through California into the Western Ocean, but into the Gulf of Mexico, from which they certainly could not be far; that mouth they knew to be held by the Spaniards, with whom they were on no friendly terms. Should they happen to fall into the hands of these Spaniards, they could anticipate nothing less than to be held as prisoners, since not only were their respective countries at war, but that the results of their explorations might not be carried back to the French, and thus induce encroachments on the territory held in the name of Spain. Thinking it then more prudent to return, that the fruits they had already gathered might not be at once lost by an effort to grasp too much, on the 17th of July they left the village Akameea, and commenced pulling back their canoes up the Mississippi current. They took, on

returning, however, a different course. Having ascended the Illinois River, they crossed over the portage to the Chicago River, and thence down to what was then called Lake Illinois, but which has since changed its name to Lake Michigan. Coasting along the shore, they returned to Green Bay, and there, at the Mission of St. Francis Xavier, Father Marquette, on account of the enfeebled and shattered state of his health, spent the ensuing winter and summer of 1674.

This was in reality the first exploration of the Mississippi River. Ferdinand De Soto, it is true, generally has the credit of having first discovered it as early as 1541; but, in the first place, whatever expeditions he made were for the purpose of gain and plunder, and so a great deal that would have demanded the notice of one with more liberal and unselfish aims, was quite passed over by him; and then the accounts and reports of his travels that still remain are of such an unreliable character, that but little dependence can be placed in them.

In accordance with his promise to the nations on the Mississippi River, Father Marquette embarked, in the month of November, 1674, to take among them another

journey, more exclusively than the first, of a religious character. Though detained on the way by illness, he reached the Illinois nation, on the Mississippi, and commenced a mission in their midst, as he had long desired; but he was obliged, the following spring, on account of his declining health, to commence his return, that he might, if possible, die where some Christian brother could give him an appropriate burial; but in this he was disappointed. His health and strength continued failing rapidly, until, on the 15th of May, 1675, on the shore of Lake Michigan, just within the mouth of a little river that bears his name, he was lifted out of his canoe and placed under a shed of bark and twigs, but to be borne thence to his grave on an eminence overlooking both lake and river. Subsequently, the Kishabon Indians, once of the mission at La Pointe, dug up and unrolled the remains, and dissecting and washing the bones, according to their custom, put them neatly into a box of birch bark, and bore them, with a convoy of thirty canoes, to the house of St. Ignatius, at Michilimackinac, where they were interred with all due ceremonies, to be disturbed again, most likely, not till the last day.

DISCOVERY AND SETTLEMENT OF MACKINAC.

Old Mackinac.

FIRST visited by the *Courriers du Bois* and Jesuit missionaries in 1620.

Permanent settlement in 1671, by Father MARQUETTE, an eminent Jesuit missionary, who, four years previous, in 1667, visited the Sault Ste. Marie, and extended his journey to La Pointe, on one of the Apostle Islands, Lake Superior, where he located an Indian mission. In 1669 he came to Point St. Ignace, in the Straits of Mackinac, and established another Indian mission. Two

years thereafter, he located a mission and trading-station at Old Michilimackinac, or "Pequotenonge" of the Chippewa dialect.

In 1673, Father Marquette, by order of his superiors, left St. Ignace and proceeded to Green Bay, thence up the Fox River, crossing Lake Winnebago, and down the Wisconsin River to the Mississippi, being the first discoverer and explorer of the Upper Mississippi River. He descended the stream to the mouth of the Ohio River, and returned to Lake Michigan by the route of the Illinois River,

being the first white man that ever visited the above region of country.

On the 19th day of May, 1675, Father Marquette, whose life was devoted to the cause of religion and the welfare of the Indians, died on the east shore of Lake Michigan, at the mouth of the present Marquette River. His body was subsequently brought by the Indians, in 1677, to St. Ignace Mission, where his remains were interred, according to his own request when living.

Old Michilimackinac was for many years the metropolis of the Chippewa and Ottawa tribes of Indians, the country being claimed by the French, who traded with the Indians, it being the rendezvous of all the tribes in this part of the country.

The Indians remained on friendly terms with the French until 1760, when the English took possession of the country after the capture of Quebec and capitulation of the French forces in Canada.

In 1761, the English built a palisade fort at Old Michilimackinac, and traded with the Indians, many of whom were very hostile. In May, 1763, the garrison was surprised, and most of them massacred by the Indians. Out of twelve English posts above Montreal, nine were similarly surprised and captured by the combined Indian forces under the celebrated Indian chief PONTIAC. Niagara, Detroit, and Du Quesne, or Pittsburgh, alone narrowly escaped a similar fate. After the above massacre, Old Michilimackinac was abandoned by the English, and the Island of Mackinac selected as a permanent settlement in 1764.

Island of Mackinac.

FIRST visited by the French in 1620, who found it numerously inhabited by Indians of the Chippewa, Huron, and Ottawa tribes, who resided on the Great

Manitoulin Island and the surrounding shores of Lakes Huron, Michigan, and Superior, forming a numerous and warlike people, under different chiefs.

After the massacre at Old Michilimackinac, in 1764, the Island of Mackinac was selected by the English as a military position, and the present fortifications commenced which stand on the brow of the hill overlooking the town, now rendered famous as a healthy place of resort for invalids and others during the summer and autumn months.

The Indian name of this lovely and romantic island was *Me-she-ne-mock-e-nong-gong-e*, or the Island of "Great Giant Fairies or Genii." According to Schoolcraft, the name of the island was translated from another Indian word into the Island of the "Great Turtle."

After the Revolutionary War, in 1793, the island and fortress were surrendered to the American Government by the British, and remained in our possession until 1812, when the garrison was surprised and captured by a British force of regulars and Indians, who landed on the north side of the island, now called the English Landing. In 1814, an American force, under Colonel Croghan, of Sandusky notoriety, undertook to recapture the fort, but were met on the Dousman Farm, near the present dwelling-house, and repulsed with considerable loss, Major Holmes, the second in command, having been killed in the engagement.

Fort St. George, situated on the highest part of the island, was erected by the British, who retained possession of the island until 1815, when it was peaceably surrendered to the Americans, after the Treaty of Ghent was signed, the name of the fort being changed to *Fort Holmes*, in honor of the gallant Major Holmes, who was killed the previous year. Fort Holmes has since been abandoned and allowed to go to ruin.

St. Mary's Falls Ship Canal.

This Canal, which connects the navigation of Lake Superior with the Lower Lakes, is one mile in length, and cost about one million dollars.

It was built in the years 1853, '54, '55, by the Saint Mary's Falls Ship Canal Company, under a contract with commissioners appointed by the authorities of the State of Michigan to secure the building of the canal.

A grant of 750,000 acres of the public land had previously been made by Congress to the State of Michigan, to aid in the construction of this important work.

This grant of 750,000 acres was given to the parties contracting for the building of the canal, provided the work should be completed within two years from the date of the contract.

The work was commenced in the spring of 1853, and completed within the time specified in the contract (*two years!*).

This result was accomplished under many disadvantages, during a very sickly season, and when great difficulty was experienced in obtaining laborers; but the unremitting vigor of those who had the charge of the work secured its completion in the most substantial, permanent, and acceptable manner.

During a great portion of the time there were from 1,200 to 1,600 men employed upon the work, exclusive of the force at the different quarries where the stone was cut and prepared for the locks, beside a large force employed in necessary agencies, getting timber, etc.

The stones for the locks were cut at Anderden, Canada (near Malden), and at Marblehead, near Sandusky, in Ohio. These were sent in vessels to the work, some twenty-five different sailing vessels being employed in this business.

On the completion of the canal in June, 1855, the governor of the State, the State officers, and the Canal Commissioners pro-

ceeded to Saint Ste. Marie for the purpose of inspecting the work. It was accepted, and thereupon, in accordance with the terms of the contract, the State authorities released to the Canal Company and issued patents for the 750,000 acres of land. This was all the remuneration the company received for the work.

The lands were selected during the building of the canal, by agents appointed by the governor of Michigan.

Of the 750,000 acres, 39,000 acres were selected in the iron region of Lake Superior, 147,000 acres in the copper region, and the balance, 564,000 acres, in the Lower Peninsula.

The following figures will give some idea of the magnitude of this work:

Length of canal, 5,548 feet, — 1 mile 304 feet.

Width at top, 115 feet—at water-line, 100 feet—at bottom, 64 feet.

The depth of the canal is 12 feet.

A slope wall on the sides of the canal is 4,000 feet in length.

There are two locks, each 350 feet in length.

Width of locks, 70 feet at top—61½ feet at bottom.

The walls are 25 feet high—10 feet thick at bottom.

Lift of upper lock, 8 feet—lower do., 10 feet; total lockage, 18 feet.

Lower wharf, 180 feet long; 20 feet wide. Upper wharf, 830 feet long; from 16 to 30 feet wide.

There are 3 pairs of folding gates, each 40 feet wide.

Upper gate, 17 feet high—lower gate, 24 feet 6 inches high.

There are also upper and lower caisson gates, used for shutting off the water from the canal.

The amount of lumber, timber, and iron used in the building of the piers and gates is enormous.

There were 103,437 lbs. of wrought iron used in the gates, and 38,000 lbs. cast iron.

About 8,000 feet of oak timber, etc.

The tolls on the canal are collected by the State—are merely nominal—and only intended to defray the necessary expenses of repairs.

THE ST. MARY'S FALLS SHIP CANAL, Michigan, now forms a navigable communication between Lake Superior and Huron, passing through the St. Mary's River for a distance of about 60 miles.

The first Steamer which passed through the locks was the ILLINOIS, 927 tons, commanded by John Wilson, on her trip through to the upper ports on Lake Superior, June 18, 1855. The Illinois was followed by the Steamer Baltimore, 514 tons; Samuel Ward, 434 tons; and the North Star, 1,100 tons, during the month of June of the same year.

OPENING AND CLOSING OF NAVIGATION, from 1855 to 1862, inclusive.

Date.	First Vessel.		Date.	Last Vessel.	
June 18, 1855.....	Illinois,	927 tons.	Nov. 23, 1855.....	Planet,	1,154 tons.
May 4, 1856.....	Manhattan,	820 "	Nov. 23, 1856.....	Gen. Taylor,	463 "
May 9, 1857.....	North Star,	1,100 "	Nov. 30, 1857.....	Mineral Rock,	555 "
April 18, 1858.....	Iron City,	600 "	Nov. 20, 1858.....	Lady Elgin,	1,038 "
May 8, 1859.....	Lady Elgin,	1,088 "	Nov. 23, 1859.....	Forester,	884 "
May 11, 1860.....	Fountain City,	820 "	Nov. 22, 1860.....	Montgomery,	879 "
May 3, 1861.....	Michigan,	642 "	Nov. 23, 1861.....	Gen. Taylor,	462 "
April 27, 1862.....	City of Cleveland,	798 "	Nov. 27, 1862.....	Mineral Rock,	555 "
April 28, 1863.....	Mineral Rock,	556 "	Nov. 20, 1863.....	Meteor,	729 "
May 2, 1864.....	Cleveland,	574 "			

Average season of navigation, 6½ months.

Rate of Toll, 6 cents for every registered ton, for every description of vessel.

Saut Ste. Marie.—This old and much neglected town can boast of beautiful Rapids, the St. Mary's River here having a descent of twenty feet within one mile, a Ship Canal, with two locks, overcoming the fall in the river, some dilapidated wharves, and the grounds on which stand *Fort Brady*, with its wooden barracks and officers' quarters, one well-kept hotel, of modest pretensions, where thousands have been entertained during the past twelve years since the completion of the canal. Yet it has not progressed for that period either in population or any kind of improvement; the streets, stores and dwelling-houses in many cases being neglected and suffered to go to decay. This apathy ought no longer to be suffered to exist, but capitalists should be induced to improve the water-power at this favored point, and build up a town like unto those which

surround the Falls of St. Anthony, in Minnesota. When the *Lake Superior and Mississippi Railroad*, now in progress, is completed, then its available position and water-power will, no doubt, cause it to vie with any other town on the borders of the Great Lakes. Large quantities of white-fish are annually taken below the Falls by Chippewa Indians, residing in the vicinity, mostly on the Canada side. Fish pools, connected by running brooks, could here be easily constructed for the breeding of speckled trout, which delight to gambol in the cold waters of Lake Superior.

On the Canadian side of the river is a small scattered settlement and Hudson Bay Company's post. Clearings extend for only a few miles back of this place; then commences an endless wilderness until Hudson Bay is reached in the north, some three or four hundred miles.

Toronto to Collingwood and Saut Ste. Marie.TORONTO TO COLLINGWOOD (*Railroad Route*), 94 miles.

STEAMBOAT ROUTE, PASSING THROUGH GEORGIAN BAY AND NORTH CHANNEL.

Ports, etc.	Miles.	Ports, etc.	Miles.
COLLINGWOOD.....	0	Drummond's Island, Mich.....	270
Cape Rich.....	30	<i>Bruce Mines, Can.</i>	290
Cabot's Head.....	80	St. Joseph Island.....	296
Lonely Island.....	100	Campement D'Ours Is.....	302
Cape Smythe.....	125	The Narrows.....	305
<i>She-ba-wah-ning</i>	145	Sugar Island, Mich.....	315
Man-i-tou-wah-ning (25 m.)		Nebish Rapids.....	316
<i>Little Current</i> , Great Manitoulin Is. }	170	Lake George.....	320
Clapperton Island.....	190	<i>Church's Landing</i>	326
Barrie Island.....	220	Garden River Set.....	330
Cockburn Island.....	255	SAUT STE. MARIE, Canada.....	340

(Hudson Bay Company's Post.)

STEAMBOAT FARE, \$8.50.

USUAL TIME, 36 hours.

Collingwood, 94 miles north from Toronto, is most advantageously situated near the head of Nottawassaga Bay, an indentation of Georgian Bay. The town, although commenced in 1854, at the time of the completion of the Ontario, Simcoe, and Huron Railroad, now contains (1861) about 2,000 inhabitants, and is rapidly increasing. The surprising growth is mainly owing to its being the northern terminus of the railway which connects the Georgian Bay with Lake Ontario at Toronto. Great numbers of travellers and emigrants are at this point transferred to steamers or propellers, bound for Mackinac, Green Bay, Chicago, and the Great West, as well as to the Saut Ste. Marie and Lake Superior. Here are a long pier, 800 feet in length; a breakwater, and light-house; several large stores and storehouses; four hotels, and two or three churches in the course of erection.

The steamers leaving Collingwood for Mackinac and Chicago, running along the west shore of Lake Michigan, are of a large class, affording good accommodations for travellers. Steamers run every day to

Owen's Sound, 50 miles distant; and weekly to Bruce Mines, the Saut Ste. Marie, and into Lake Superior, affording a delightful steamboat excursion.

Immense quantities of fish are taken in the waters of Nottawassaga Bay, being principally carried to the Toronto market. The whole north shore of the Georgian Bay abounds in white fish, salmon, trout, maskalonge, and other fish of fine quality, affording profitable employment to the Canadians and Indians.

"Some idea of the value and extent of the fishing operations promiscuously pursued in Nottawassaga Bay may be formed from the knowledge that the average daily take exceeds one thousand fish, weighing from forty pounds down to one pound. At this rate, that of the season would not fall short of £40,000. At the mouth of the Nottawassaga River the white fish are netted in perfect shoals throughout the spawning season. Most of the larger kind of trout spawn about the islands upon beds of calcareous rock, over which a shifting drift of sand or gravel passes by the action of the waves,

where the water is shallow; and from being exposed to the sun, the temperature of the lake is warmer at these localities than elsewhere. Thither the fishermen resort, and net the fish, rapid and placid as they are, in fabulous amounts."

GEORGIAN BAY.

The deeply romantic character of this pure and lovely body of water is almost unknown to the American public—lying as it does to the northeast of Lake Huron, being entirely within the confines of Canada. The northeast shore is the most romantic and highly interesting, from the fact of there being innumerable islands and islets along the coast, greatly exceeding in number the "Thousand Islands" of the St. Lawrence.

From Penetanguishene, northeast to She-ba-wa-nah-ning, where commences the picturesque body of water known as the *North Channel*, there is one continued suc-

cession of enchanting scenery. Here the wild fowl, fur-bearing game, and the finny tribe disport in perfect freedom, being as yet far removed from the busy haunts of civilization.

Georgian Bay is nearly as large as Lake Ontario, while the North Channel, connecting with St. Mary's River on the west, may be said to be as large as Long Island Sound, dotted with a large number of lovely islands, while to the south lies the romantic island of the *Great Manitoulin*, and on the north rises *La Cloche Mountain*—altogether forming the most grand and romantic scenery.

ROUTE FROM COLLINGWOOD, C. W., TO THE SAUT STE. MARIE.

THROUGH GEORGIAN BAY AND NORTH CHANNEL.

This is a new and highly interesting steamboat excursion, brought into notice by the completion of the *Ontario, Simcoe, and Huron Railroad*, extending from Toronto to Collingwood, at the southern extremity of Georgian Bay.

NOTTAWASSAGA BAY, the southern termination of Georgian Bay, is a large expanse of water bounded by Cape Rich on the west, and Christian Island on the east, each being distant about 30 miles from Collingwood. At the south end of the bay lies a small group of islands called the *Hen and Chickens*.

CHRISTIAN ISLAND, lying about 25 miles from Penetanguishene, and 25 miles north-

east of Cape Rich, is a large and fertile island, which was early settled by the Jesuits. There are several others passed north of Christian Island, of great beauty, while still farther northwest are encountered innumerable islands and islets, forming labyrinths, and secluded passages and coves as yet almost unknown to the white man, extending westward for upward of one hundred miles.

PENETANGUISHENE, C. W., 50 miles north of Collingwood by steamboat route, situated on a lovely and secure bay, is an old and very important settlement, comprising an Episcopal and Roman Catholic church, two hotels, a custom-house, severa

stores and storehouses, and has about 500 inhabitants. In the immediate vicinity are a naval and military depot and barracks, established by the British government. The natural beauties of the bay and harbor, combined with the picturesque scenery of the shores, make up a picture of rare beauty. Here may be seen the native Indian, the half-breed, and the Canadian *Voyageur*, with the full-blooded Englishman or Scotchman, forming one community. This place, being near the mouth of the River Severn, and contiguous to the numberless islands of Georgian Bay, is no doubt destined to become a favorite resort for the angler and sportsman, as well as for the invalid and seeker of pleasure.

On leaving *Collingwood* for Bruce Mines and the Saut Ste. Marie, the steamer usually runs direct across Georgian Bay to Lonely Island, passing Cabot's Head to the right, and the passage leading into the broad waters of Lake Huron, which is the route pursued by the steamers in the voyage to Mackinac, Green Bay, and Chicago. During the summer months the trip from Collingwood to Mackinac and Chicago affords a delightful excursion.

OWEN'S SOUND, or SYDENHAM, 50 miles west of Collingwood, although off the direct route to the Saut Ste. Marie, is well worthy of a passing notice. Here is a thriving settlement, surrounded by a fertile section of country, and containing about 2,500 inhabitants. A steamer runs daily from Collingwood to this place, which will, no doubt, soon be reached by railroad.

LONELY ISLAND, situated about 100 miles west of Collingwood and 20 miles east of the Great Manitoulin Islands, is a large body of land mostly covered with a dense forest, and uninhabited, except by a few fishermen, who resort here at certain seasons of the year for the purpose of taking fish of different kinds. The steamer usually passes this island on its north

side, steering for *Cape Smyth*, a bold promontory jutting out from the Great Manitoulin, and distant from Lonely Island about 25 miles.

SQUAW ISLAND and PAPOOSE ISLAND are seen on the northeast, while farther inland are the *Fox Islands*, being the commencement on the west of the innumerable islands which abound along the north shore of Georgian Bay.

LA CLOCHE MOUNTAINS, rising about 2,000 feet above the sea, are next seen in the distance, toward the north; these, combined with the wild scenery of the islands and headlands, form a grand panoramic view, enjoyed from the deck of the passing steamer.

SMYTH'S BAY is passed on the west, some eight or ten miles distant. At the head of this bay, on the great Manitoulin Island, are situated a village of Indians, and a Jesuit's mission, called *We-quamekong*. These aborigines are noted for their industry, raising wheat, corn, oats, and potatoes in large quantities. This part of the island is very fertile, and the climate is healthy.

SHE-BA-WA-NAH-NING, signifying, in the Indian dialect, "*Here is a Channel*," is a most charming spot, 40 miles distant from Lonely Island, hemmed in by mountains on the north and a high rocky island on the south. It is situated on the north side of a narrow channel, about half a mile in length, which has a great depth of water. Here are a convenient steamboat landing, a church, a store, and some ten or twelve dwellings, inhabited by Canadians and half-breeds. Indians assemble here often in considerable numbers, to sell their fish and furs, presenting with their canoes and dogs a very grotesque appearance. One resident at this landing usually attracts much attention—a noble dog, of the color of cream. No sooner does the steamer's bell ring, than this animal rushes to the wharf, sometimes assisting to secure the rope that is thrown ashore;

the next move he makes is to board the vessel, as though he were a custom-house officer; but on one occasion, in his eagerness to get into the kitchen, he fell overboard; nothing daunted, he swam to the shore, and then again boarding the vessel, succeeded in his desire to fill his stomach, showing the instinct which prompts many a biped office-seeker.

On leaving She-ba-wa-nah-ning and proceeding westward, a most beautiful bay is passed, studded with islands; and mountains upwards of 1,000 feet in height, presenting a rocky and sterile appearance, form an appropriate background to the view; thence are passed Badgley and Heywood Islands, the latter lying off Heywood Sound, situated on the north side of the Great Manitoulin.

MAN-I-TOU-WAH-NING, 25 miles northwest of She-ba-wa-nah-ning, is handsomely situated at the head of Heywood Sound. It is an Indian settlement, and also a government agency, being the place annually selected to distribute the Indian annuities.

LITTLE CURRENT, 25 miles west of She-ba-wa-nah-ning, is another interesting landing on the north shore of the Great Manitoulin, opposite La Cloche Island. Here the main channel is narrow, with a current usually running at the rate of five or six knots an hour, being much affected by the winds. The steamer stops at this landing for an hour or upward, receiving a supply of wood, it being furnished by an intelligent Indian or half-breed, who resides at this place with his family. Indians are often seen here in considerable numbers. They are reported to be indolent and harmless, too often neglecting the cultivation of the soil for the more uncertain pursuits of fishing and hunting, although a considerably large clearing is to be seen indifferently cultivated.

CLAPPERTON ISLAND and other islands of less magnitude are passed in the *North Channel*, which is a large body of water

about 120 miles long and 25 miles wide. On the north shore is situated a post of the Hudson Bay Company, which may be seen from the deck of the passing steamer.

COCKBURN ISLAND, 85 miles west of Little Current lies directly west of the Great Manitoulin, from which it is separated by a narrow channel. It is a large island, somewhat elevated, but uninhabited, except by Indians.

DRUMMOND ISLAND, 15 miles farther westward, belongs to the United States, being attached to the State of Michigan. This is another large body of land, being low, and as yet mostly uninhabited.

The next Island approached before landing at Bruce Mines is St. JOSEPH ISLAND, being a large and fertile body of land, with some few settlers.

BRUCE MINES VILLAGE, C. W., is situated on the north shore of Lake Huron, or the "North Channel," as it is here called, distant 290 miles from Collingwood, and 50 from the Saut Ste. Marie. Here are a Methodist chapel, a public-house, and a store and storehouse belonging to the Montreal Copper Mining Company, besides extensive buildings used for crushing ore and preparing it for the market; about 75 dwellings and 600 inhabitants. The copper ore, after being crushed by powerful machinery propelled by steam, is put into puddling troughs and washed by water, so as to obtain about 20 per cent. pure copper. In this state it is shipped to the United States and England, bringing about \$80 per ton. It then has to go through an extensive smelting process, in order to obtain the pure metal. The mines are situated in the immediate vicinity of the village, there being ten openings or shafts from which the ore is obtained in its crude state. Horse-power is mostly used to elevate the ore; the whims are above ground, attached to which are ropes and buckets. This mine gives employment to about 300 workmen.

The capital stock of the company amounts to \$600,000.

The *Wellington Mine*, about one mile distant, is also owned by the Montreal Mining Company, but is leased and worked by an English company. This mine, at the present time, is more productive than the Bruce Mines.

The *Lake Superior Journal* gives the following description of the Bruce Mine, from which is produced a copper ore differing from that which is yielded by other mines of that peninsula.

"Ten years ago this mine was opened, and large sums expended for machinery, which proved useless, but it is now under new management, and promises to yield profitably. Twelve shafts have been opened, one of which has been carried down some 330 feet. Some 200 or 300 men are employed, all from the European mines. Some of the ores are very beautiful to the eye, resembling fine gold. After being taken out of the shaft, they are taken upon a rail-track to the crushing-house, where they are passed between large iron rollers, and sifted till only a fine powder remains; from thence to the 'jigger-works,' where they are shaken in water till much of the earthy matter is washed away, after which it is piled in the yard ready for shipment, having more the appearance of mud than of copper. It is now mostly shipped to Swansea, in Wales, for smelting. Two years since,

1,500 tons were shipped to Baltimore and Buffalo to be smelted."

On resuming the voyage after leaving Bruce Mines, the steamer runs along St. Joseph Island through a beautiful sheet of water, in which are embosomed some few islands near the main shore.

CAMPMENT D'OURS is an island passed on the left, lying contiguous to St. Joseph Island. Here are encountered several small rocky islands, forming an intricate channel called the "Narrows." On some of the islands in this group are found copper ore, and beautiful specimens of moss. The forest-trees, however, are of a dwarfish growth, owing, no doubt, to the scantiness of soil on these rocky islands.

About 10 miles west of the "Narrows," the main channel of the St. Mary's River is reached, forming the boundary between the United States and Canada. A rocky island lies on the Canadian side, which is reserved for government purposes, as it commands the main or ship channel.

SUGAR ISLAND is now reached, which belongs to the United States, and the steamers run a further distance of 25 miles, when the landing at the Saut Ste. Marie is reached, there being settlements on both sides of the river. The British boats usually land on the north side, while the American boats make a landing on the south side of the river, near the mouth of the ship canal.

GRAND PLEASURE EXCURSION

FROM CLEVELAND AND DETROIT TO THE HEAD OF LAKE SUPERIOR.

The commodious Lake Superior Line of Steamers will run as advertised during the year 1868. They are officered by men of long experience on the route, who will devote themselves to the comfort and safety of passengers.

No one should fail to visit this new,

growing, and wonderful country. Its immense mineral deposits are attracting the attention of the whole scientific world. Its mountains of almost pure iron, its inexhaustible native copper and silver mines, the new discoveries of silver, lead, and that magnificent and singular

formation the PICTURED ROCKS, form a series of irresistible attractions to the spectator and geologist. The cool and bracing atmosphere suggests recovery of perfect health to the invalid, and the sportsman, with his rod and line, will find abundant recreation in angling for the beautiful speckled trout in the finest fishing streams in the world.

This trip of over 1,000 miles embraces six degrees of latitude and eleven of longitude, and includes in its circuit Lakes Erie, St. Clair, Huron, and Superior, and the beautiful Rivers Detroit, St. Clair, and Ste. Marie. During the months of July and August, GRAND PLEASURE EXCURSIONS will be made around Lake Superior, visiting Isle Royale and the north shore.

Table of Sailing Distances from Cleveland to Superior City.

PORTS, etc.	Miles.	PORTS, etc.	Miles.
Cleveland, Ohio	0	Superior City, Wis	0
DETROIT, Mich.....	115	BAYFIELD.....	89
PORT HURON.....	63—178	LA POINTE.....	3—83
FORT GRATIOT (foot Lake Huron).....	2—180	ONTONAGON, Mich.....	77—160
DE TOUR (St. Mary's River)...	225—405	EAGLE RIVER.....	56—216
SAUT STE. MARIE.....	55—460	EAGLE HARBOR.....	9—225
GRAND ISLAND.....	125—585	COPPER HARBOR.....	16—241
Marquette	45—630	PORTAGE LAKE.....	70—311
PORTAGE LAKE.....	80—710	Marquette	80—391
COPPER HARBOR.....	70—780	GRAND ISLAND.....	45—436
EAGLE HARBOR.....	16—796	SAUT STE. MARIE.....	125—561
EAGLE RIVER.....	9—805	DE TOUR (Lake Huron).....	55—616
ONTONAGON.....	56—861	FORT GRATIOT (St. Clair River).....	225—841
LA POINTE, Wis.....	77—938	PORT HURON.....	2—843
BAYFIELD.....	3—941	DETROIT, Mich.....	63—906
Superior City	80—1021	Cleveland, Ohio	115—1021

TRIP AROUND LAKE SUPERIOR.

On leaving the Ship Canal, at the Saut, the steamer ascends a beautiful stretch of the St. Mary's River for 10 miles before reaching Waiska Bay, being an expansion of the river of about 5 miles. Here the shores assume a bold appearance well worthy the attention of the traveler before launching out on the waters of the broad lake.

IROQUOIS POINT, on the American side, and GROS CAP, on the Canadian side, are

next passed, 15 miles from the Saut Ste. Marie. The latter is a bold promontory, rising 400 or 500 feet above the water.

TONQUAMENON BAY is next entered, and a scene of grandeur is presented to the view; on the southwest or American shore the land rises to a moderate height, while on the northeast or Canada shore the land rises to mountain height, being elevated from 800 to 1,000 feet, running off far in the distance toward the north.

PARISIEN and other islands, attached to Canada, are passed on the right, the bay being about 25 miles long and as many broad; in fact, forming a part of Lake Superior, whose pure waters are in full view as far as the eye can reach.

Lake Superior, by far the largest of the Inland Seas of North America, lying between $46^{\circ} 30'$ and 49° north latitude, and between $84^{\circ} 30'$ and $92^{\circ} 30'$ west longitude, situated at a height of 600 feet above the sea, from which it is distant about 1,500 miles by the course of its outlet and the St. Lawrence River, is 460 miles long from east to west, and 170 miles broad in its widest part, with an average breadth of 85 miles. It is 800 feet in greatest depth, extending 200 feet below the level of the ocean; estimated area, 32,000 square miles. Near two hundred rivers and creeks are said to flow into the lake, the greater part being small streams, and but few navigable, except by canoes, owing to their numerous falls and rapids. It contains several islands, the most important of which are *Ile Royale*, and *The Twelve Apostles*, near its western extremity, and Grand Island, all attached to the United States; Caribou Island, Michipicoten, St. Ignace, Pie, Slate, and other islands attached to Canada.

KEWEENAW POINT is its most remarkable feature, jutting far out into the lake some sixty or seventy miles. On the range of hills running through this point, about 20 miles wide, are found the most valuable *copper mines* in the world. Its good and secure harbors are but few on the south side of the lake, while on the north shore and islands are several perfectly safe harbors, and easy of access. It discharges its surplus waters by the Strait, or River St. Mary, 60 miles long, into Lake Huron, which lies, 27 feet below, most of the descent being at the Saut Ste. Marie, where is a Ship Canal three-fourths of a mile in length, with two locks of 10

feet less each, overcoming a descent of 20 feet.

"The early French Jesuit fathers, who first explored and described this great lake, and published an account of it in Paris, in 1636, describe the form of its shores as similar to that of a bended bow, the northern shore being the arc, and the southern shore the cord, while Keweenaw Point, projecting from the southern shore to near the middle of the lake, is the arrow."

This graphic description is illustrated by a map, prepared by them, which displays the geographical position of its shores with as much fidelity as most of the maps of our day, and proves that those early explorers were perfectly familiar with its outline and shores.

"The coast of Lake Superior is mostly formed of rocks of various kinds, and of different geological groups. With the exception of sandy bars at the mouth of some of the rivers and small streams, the whole coast of the lake is rock-bound; and in some places, but more particularly on the north shore, mountain masses of considerable elevation rear themselves from the water's edge, while mural precipices and beetling crags oppose themselves to the surges of this mighty lake, and threaten the unfortunate mariner, who may be caught in a storm upon a lee-shore, with almost inevitable destruction."

"Father of Lakes! thy waters bend
Beyond the eagle's utmost view,
When, throned in heaven, he sees thee send
Back to the sky its world of blue,

"Boundless and deep, the forests weave
Their twilight shade thy borders o'er,
And threatening cliffs, like giants, heave
Their rugged forms along thy shore."

There are now situated on the American side of Lake Superior twelve light-houses, viz., on Point Iroquois; White Fish Point; Grand Island; Marquette Harbor; Portage Entry; Manitou Island, near Keweenaw Point; Copper Harbor.

Eagle Harbor; Eagle River; Ontonagon, at mouth Ontonagon River; La Pointe, on Madeline Island; and Minnesota Point, mouth of St. Louis River.

A government survey of the Upper Lakes, including the St. Mary's River and Straits of Mackinac, is being made by a corps of Topographical Surveyors, which when published will furnish accurate charts of these Inland Seas.

WHITE FISH POINT, and LIGHT-HOUSE, 40 miles from the Saut, lies on the southwest or American shore, forming a conspicuous landmark, while *Mamans Point* is seen on the northeast or Canada shore.

On passing *White Fish Point*, where may be seen a number of "sand-dunes," or hills, and a light-house 75 feet in height, the broad waters of Lake Superior are reached. The steamers usually pursue a westerly course toward Grand Island or Marquette, passing *Point au Sable*, 50 miles farther. During clear weather, the steep sandy hills on the south shore, ranging from 300 to 500 feet in height, may be seen from the deck of the steamer.

POINT AU SABLE, 50 miles from White Fish Point, is the first object of interest seen on the south shore, on the upward trip, from the deck of the passing steamer, which usually runs within sight of land, affording views of a continued succession of interesting points and bold headlands.

The PICTURED ROCKS, 20 miles further, or about 110 miles from the Saut, are next passed, presenting a magnificent appearance at certain times of the day, when favorably seen under the rays of a brilliant sun; then the effect is heightened by the constantly changing appearance of these almost enchanted rocks. The steamers occasionally run close in shore, when the weather is favorable, affording a fine opportunity to examine these wonders of nature.

Trip to Lake Superior.

Extract from a Letter, dated
 "ST. ILLINOIS, off Pictured Rocks, L. S.,
 "July, 31, 1862.

"At sunrise this morning, we approached the far-famed *Pictured Rocks* of Lake Superior, and were favored with one of the most grand scenes imaginable. The sun rose clear, reflecting its rays in the waters of the lake, presenting a gorgeous appearance. The *Sail Rock*, and other points of interest, were distinctly visible, while the steamer was running for the '*Grand Portail*' of the *voyageurs*, the most remarkable feature of this wonder of nature, varying with every cloud effect as seen from the passing vessel.

"The steamer approached cautiously until she had run her bows under the projecting cliff, then came to a stand-still as quietly as though she was lying at a pier or wharf, giving the numerous passengers a fine opportunity to examine the deep recesses of this immense cavern, the floor being covered with clear, transparent water to the depth of 10 or 20 feet. Inside were visible two lesser openings, where a small boat might pass out into the lake on either side—the *portail* being formed at the termination of a projecting cliff—rising about 200 feet above the lake surface.

"The *Pictured Rocks* are thus briefly described by Foster and Whitney, in their geological report:—"They may be described, in general terms, as a series of sand-stone bluffs, extending along the South shore of Lake Superior, for eight or ten miles, and rising, in most places, vertically from the water, without any beach at the base, to a height varying from 50 to 200 feet."

"Yours, &c., J. D."



THE CHAPEL — PICTURED ROCKS.

The *Pictured Rocks*, of which almost fabulous accounts are given by travellers, are one of the wonders of this "Inland Sea." Here are to be seen the *Cascade Falls* and other objects of great interest. The Amphitheatre, Miners' Castle, Chapel, Grand Portal, and Sail Rock, are points of great picturesque beauty, which require to be seen to be justly appreciated.

Extract from FOSTER and WHITNEY'S Report of the Geology of the Lake Superior Land District:

Pictured Rocks.—"The range of cliffs to which the name of the Pictured Rocks has been given, may be regarded as among the most striking and beautiful features of the scenery of the Northwest, and are well worthy the attention of the artist, the lover of the grand and beautiful, and the observer of geological phenomena.

"Although occasionally visited by travellers, a full and accurate description of this extraordinary locality has not as yet been communicated to the public.*

"The *Pictured Rocks* may be described, in general terms, as a series of sandstone bluffs extending along the shore of Lake Superior for about five miles, and rising, in most places, vertically from the water, without any beach at the base, to a height varying from fifty to nearly two hundred

* Schoolcraft has undertaken to describe this range of cliffs, and illustrate the scenery. The sketches do not appear to have been made on the spot, or finished by one who was acquainted with the scenery, as they bear no resemblance, so far as we observed, to any of the prominent features of the Pictured Rocks.

"It is a matter of surprise that, so far as we know, none of our artists have visited this region, and given to the world representations of scenery so striking, and so different from any which can be found elsewhere. We can hardly conceive of any thing more worthy of the artist's pencil; and if the tide of pleasure-travel should once be turned in this direction, it seems not unreasonable to suppose that a fashionable hotel may yet be built under the shade of the pine groves near the Chapel, and a trip thither become as common as one to Niagara now is."

feet. Were they simply a line of cliffs, they might not, so far as relates to height or extent, be worthy of a rank among great natural curiosities, although such an assemblage of rocky strata, washed by the waves of the great lake, would not, under any circumstances, be destitute of grandeur. To the voyager coasting along their base in his frail canoe they would, at all times, be an object of dread; the recoil of the surf, the rockbound coast, affording for miles no place of refuge; the lowering sky, the rising wind; all these would excite his apprehension, and induce him to ply a vigorous oar until the dreaded wall was passed. But in the Pictured Rocks there are two features which communicate to the scenery a wonderful and almost unique character. These are, first, the curious manner in which the cliffs have been excavated and worn away by the action of the lake, which for centuries has dashed an ocean-like surf against their base; and, second, the equally curious manner in which large portions of the surface have been colored by bands of brilliant hues.

"It is from the latter circumstance that the name by which these cliffs are known to the American traveller is derived; while that applied to them by the French *voyageurs* ('Les Portails'*) is derived from the former, and by far, the most striking peculiarity.

"The term *Pictured Rocks* has been in use for a great length of time, but when it was first applied we have been unable to discover.

"The Indian name applied to these cliffs according to our *voyageurs*, is *Schku archibi-kung*, or 'The end of the rock

* Le Portail is a French term, signifying the principal entrance of a church or a portal, and this name was given to the Pictured Rocks by the *voyageurs*, evidently in allusion to the arched entrances which constitute the most characteristic feature. Le Grand Portail is the great archway, or Grand Portal.

which seems to refer to the fact that, in descending the lake, after having passed them, no more rocks are seen along the shore. Our *voyageurs* had many legends to relate of the pranks of the *Menni-boujou* in these caverns, and in answer to our inquiries seemed disposed to fabricate stories without end of the achievements of this Indian deity.

"We will describe the most interesting points in the series, proceeding from west to east. On leaving Grand Island harbor,* high cliffs are seen to the east, which form the commencement of the series of rocky promontories, which rise vertically from the water to the height of from one hundred to one hundred and twenty-five feet, covered with a dense canopy of foliage. Occasionally a small cascade may be seen falling from the verge to the base in an unbroken curve, or gliding down the inclined face of the cliff in a sheet of white foam. The rocks at this point begin to assume fantastic shapes; but it is not until having reached Miners' River that their striking peculiarities are observed.

* The traveller desirous of visiting this scene should take advantage of one of the steamers or propellers which navigate the lake and land at Grand Island, from which he can proceed to make the tour of the interesting points in a small boat. The large vessels on the lake do not approach sufficiently near the cliffs to allow the traveller to gather more than a general idea of their position and outlines. To be able to appreciate and understand their extraordinary character, it is indispensable to coast along in close proximity to the cliffs and pass beneath the Grand Portal, which is only accessible from the lake, and to land and enter within the precincts of the Chapel. At Grand Island, boats, men, and provisions may be procured. The traveller should lay in a good supply, if it is intended to be absent long enough to make a thorough examination of the whole series. In fact, an old voyager will not readily trust himself to the mercy of the winds and waves of the lake without them, as he may not unfrequently, however auspicious the weather when starting, find himself weather-bound for days together. It is possible, however, in one day, to start from Grand Island, see the most interesting points, and return. The distance from William's to the Chapel—the farthest point of interest—is about fifteen miles.

Here the coast makes an abrupt turn to the eastward, and just at the point where the rocks break off and the friendly sand-beach begins, is seen one of the grandest works of nature in her rock-built architecture. We gave it the name of 'Miners' Castle,' from its singular resemblance to the turreted entrance and arched portal of some old castle—for instance, that of Dumbarton. The height of the advancing mass, in which the form of the Gothic gateway may be recognized, is about seventy feet, while that of the main wall forming the background is about one hundred and forty. The appearance of the openings at the base changes rapidly with each change in the position of the spectator. On taking a position a little farther to the right of that occupied by the sketcher, the central opening appears more distinctly flanked on either side by two lateral passages, making the resemblance to an artificial work still more striking.

"A little farther east, Miners' River enters the lake close under the brow of the cliff, which here sinks down and gives place to a sand-bank nearly a third of a mile in extent. The river is so narrow that it requires no little skill on the part of the voyager to enter its mouth when a heavy sea is rolling in from the north. On the right bank, a sandy drift plain, covered with Norway and Banksian pine, spreads out, affording good camping-ground—the only place of refuge to the voyager until he reaches Chapel River, five miles distant, if we except a small sand-beach about midway between the two points, where, in case of necessity, a boat may be beached.

"Beyond the sand-beach at Miners' River the cliffs attain an altitude of one hundred and seventy-three feet, and maintain a nearly uniform height for a considerable distance. Here one of those cascades of which we have before spoken is seen foaming down the rock.

"The cliffs do not form straight lines, but rather arcs of circles, the space between the projecting points having been worn out in symmetrical curves, some of which are of large dimensions. To one of the grandest and most regularly formed we gave the name of 'The Amphitheatre.' Looking to the west, another projecting point—its base worn into cave-like forms—and a portion of the concave surface of the intervening space are seen.

"It is in this portion of the series that the phenomena of colors are most beautifully and conspicuously displayed. These cannot be illustrated by a mere crayon sketch, but would require, to reproduce the natural effect, an elaborate drawing on a large scale, in which the various combinations of color should be carefully represented. These colors do not by any means cover the whole surface of the cliff even where they are most conspicuously displayed, but are confined to certain portions of the cliffs in the vicinity of the Amphitheatre; the great mass of the surface presenting the natural light-yellow or raw sienna color of the rock. The colors are also limited in their vertical range, rarely extending more than thirty or forty feet above the water, or a quarter or a third of the vertical height of the cliff. The prevailing tints consist of deep-brown, yellow, and gray—burnt sienna and French gray predominating.

"There are also bright blues and greens, though less frequent. All of the tints are fresh, brilliant, and distinct, and harmonize admirably with one another, which, taken in connection with the grandeur of the arched and caverned surfaces on which they are laid, and the deep and pure green of the water which heaves and swells at the base, and the rich foliage which waves above, produce an effect truly wonderful.

"They are not scattered indiscriminately over the surface of the rock, but are arranged in vertical and parallel bands,

extending to the water's edge. The mode of their production is undoubtedly as follows: Between the bands or strata of thick-bedded sandstone there are thin seams of shaly materials, which are more or less charged with the metallic oxides, iron largely predominating, with here and there a trace of copper. As the surface-water permeates through the porous strata it comes in contact with these shaly bands, and, oozing out from the exposed edges, trickles down the face of the cliffs, and leaves behind a sediment, colored according to the oxide which is contained in the band in which it originated. It cannot, however, be denied that there are some peculiarities which it is difficult to explain by any hypothesis.

"On first examining the Pictured Rocks, we were forcibly struck with the brilliancy and beauty of the colors, and wondered why some of our predecessors, in their descriptions, had hardly adverted to what we regarded as their most characteristic feature. At a subsequent visit we were surprised to find that the effect of the colors was much less striking than before; they seemed faded out, leaving only traces of their former brilliancy, so that the traveller might regard this as an unimportant feature in the scenery. It is difficult to account for this change, but it may be due to the dryness or humidity of the season. If the colors are produced by the percolation of the water through the strata, taking up and depositing the colored sediments, as before suggested, it is evident that a long period of drought would cut off the supply of moisture, and the colors, being no longer renewed, would fade, and finally disappear. This explanation seems reasonable, for at the time of our second visit the beds of the streams on the summit of the table-land were dry.

"It is a curious fact, that the colors are so firmly attached to the surface that they are very little affected by rains or

the dashing of the surf, since they were, in numerous instances, observed extending in all their freshness to the very water's edge.

"Proceeding to the eastward of the Amphitheatre, we find the cliffs scooped out into caverns and grotesque openings, of the most striking and beautiful variety of forms. In some places huge blocks of sandstone have become dislodged and accumulated at the base of the cliff, where they are ground up and the fragments borne away by the ceaseless action of the surge.

"To a striking group of detached blocks the name of 'Sail Rock' has been given, from its striking resemblance to the jib and mainsail of a sloop when spread—so much so that when viewed from a distance, with a full glare of light upon it, while the cliff in the rear is left in the shade, the illusion is perfect. The height of the block is about forty feet.

"Masses of rock are frequently dislodged from the cliff, if we may judge from the freshness of the fracture and the appearance of the trees involved in the descent. The rapidity with which this undermining process is carried on, at many points, will be readily appreciated when we consider that the cliffs do not form a single unbroken line of wall; but, on the contrary, they present numerous salient angles to the full force of the waves. A projecting corner is undermined until the superincumbent weight becomes too great, the overhanging mass cracks, and, aided perhaps by the power of frost, gradually becomes loosened and finally topples with a crash into the lake.

"The same general arched and broken line of cliffs borders the coast for a mile to the eastward of Sail Rock, where the most imposing feature in the series is reached. This is the Grand Portal—*Le Grand Portail* of the *voyageurs*. The general disposition of the arched openings which traverse this great quadrilateral

mass may, perhaps, be made intelligible without the aid of a ground-plan. The main body of the structure consists of a vast mass of a rectilinear shape, projecting out into the lake about six hundred feet, and presenting a front of three hundred or four hundred feet, and rising to a height of about two hundred feet. An entrance has been excavated from one side to the other, opening out into large vaulted passages which communicate with the great dome, some three hundred feet from the front of the cliff. The Grand Portal, which opens out on the lake, is of magnificent dimensions, being about one hundred feet in height, and one hundred and sixty-eight feet broad at the water-level. The distance from the verge of the cliff over the arch to the water is one hundred and thirty-three feet, leaving thirty-three feet for the thickness of the rock above the arch itself. The extreme height of the cliff is about fifty feet more, making in all one hundred and eighty-three feet.

"It is impossible, by any arrangement of words, or by any combination of colors, to convey an adequate idea of this wonderful scene. The vast dimensions of the cavern, the vaulted passages, the varied effects of the light, as it streams through the great arch and falls on the different objects, the deep emerald green of the water, the unvarying swell of the lake, keeping up a succession of musical echoes, the reverberations of one's own voice coming back with startling effect, all these must be seen, and heard, and felt, to be fully appreciated.

"Beyond the Grand Portal the cliffs gradually diminish in height, and the general trend of the coast is more to the southeast; hence the rock, being less exposed to the force of the waves, bears fewer marks of their destructive action. The entrance to Chapel River is at the most easterly extremity of a sandy beach which extends for a quarter of a

male, and affords a convenient landing-place, while the drift-terrace, elevated about thirty feet above the lake-level, being an open pine plain, affords excellent camping-ground, and is the most central and convenient spot for the traveller to pitch his tent, while he examines the most interesting localities in the series which occur in this vicinity—to wit, the Grand Portal and the Chapel. (*See Engraving.*)

"The Chapel—*La Chapelle* of the *voyageurs*—if not the grandest, is among the most grotesque of Nature's architecture here displayed. Unlike the excavations before described, which occur at the water's edge, this has been made in the rock, at a height of thirty or forty feet above the lake. The interior consists of a vaulted apartment, which has not inaptly received the name it bears. An arched roof of sandstone, from ten to twenty feet in thickness, rests on four gigantic columns of rock, so as to leave a vaulted apartment of irregular shape, about forty feet in diameter, and about the same in height. The columns consist of finely stratified rock, and have been worn into curious shapes. At the base of one of them an arched cavity or niche has been cut, to which access is had by a flight of steps formed by the projecting strata. The disposition of the whole is such as to resemble very much the pulpit of a church; since there is overhead an arched canopy, and in front an opening out toward the vaulted interior of the chapel, with a flat tabular mass in front, rising to a convenient height for a desk, while on the right is an isolated block, which not inaptly represents an altar; so that if the whole had been adapted expressly for a place of worship, and fashioned by the hand of man, it could hardly have been arranged more appropriately. It is

hardly possible to describe the singular and unique effect of this extraordinary structure; it is truly a temple of nature—'a house not made with hands.'

"On the west side, and in close proximity, Chapel River enters the lake, precipitating itself over a rocky ledge ten or fifteen feet in height.*

"It is surprising to see how little the action of the stream has worn away the rocks which form its bed. There appears to have been hardly any recession of the cascade, and the rocky bed has been excavated only a foot or two since the stream assumed its present direction.

"It seems therefore impossible that the river could have had any influence in excavating the Chapel itself, but its excavation must be referred to a period when the waters of the lake stood at a higher level.

"Near the Grand Portal the cliffs are covered, in places, with an efflorescence of sulphate of lime, in delicate crystallizations; this substance not only incrusts the walls, but is found deposited on the moss which lines them, forming singular and interesting specimens, which however cannot be transported without losing their beauty.

"At the same place we found numerous traces of organic life in the form of obscure fucoidal markings, which seem to be the impressions of plants, similar to those described by Prof. Hall as occurring in the Potsdam sandstone of New York. These were first noticed at this place by Dr. Locke, in 1847."

* "At this fall, according to immemorial usage among the *voyageurs* in ascending the lake, the *mangeurs de lard*, who make their first trip, receive baptism; which consists in giving them a severe ducking—a ceremony somewhat similar to that practised on green-horns when crossing the line.

Lake Superior Region.

The following verses were written by J. G. WHITTIER, on receiving an *eagle's quill*, when on a visit to Lake Superior in 1846.

THE SEER.

I hear the far-off voyager's horn,
I see the Yankee's trail—
His foot on every mountain pass,
On every stream his sail.

He's whistling round St. Mary's Falls,
Upon his loaded train;
He's leaving on the Pictured Rocks
His fresh tobacco stain.

I see the mattock in the mine,
The axe-stroke in the dell,
The clamor from the Indian lodge,
The Jesuit's chapel bell!

I see the swarthy trappers come
From Mississippi's Springs;
And war-chiefs with their painted brows,
And crests of eagle wings.

Behind the scared squaw's birch canoe,
The steamer smokes and raves;
And city lots are staked for sale
Above old Indian graves.

By forest, lake and water-fall,
I see the peddler's show;
The mighty mingling with the mean,
The lofty with the low.

I hear the tread of pioneers
Of nations yet to be;
The first low wash of waves where soon
Shall roll a human sea.

The rudiments of empire here
Are plastic yet and warm;
The chaos of a mighty world
Is rounding into form!

Each rude and jostling fragment soon
Its fitting place shall find—
The raw materials of a state,
Its muscle and its mind!

And, westering still, the star which leads
The new world in its train,
Has tipped with fire the icy spears
Of many a mountain chain.

GRAND ISLAND, 125 miles distant from the Saut, is about 10 miles long and 5 wide, lying close in to the south shore.

This is a wild and romantic island; the cliffs of sandstone, irregular and broken into by the waves, form picturesque caverns, pillars, and arches of immense dimensions. There are several romantic bays and inlets protected from storms, which are frequent on this great lake, where the brook trout of a large size can be caught in quantities. The forests also afford a delightful retreat, while all nature seems hushed—save by the moaning winds and billowy surges of the surrounding waters.

A few families reside on the south shore, facing the mainland, where is a clearing of considerable extent. The main-shore in full sight, and the Pictured Rocks, visible from its eastern shore, altogether add a charm to this truly Grand Island, unsurpassed by no other spot in this interesting region.

MUNISING, formerly called Grand Island City, lies on the south side of Grand Island Bay, here about 3 miles in width. Here is a steamboat wharf and hotel, together with a few dwellings, being, no doubt, destined to become a favorite place of resort, as from this place the Pictured Rocks can be easily reached by canoes or small boats during calm weather. Trout fishing is also good in Ann's River, which enters Grand Island Bay, and in Miner's River, near the Pictured Rocks.

The bay or harbor is capacious, deep, and easy of access from the east or west, being 6 miles in length by from 2 to 4 in width, with a depth of water of 100 feet and upwards. It is perfectly land-locked by hills rising from 100 to 300 feet high, and capacious enough to contain the entire fleet of the lakes.

The *Schoolcraft Iron Works*, near Munising, have recently been erected close to the water's edge, for the manufacture of pig iron, where is a landing for toamers.

MINER'S POINT, a most remarkable headland, lies 6 miles east of Munising, at the mouth of a small stream of the same name.

The action of the waters has here disintegrated portions of the sand-stone formation, forming romantic caverns and grottoes where the waters of the lake penetrate, making strange music in the subterranean passages.

MONUMENT ROCK, about one mile west of Miner's Point, is another strange freak of nature, being an upright column standing in full view, near the water's edge, elevated some 80 or 100 feet above the lake. (*See Engraving.*) All these points can easily be reached from Munising, or Grand Island, by a sail or row boat.



MONUMENT ROCK.

Remarkable Phenomena on Lake Superior.

The sudden and singular changes of the weather on Lake Superior, in connection with its healthy influence, during the summer and fall months, present one of the phenomena of nature which seems almost unaccountable. The sun frequently rises clear and cloudless, giving indications of continued sunshine, when suddenly the sky becomes overcast with white, fleecy clouds, scudding low and giving out a chilly atmosphere, not unfrequently accompanied with rain,—the clouds as suddenly disappear, and a pleasant afternoon usually follows, with light winds. This influence, causing a fluctuation of several degrees of the thermometer, seems to have an injurious effect on most kinds of fruit and vegetables requiring a warm sun throughout the day in order to arrive at maturity; the country a few miles inland, however, being less subject to these frequent changes.

On the 6th of August, 1860, there occurred a remarkable phenomenon, as witnessed on Grand Island Bay, near the Pictured Rocks—Lake Superior being here about 170 miles wide. During the forenoon of a pleasant summer's day, the water was observed suddenly to fall some three or four feet perpendicularly on the south shore, then rise in about half an hour, as suddenly again to recede and rise several times; exposing the bed of the lake for a considerable distance where

the water was shallow, affording a fine opportunity to collect pebbles of different hues, and precious stones.

At noon the wind blew moderately from the southward, while the thermometer ranged at about 74° Fahr. This apparently calm and pleasant weather was taken advantage of by a party of pleasure to cross the bay in a sail-boat from Munising to Grand Island, 3 miles distant, affording a delightful excursion. On looking eastward at about 4 o'clock, P. M., a dense fog or low cloud was seen rapidly to enter the east channel of the bay, from the northward, rolling on in majestic grandeur, and presenting apparently the smoke caused by the discharge of a park of artillery, obscuring every object in the far distance, while the headlands within one or two miles were distinctly visible. As it approached, the thermometer fell several degrees, and rain followed, attended with lightning and thunder. Soon, however, the wind lulled, or entirely ceased, while the rain poured down in torrents. The mist or fog seemed mostly to ascend as it passed over the high lands on the main land, and assumed the appearance of clouds, while portions remained, in low and wet localities, above the forest-trees,—presenting altogether a most magnificent appearance. The rain-storm and cloud effect, after continuing some two hours, as suddenly ceased, followed by a splendid rainbow,—being the harbinger of a pleasant evening and calm weather for a time.

Mackenzie, who wrote in 1789, relates a very similar phenomenon, which occurred at Grand Portage, on Lake Superior, and for which no obvious cause could be assigned. He says: "The water withdrew, leaving the ground dry which had never before been visible, the fall being equal to four perpendicular feet, and rushing back with great velocity above the common mark. It continued thus rising and falling for several hours, gradually

decreasing until it stopped at its usual height."

To the mariner these sudden storms and fluctuations, accompanied by fog, are attended with much danger, more particularly if near the land, when the sun and all objects in sight suddenly disappear as if in darkest night, the terrific noise of the waves and wind alone being heard. When followed by snow the danger is still more increased, frequently causing the most disastrous shipwrecks. In this high latitude a perfect calm seldom continues but for a short time; the wind will occasionally lull, when fitful gusts disturb the waters, to be followed by a breeze or storm from some quarter of the compass.

On examining the meteorological record kept at Fort Mackinac, about 100 miles distant in a southeast direction from Grand Island, it was found that the thermometer ranged at 78° Fahrenheit at 2 P. M. on the above day; the wind being from the south. At 7 P. M. a heavy rain and thunder storm commenced, which lasted two hours, the same as on Lake Superior, terminating with a gorgeous sunset view, exceeded only by the magnificent aurora, which frequently illuminates the northern heavens in this high latitude, or the beautiful mirage of mid-day, which reflects with remarkable distinctness the invisible landscape, and vessels floating on the bosom of this vast inland sea.

How far the receding of the waters had to do with the above coming storm, must be left to conjecture or further investigation—no doubt, however, it caused a displacement of water at some remote parts of the lake, which was almost immediately felt at other and far distant points. So with the vapory clouds which suddenly rise over Lake Superior; they, no doubt, being caused by cold currents of air from the higher regions or north-west, passing over warmer portions along the south shore, when immediately a mist or fog is created, which ascends in the

form of clouds into the upper regions; not, however, at first very far above the lake level—thus giving out the cold influence above referred to as peculiar to the south shore of the lake when the northwest winds prevail: this cold influence being most probably wafted far to the east and southward, producing, no doubt, an effect on the weather along the Atlantic coast several hundred miles to the southeast. The northwest winds which mostly prevail in the States of New York and Pennsylvania have a modified character, similar to the winds from the same quarter passing over the upper lakes of North America—affording a cool and bracing influence on the human system.

Another remarkable feature in the climate of Lake Superior, is its healthy and invigorating influence on residents and invalids suffering from incipient pulmonary and throat complaints—the sudden changes of hot and cold, or wet weather, seem to brace the constitution, without producing any other injurious effects than rheumatism, when too much exposure is endured.

While the balmy southern clime too often disappoints the invalid, this northern climate, its influence extending westward toward the Rocky Mountains, seems to give strength to the respiratory and digestive organs—thereby often effecting most miraculous and permanent cures,

without the aid of medicine, other than that afforded by nature—pure air and water. The intense colds of winter are here represented as being far more endurable than in more southern latitudes, along the Atlantic coast, where damp northeast storms prevail.

In *Foster and Whitney's Report on the Geology of Lake Superior*, the phenomena of these fluctuations are elaborately discussed; and, for the most part, they are found to be the premonition of an approaching gale. They remark, that the earth may be regarded as surrounded by two oceans—one aerial, the other liquid. By the laws which regulate two fluids thus relatively situated, a local disturbance in the one would produce a corresponding disturbance in the other.

Every rise or fall of one-twentieth of an inch in the mercurial column, would be attended with an elevation or depression in the surface of the water equal to one inch. A sudden change of the atmospheric pressure over a large body of water would cause a perpendicular rise or fall, in the manner of waves, greater than the mere weight itself, which would propagate themselves in a series of undulations from the centre of disturbance. These undulations result from an unusual disturbance of the atmosphere occurring around the margin of the storm, and its effects are perceived before the storm actually breaks.

Rise and Fall of the Waters of Lake Superior.

From a series of careful observations continued through a period of eight years, from 1854 to 1862, by Dr. G. H. Blaker, of Marquette, L. S., it has been found that the annual rise and fall of the surface of Lake Superior ranges between 20 and 28 inches. From the first of May, when the snow begins to melt freely, until the first of

September, the surface of the lake level continues to rise constantly, about six inches a month, until it gains, on an average, two feet by the middle of August;—and by the first of September it begins to fall, and so continues through the winter, until about the middle of April. The permanent rise, however, was found to

have been about *two inches* more than the fall for the first six years, from 1854 to end of 1859, thus making a total rise of some 12 inches in the lake level at the latter period.

During the years 1860 and 1861, the waters of Lake Superior fell about two inches annually, making a fall of four inches since 1859, at which period they were at their *highest point*.

During the winter of 1861-'62, there fell at Marquette only *four* feet and two inches of snow, being about one-quarter the usual amount,—and for the spring months of 1862 there fell only five inches of moisture, being about one-half the usual quantity. These well-authenticated and singular facts, continued to July, 1862, show that the waters of Lake Superior at Marquette are twenty inches lower than they were in 1861—thus showing an unusual depression in the waters of this great inland sea.

When these interesting observations shall have been extended over a longer period and at different stations, they will, no doubt, solve the mystery which has heretofore involved the annual and periodical rise and fall of these great waters in obscurity.

A careful survey of the great lakes by a corps of engineers attached to the Topographical Bureau is now nearly completed, which will give meteorological results and tidal observations of the greatest importance to the mariner, agriculturist, and intelligent traveller.

Marquette, the county seat of Marquette County, and a port of entry is advantageously situated on the south shore of Lake Superior, in N. latitude 46° 32', W. longitude 87° 33', having a mean annual temperature of 41° Fahr. The harbor, formed by the Bay of Marquette, is safe and commodious, being fully protected from all but northeast winds;

when blowing in that direction vessels are obliged to anchor off the shore for safety. The Government is about erecting substantial piers, or breakwaters, for the further protection of the numerous steamers and sailing vessels which frequent the harbor. A light-house, also, is erected to guide the mariner, standing on a point of land immediately north of the anchorage.

The settlement of Marquette was commenced in July, 1849, and incorporated as a village in June, 1859. It now contains a court-house and jail; a public hall; 1 Episcopal, 1 Presbyterian, 1 Baptist, 1 Methodist, and 1 Roman Catholic church; 6 public-houses, the *Northwestern Hotel*, the *Tremont House*, and the *American House* being the most frequented by strangers; 1 bank; 20 or 30 stores and storehouses; 2 printing-offices; besides a large foundery, a rolling-mill and blast-furnace, and machine-shops and factories of different kinds. Population in 1860, 1,665; at present (1867) estimated at 3,000. There are four extensive piers, arranged for the transhipment of iron ore and pig metal, on which the railroad trains deliver and receive freight. Here is the terminus of the *Marquette and Ontonagon Railroad*, finished for about 40 miles, passing along the south shore of Lake Michigammi, and of the *Peninsula Railroad of Michigan*, extending to Escanaba, on Green Bay, 65 miles distant.

This flourishing lake city is closely identified with the extensive Iron mines in the vicinity, being from 12 to 30 miles distant, situated on an elevated ridge, some 700 or 800 feet above the waters of Lake Superior, being known as the *Iron Mountain*. There are now eight mines extensively and profitably worked, being owned by separate companies; the Jackson Iron Company, the Cleveland Iron Company, and the Lake Superior Company having separate docks, from which the ore is shipped to the Eastern markets.

The iron works and blast furnaces in the vicinity of the mines manufacture annually large quantities of pig iron of a superior quantity. The iron business now gives employment to about 200 sail-vessels and a large number of propellers navigating the Upper Lakes.

Marquette—with all its commanding advantages as a commercial and manufacturing town, as well as a favorite resort for invalids, being surrounded by a healthy, invigorating atmosphere—lacks a supply of pure and wholesome water, it now being mostly obtained from reservoirs and wells, of an impure character when compared with the sparkling pure waters of Lake Superior with which it is almost surrounded. The hotel accommodations are also a subject of complaint. Such, however, is the bracing and health-restoring influence of the climate of this region, that invalids are generally benefited on a short sojourn, and laborers in the mines can work the whole year round without discomfort, accomplishing much more work in a given time than in more southern latitudes.

Carp River, on the east, and *Dead River*, on the north, both flow into Lake Superior near Marquette, on each of which are rapids and falls of great beauty, affording good water power. These

streams abound in speckled trout, while the lake in the vicinity of their mouths, at most seasons of the year, is alive with white-fish, and the Mackinac trout of large dimensions, weighing from five to forty pounds. *Chocolat River* also flows into Lake Superior some 3 or 4 miles east of Marquette, but running through a different geological formation from the above streams, rising to the south in a sandy region of country.

HARVEY, three miles east of Marquette, is a new settlement, situated at the mouth of the Chocolat River. Here are located the *Northern Iron Manufacturing Company's* works, giving employment to a number of operatives.

NEGAUNEE, situated on the line of the *Marquette and Ontonagon Railroad*, 13 miles west of Marquette, and in the immediate vicinity of the *IRON MOUNTAIN*, where ends the *Peninsula Railroad*, is a new and flourishing village, containing about 2,000 inhabitants. It contains 2 or 3 churches, a good hotel, several stores and manufacturing establishments. In the immediate vicinity are the Jackson and Cleveland iron mines, also several extensive iron works, giving profitable employment to a great number of mechanics and laborers. Thousands of visitors annually visit these celebrated mines.

IRON MINING COMPANIES.

<i>Name.</i>	<i>President.</i>	<i>Secretary.</i>	<i>Office.</i>
CLEVELAND,	George Worthington,	S. L. Mather,	Cleveland, Ohio.
IRON MOUNTAIN,	George E. Hall,	T. D. Eells,	Cleveland, Ohio.
IRON CLIFFS,	T. B. Brooks, V. P.,	Chas. E. Canda,	New York.
JACKSON,	David Stewart,	D. P. Lloyd,	New York.
LAKE SUPERIOR,	Jos. S. Fay,	S. P. Ely,	Marquette, Mich.
MAGNETIC,	John C. McKenzie,	.....	Marquette, Mich.
MARQUETTE,	John Outhwaite,	S. L. Mather,	Cleveland, Ohio.
NEW ENGLAND,	E. B. Ward,	.....	Detroit, Mich.
NEW YORK,	Samuel J. Tilden,	.....	New York.
PITTSBURGH & L. ANG.,	Jas. Laughlin,	T. D. Eells,	Cleveland, Ohio.
WASHINGTON,	{ Edwin Parsons,	S. P. Ely,	Marquette.
	{ H. B. Tuttle & Son,	<i>Agents,</i>	Cleveland, Ohio.

IRON MANUFACTURING COMPANIES.

Name.	President.	Secretary.	Office.
BANCROFT,	Wm. E. Dodge,	Peter White,	Marquette.
CHAMPION,	L. H. Morgan,	S. P. Ely,	Marquette.
COLLINS,	C. A. Trowbridge,	.....	New York.
GREENWOOD,	Jos. S. Fay,	S. P. Ely,	Marquette.
MICHIGAN,	A. B. Meeker,	A. G. Clark,	Marquette.
MORGAN,	L. H. Morgan,	S. P. Ely,	Marquette.
NORTHERN,	C. T. Harvey,	M. Hopcock,	New York.
PIONEER,	John C. McKenzie,	Henry Baldwin,	New York.
SCHOOLCRAFT,	Peter White,	Henry R. Mather,	Marquette.

SILVER LEAD MINING COMPANIES.

Name.	President.	Secretary.	Office.
HOLYOKE,	H. R. Mather,	S. E. Church,	Marquette.
LAKE SUPERIOR,	A. H. Sibley,	A. S. Kellogg,	New York.
SEDGWICK,	H. R. Mather,	S. E. Church,	Marquette.

MARQUETTE COUNTY.—IRON MINES.

Extract from the Lake Superior Mining Journal, dated Feb. 8, 1868.

Rapid as has been the development of the iron interest of Lake Superior, the year 1867 stands out in its history as unprecedented. A decade has scarcely passed since the first shipment of iron ore from the mines of Marquette County was made, and yet the grand result of the year just closed is a *half million tons*—equal to about one-fourth of the entire product of the United States.

These iron mines are situated on the line of the *Marquette and Ontonagon Railroad*, distant from Lake Superior from 13 to 30 miles. The *Peninsula Railroad of Michigan* connects with the above road, affording additional facilities for transshipment, *via Escanaba*, situated on Green Bay, 65 miles distant from the mines.

The completion of the railroad running from Marquette to Ontonagon, about 120 miles distant, passing Lake Michigammi, will greatly increase the trade of Marquette, and facilitate the transshipment of both copper and iron ore.

SUMMARY OF IRON ORE AND PIG IRON PRODUCED IN 1867.

Iron Ore.	Gross tons.
Cleveland Iron Co.....	75,822
Marquette Iron Co.....	7,827
New York Iron Co.....	47,000
Lake Superior Iron Co.....	120,178
Jackson Iron Co.....	126,391
Pittsburgh & L. A. Iron Co....	46,607
New England Mine.....	9,076
Edwards Mine.....	4,980
Washington Iron Co.....	25,440
Iron Mountain Iron Co.....	5,000
Iron Cliff (estimated).....	1,000
Total Iron Ore.....	469,320
Pig Iron.	
Greenwood Furnace.....	5,539
Morgan Furnace.....	5,050
Michigan Furnace.....	4,151
Collins Furnace.....	4,630
Bancroft Furnace.....	3,051
Pioneer Furnace (2 stacks)....	6,980
Northern Furnace.....	1,730
Total Pig Iron.....	30,911
Total Iron Ore and Pig Iron..	500,231

Comparative Statement of the production of Iron Ore and Pig Iron in Marquette County from 1865 to 1867 inclusive.

YEAR.	Iron Ore.	Pig Iron.	Value.
1855	1,447	....	\$.....
1856	11,597	....	.....
1857	26,184	....	.....
1858	31,035	1,629	249,202
1859	65,679	7,258	575,529
1860	116,998	5,660	736,496
*1861	45,430	7,970	419,401
1862	115,721	8,590	984,977
1863	185,257	9,813	1,416,935
1864	235,123	13,832	1,867,215
†1865	195,266	12,283	1,590,430
1866	296,872	18,437	2,405,960
1867	469,320	30,911	3,475,720

* Beginning of the war.

† Close of the war.

THE SHIPPING

from our port has manifested an activity corresponding to the increase of business. The great iron docks have been crowded to almost their fullest extent. The total number of clearances have been as follows:

Steamboats.....	521	Tonn'ge.
Vessels.....	404	
Total.....	925	442,431
Clearances for 1866.....	765	381,345
Increase.....	160	61,086

The Marquette and Ontonagon, as also the Peninsula Railroad has been taxed to its utmost to furnish transportation for the immense amount of freight pressed upon it. It has moved as many as 3,000 tons in a single day.

The active capital employed in mining and manufacturing has been increased not less than \$1,000,000. The aggregate sum invested in the iron business is now about \$5,000,000.

SUMMARY OF THE TOTAL PRODUCTS AND IMPROVEMENTS OF MARQUETTE COUNTY FOR 1867.

	Tons.	Value.
Iron ore produced...	469,320	\$2,345,600
Pig iron " "	30,911	1,180,120
Lumber " "	9,895,000 ft.	200,000
Lath " "	1,205,000	
Shingles " "	1,400,000	
Agricultural products.	.....		86,958
Blast furnaces erected.	6	680,000
Buildings.....	300	400,000
Total value.....		4,712,678

Marquette to Keweenaw Point.

On leaving Marquette the coast tends northwestward, passing *Presque Isle* and other bold headlands, the coast here presenting a rocky, iron-bound appearance for many miles, with high hills in the distance, being elevated from 800 to 1,000 feet above the waters of the lake.

GRANITE ISLAND, 12 miles north of Marquette, is passed on the right, having on one side two vertical walls of trap, 20 feet high and 12 apart, forming a secure boat harbor. On the mainland opposite is seen *Granite Point*, rising from 120 to 130 feet. Due north from the above island lies *Stanard's Rock*, a most dangerous projection, discovered by Captain Stanard in 1835, while in the employ of the American Fur Company, sailing the schooner, John Jacob Astor. The rock may be seen on the direct route of steamers from Marquette to Manitou Island or Copper Harbor.

The HURON ISLES, lying about 20 miles east of Portage Entry, numbering five or six rocky islands or islets, form a most picturesque group, covered in part with a stunted growth of trees.

HURON BAY and POINT ABBEYE are next passed, and the upward bound steam-

er enters a large expanse of water called L'Ance, or Keweenaw Bay, extending far inland.

L'ANCE is an excellent harbor where is a small settlement situated at the head of Keweenaw Bay. A short distance north are located a Roman Catholic and Methodist mission-house and church, the Catholic being on the west shore of the bay and the Methodist on the east. Both are surrounded by Indian tribes and settlements. This locality, at no distant day, must become an important point, being favorably situated between the iron and copper regions of Lake Superior.

PORTAGE ENTRY, 70 miles above Marquette, is an important port of entry, here being the mouth of the outlet to Portage Lake, where stands a light-house to guide the mariner.

The land here is low and the shore uninteresting, except being lined with variegated sandstone, worked into almost every variety of shape by the action of water.

The *Entry and Lake* is an extensive and beautiful sheet of water, extending to within a mile of the entire breadth of the peninsula of Keweenaw Point, in the county of Houghton. It receives a number of small streams, draining the rich copper region of Lake Superior.

In the immediate vicinity of the lake are found rich deposits of copper, yielding great returns to the miner and capitalist.

Houghton, Mich., the county seat of Houghton County, and a port of entry, is situated on the south side of Portage Lake, 14 miles above Portage Entry, and 10 miles from Lake Superior, lying on the northwest. By means of a river improvement and ship canal, steamers can run through Portage Lake into Lake Superior on both sides of Keweenaw Point, thus forming one of the most capacious and secure harbors in the Upper Lakes, it being land-locked and protected by high hills on both sides. The settlement of

Houghton was commenced in 1854, and incorporated as a village in 1861. It now contains a court-house and jail; 1 Episcopal, 1 Methodist, and 1 Roman Catholic church; 1 bank; 5 public-houses, the *Douglas House* and the *Butterfield House* being the most frequented by visitors; 12 or 15 stores and several extensive warehouses; 2 large stamp mills, using steam power; 2 steam saw-mills; 2 breweries, and several other manufacturing establishments. The population of the town is estimated at 3,000. This new and flourishing place, lying on a side-hill rising 300 or 400 feet, is identified with the copper mines in its immediate vicinity. There are several mines worked to a large extent, besides others of less note which will, no doubt, soon be rendered productive. The mineral range of Keweenaw Point, some 4 to 6 miles in width, extends through all this section of country, being as yet only partially explored. The *Isle Royal, Harren, and Portage*, are the principal mines worked on the south side of the lake.

PORTAGE LAKE is an irregular body of water about 20 miles in length, extending nearly across Keweenaw Point to within 2 miles of Lake Superior. Steamers and sail-vessels drawing 12 feet can pass through Portage Entry, and navigate the lake with safety. This body of water was an old and favorite thoroughfare for the Indians, and the Jesuit Fathers who first discovered and explored this section of country. A canal of two miles in length would render this portage route navigable for steamers and sail-vessels navigating Lake Superior, thereby reducing the distance over 100 miles. During the winter months the atmosphere is very clear and transparent in the vicinity of Houghton, and all through Keweenaw Point; objects can be seen at a great distance of a clear day, while sounds are conveyed distinctly through the atmosphere, presenting a phenomenon per-

Indian to all northern latitudes. This is the season of health and pleasure to the permanent residents.

HANCOCK, Houghton County, Michigan, is situated on the north side of Portage Lake, opposite to the village of Houghton, with which it is connected by a steam ferry. The town was first laid out in 1858, and now contains about 4,000 inhabitants, including the mining population on the north side of the lake; its sudden rise and prosperity being identified with the rich deposit of native copper, in which this section of country abounds. The site of the village is on a side-hill rising from the lake level to a height of about 500 feet, where the opening to the mines is situated. Here is 1 Congregational, 1 Methodist, and 1 Roman Catholic church; 3 public-houses; the *Hancock Mine* and stamping-mill; a number of stores and warehouses; 1 steam saw-mill, 1 barrel factory, 1 foundry and machine-shop, and other manufacturing establishments; also, in the vicinity are 4 extensive steam stamping-mills, worked by the different mining companies. The *Portage Lake Smelting Works* is an incorporated company, turning out annually a large amount of pure merchantable copper. The business of the company consists of fusing and converting the mineral into refined metal for manufacturing purposes.

Portage Lake and Lake Superior Ship Canal Company, incorporated by the Legislature of Michigan in 1864, for the purpose of constructing a ship canal from Portage Lake to Lake Superior, extending across Keweenaw Point and lessening the navigation through Lake Superior about 150 miles. The canal is to be about 3 miles in length, 13 feet deep, and 100 feet in width at the bottom. It has a land grant of 400,000 acres, appropriated by acts of Congress, dated respectively March 3, 1865, and July 3, 1866. The entire distance through Portage Lake and the ship canal is 24 miles. At the west end

terminus there is to be constructed a substantial pier or breakwater and a light-house erected for the safety of vessels making the entrance. It is also hoped that it will afford a supply of pure and wholesome water to the towns on its borders, which is now discolored and rendered impure by the stamp mills at Hancock and Houghton, which are in almost constant operation.

This important work, in connection with the *Lake Superior and Mississippi Railroad*, now in progress of construction, will revolutionize the carrying trade of Minnesota and Northern Iowa and Wisconsin, heretofore finding a market at Chicago, Milwaukee, or St. Louis.

The *Portage Lake and River Improvement Company* was chartered in 1861, for the improvement of Portage River, entering Keweenaw Bay 14 miles below Houghton. An entrance was cut from the bay into the river, 1,400 feet long, 100 feet wide, and 12 feet deep, and a pier built out into the bay on the east side of the channel entrance. The channel of the river was also dredged so as to give a depth of 12 feet into Portage Lake, thus enabling the largest class of lake steamers to land at the wharves in Houghton and Hancock.

On the completion of the Portage and Lake Superior ship canal on the northwest, 3 miles in length, steamers and sail vessels can sail direct through, avoiding the passage around Keweenaw Point.

LAC LA BELLE, lying on the southeast side of Keweenaw Point, near its termination, is a beautiful sheet of water, its outlet flowing into Bête Gris Bay. It is about two and a half miles long and half a mile wide. In the vicinity of the lake are veins of copper ore of a rich quality.

The town of *Mendota* is a new mining settlement, situated on the shore of Lac La Belle, where has been erected smelting works, a warehouse, and dwelling-houses.

In the vicinity are located the Mendota, Pennsylvania, and Delaware copper mining companies. A ship canal, about one mile in length, has been constructed, which enables steamers of the largest class to enter the lake, affording one of the most secure harbors on the south shore of Lake Superior.

It is proposed to construct a railroad, to run from Lake La Belle across Keweenaw Point, in a westerly direction, to the copper mines on Eagle River, a distance of 22 miles. When completed, this road will afford a reliable and safe harbor for the accommodation of the Keweenaw district, that will be accessible in all weathers.

Mount Houghton and *Mount Bohemid* are two prominent eminences, lying a few miles west of Lake La Belle, the former being elevated about 1,000 feet above the lake.

Keweenaw Point* is a large extent of land jutting out into Lake Superior, from 10 to 25 miles wide and about 60 miles in length. This section of country for upward of 100 miles, running from southwest to northeast abounds in silver and copper ores, yielding immense quantities of the latter; much of it being pure native copper, but often in such large masses as to render it almost impossible to be separated for the purpose of transportation. Masses weighing from 1,000 to 5,000 pounds are often sent forward to the Eastern markets. The geological

* "On many maps spelled *Keweenaw*, and otherwise. Pronounced by our Indians, 'Ki-wi-wai-non-ing,' now written and pronounced as above; meaning a portage, or place where a portage is made—the whole distance of some eighty or ninety miles around the Point being saved by entering Portage Lake and following up a small stream, leaving a portage of only about a half mile to Lake Superior on the other side."—*Foster and Whitney's Report*.

formation is very interesting, producing specimens of rare beauty and much value!

MANITOU ISLAND lies off Keweenaw Point, on which is a light-house to guide the mariner to and from Copper Harbor. The island is about 7 miles in length and four wide.

COPPER HARBOR, Mich., is situated near the extreme end of Keweenaw Point, in N. lat. 47° 30', W. long. 88° 00'; the harbor, although somewhat difficult to enter, is one of the best on Lake Superior, being distant 250 miles from the Saut Ste. Marie. The settlement contains about 200 inhabitants, a church, a hotel, and two or three stores. *Fort Wilkins*, formerly an U. S. military post, has been converted into a hotel, being handsomely situated on *Lake Fanny Hoe*, about half a mile distant from the steamboat landing. In the vicinity are copper mines which have been extensively worked, and are well worthy of a visit.

AGATE HARBOR, 10 miles west of Copper Harbor, is the name of a small settlement. This port is not as yet much frequented by steamers.

EAGLE HARBOR, 16 miles west of Copper Harbor, is a good steamboat landing. Here are two churches, a good public-house, together with several stores and storehouses. Population about 700, being mostly engaged in mining. The Central, Copper, Falls, Pennsylvania, and Amygdaloid are the principal working copper mines.

EAGLE RIVER HARBOR and Village, eight miles further, are favorably situated at the mouth of a stream of the same name. Here are two churches, a well-kept hotel, four stores and several storehouses. Population 800. This is a thriving settlement, it being the outport of the celebrated Cliff, or Pittsburgh and Boston, and other mines. The copper found in this vicinity is of the purest quality, where is found silver in small quantities, some of the specimens being highly prized. Of this

harbor the lamented Dr. Houghton was drowned, October, 1845, while engaged in exploring this section of country: Keweenaw Point and adjacent country being very appropriately named Houghton County in honor of his memory.

On the north side of Keweenaw Point bold shores extend to near Ontonagon, with high lands in the distance, forming the rich copper range of this region.

Ontonagon, Ontonagon Co., Mich., 336 miles from the Saut Ste. Marie, is advantageously situated at the mouth of the river of the same name. The river is about 200 feet wide at its mouth, with a sufficient depth of water over the bar for large steamers. The village contains 3 churches; a good hotel, the *Bigelow House*; smelting works; 2 steam tanneries; 1 grist-mill; 2 steam saw-mills, and 10 or 12 stores and storehouses, and 1,200 inhabitants.

In this vicinity are located the Minnesota, the National, the Rockland, and several other very productive copper mines. The ore is found from twelve to fifteen miles from the landing, being imbedded in a range of high hills traversing Keweenaw Point from N. E. to S. W. for about 100 miles. Silver is here found in small quantities, beautifully intermixed with the copper ore, which abounds in great masses.

A good plank road runs from Ontonagon to near the Adventure Mine, and other mines, some twelve or fourteen miles distant, where commences the copper range of hills.

The PORCUPINE MOUNTAIN, lying some 15 or 20 miles west of Ontonagon, is a bold headland that can distinctly be seen at a great distance, rising some 1,300 feet above the lake surface.

LAKE SUPERIOR LIGHT-HOUSES.

1. *Round Island Light*, visible 12 miles; situated near the entrance to St. Mary's River, 6½ miles W. Saut Ste. Marie.

2. *Point Iroquois Light*, visible 10 miles; 24 miles E. White Fish Point.

3. *White Fish Point Light*, visible 13 miles, with Fog Horn.

4. *East Channel Light*, Grand Island, 8 miles W. Pictured Rocks.

5. *Grand Island Light* (north side), visible 18 miles; being 236 feet above the level of the lake; distant 45 miles E. Marquette.

6. *Marquette Light*, visible 10 miles; situated on the north point of Marquette Harbor.

7. *Granite Island Light*, elevated 100 feet; 12 miles N.E. Marquette.

8. *West Huron Island Light*, elevated 125 feet; 25 miles E. Portage entry.

9. *Portage Entry Light*, visible 13 miles; situated on the western shore of Keweenaw Point.

10. *Gull Rock Light*, situated on Keweenaw Point.

11. *Manitou Island Light*, visible 14 miles.

12. *Day Beacon*, on Stannard's Rock, 23 miles S.E. Manitou Island.

13. *Copper Harbor Light*, visible 10 miles, with Fog Horn.

14. *Eagle Harbor Light*, visible 12 miles.

15. *Eagle River Light*, visible 11 miles.

16. *Rock Harbor Light*, visible 14 miles; situated on the N.E. end on Isle Royale.

17. *Ontonagon Light*, visible 14 miles.

18. *La Pointe Light*, visible 14 miles; situated on the Point Chawawagon, opposite the S.W. end of Madeline Island.

19. *Raspberry Island Light*, visible 14 miles; situated on one of the Apostle Islands, 13 miles from Bayfield.

20. *Minnesota Point Light*, visible 12 miles; situated at the mouth of St. Louis River, near Superior City.

LENGTH OF MILES.

An English, or statute mile, is 5,280 feet.

A geographical, or nautical mile is 6,140 feet.

COPPER MINING COMPANIES OF LAKE SUPERIOR.

Compiled from Official Sources—1867.

* Portage District. † Ontonagon District. ‡ Keweenaw District.

NAMES.	Office.	Am't paid in.	NAMES.	Office.	Am't paid in.
Adams *	Boston.	\$70,000	Garden City †	Chicago.	156,000
Adventure †	New York.	100,000	Girard †	Philadel'a.	43,300
Ætna †	Philadel'a.	140,000	Grand Portage *	New York.	50,000
Albany & Boston *	Boston.	615,000	Great Western †	Pittsburgh.	49,000
Algolah †	"	60,000	Hamilton †	New York.	40,000
Allouez, †	"	28,000	Hancock *	Boston.	470,000
American †	Pittsburgh.	20,000	Hanover *	"	30,000
Amygdaloid †	Philadel'a.	460,000	Hartford †	New York.	30,000
Arnold †	Boston.	30,000	Hecla *	Boston.	320,000
Atlas †	"	40,000	Highland †	"	20,000
Aztec †	"	150,000	Hilton †	New York.	50,000
Bay State †	"	345,000	Hope †	"	22,800
Bohemian †	Philadel'a.	343,000	Hulbert	Boston.	15,000
Boston †	Boston.	45,000	Humbolt *	"	100,000
Caledonia †	New York.	140,000	Hungarian	"	20,000
Calumet *	Boston.	300,000	Huron *	"	500,000
Central †	New York.	100,000	Indiana †	New York.	200,000
Concord	Boston.	100,000	Iroquois	Boston.	20,000
Copper Creek	New York.	30,000	Iale Royale *	New York.	840,000
Copper Falls †	Boston.	490,000	Kearsarge *	Boston.	40,000
Copper Harbor †	"	20,000	Keweenaw †	New York.	100,000
Dana †	"	65,000	Knowlton †	"	160,000
Dacotah *	Pittsburgh.	56,500	Lake Superior †	"	40,000
Delaware †	Philadel'a.	350,000	Madison †	Boston.	120,000
Devon	Boston.	20,000	Mandan †	Philadel'a	65,300
Dorchester *	Philadel'a.	30,000	Manhattan †	Boston.	110,000
Douglas *	New York.	130,000	Mass †	Pittsburgh.	98,800
Dover *	"	20,000	Medora *	"	38,400
Dudley *	Boston.	20,000	Mendota †	New York.	147,500
Eagle Harbor †	New York.	80,000	Merrimac	Philadel'a	117,900
Eagle River †	Boston.	85,000	Mesnard *	Boston.	159,000
Edwards Copper *	New York.	32,500	Michigan †	New York.	40,000
Empire †	Philadel'a.	76,000	Milton	"	30,000
Evergreen Bluff †	New York.	110,000	Minnesota †	"	416,000
Everett	Boston.	20,000	National †	Pittsburgh.	110,000
Flint Steel River †	New York.	204,000	Native	Boston.	39,000
Franklin *	Boston.	270,000	Naumkeag *	"	20,000
Frue	New York.	50,000	North Cliffe *	Pittsburgh.	100,000

NAMES.	Office.	Am't paid in.	NAMES.	Office.	Am't paid in.
Northwestern*....	Pittsburgh.	227,300	Saint Louis *.....	Boston.	\$20,000
Norwich †.....	New York.	230,000	Saint Mary's *.....	"	110,000
Ogima †.....	"	140,000	Salem.....	"	10,000
Ossipee *.....	Boston.	70,000	Seneca.....	New York.	40,000
Pennsylvania †...	Philadel'a.	500,000	Sharon †.....	"	2,000
Petherick †.....	Boston.	70,000	Shelden & Columb'n*	"	460,000
Pewabic *.....	"	135,000	South Pewabic *..	Boston.	260,000
Philadel'a & Bos'n †	Philadel'a.	24,300	South Side *.....	"	90,000
Phoenix †.....	Boston.	560,000	Star †.....	"	265,000
Pitta'b & Bos'n †..	Pittsburgh.	110,000	Superior †.....	New York.	210,000
Pontiac *.....	Boston.	104,900	Toitac †.....	Boston.	440,000
Quincy *.....	New York.	200,000	Tremont †.....	"	22,000
Reliance †.....	"	20,000	Victoria †.....	"	85,000
Resolute †.....	Philadel'a.	51,000	Vulcan.....	Philadel'a.	30,000
Ridge †.....	New York.	200,000	Washington.....	Boston.	20,000
Rockland †.....	"	280,000	West Minnesota †..	"	45,000
Rhode Island.....	"	100,000	Winona †.....	Philadel'a.	20,000
Saint Clair.....	Boston.	110,000	Winthrop †.....	Boston.	90,000

* RECAPITULATION:—The whole "amount paid in" is \$15,515,500. This does not include the *original cost* of MINING LOCATION, nor the sums derived from the sale of Copper which have been expended in developing the Mines. The aggregate of *Cash Dividends* is \$5,880,000.

LAKE SUPERIOR:

ITS CLIMATE AND HEALTH-RESTORING INFLUENCE.

[Extract from a letter dated MARQUETTE (MICH.), September 1, 1864.]

"The number of visitors to this health-restoring region during the past summer has been very great, and I wish to record my testimony of its benefit to myself and others. The great mistake, however, is, with most invalids, that they do not come early enough in the season, and remain too short a period to feel the full effects on the system; still the beneficial results are usually felt immediately on arriving in this region.

"The following statement, made by a physician, may be relied on as strictly correct:

"Dr. —, of the city of Philadelphia, was induced to leave home for the benefit of his health, being reduced in physical strength from over-application to his practice, and the heated weather of the past summer producing muscular debility, arterial acceleration of the system, loss of appetite and nervous irritability, causing restless and disturbed sleep and occasional confusion of the mental faculties.

"On the 12th of August, 1863, he started for Cleveland, Ohio, and proceeded directly by steamer to Marquette, Lake Superior, where he arrived on the 16th of

the same month. The voyage was continued to Ontonagon and thence back to Marquette, where he remained until the present date.

"The result of this short voyage and stay on the lakes was truly gratifying, he being greatly invigorated in general health, and now able to endure any amount of fatigue desirable—fishing, hunting, or exploring the mines in this rich mineral region, and at all times finding the atmosphere truly invigorating, producing buoyancy of spirits. In his opinion the atmosphere of Lake Superior and the surrounding shore is well calculated to restore those who are in any way enervated by unhealthy climate or disease; the belief being, in his opinion, that the atmosphere of this northern region possesses an excess of oxygen, together with a peculiar dryness and lightness which admirably adapts it to the purposes of free respiration. The lowness of the temperature, ranging from 40° to 70° Fahrenheit during the summer months, although not tending to provoke colds or coughs, causes a disposition to sleep as easily and quietly as a healthy babe in its cradle.

"Invalids suffering from asthma, bronchial, pulmonary affections, or general debility, are directly relieved and invig-

orated—these beneficial results being acknowledged by all patients who give the wonderful recuperating influence of this climate a fair trial. It is not unusual for invalids to gain half a pound of flesh daily, and in the summer of 1862 an officer from the army of West Tennessee, on furlough on account of sickness, stated that he had gained thirty pounds within as many days, although his strength had not as yet returned, but no doubt he only wanted time to feel the full recuperating effects of the Lake Superior region.

"Although the winters are long, they are considered the most healthy period of the year, the extreme cold not being greater than is sometimes felt in the Northern and Eastern States near the seaboard. There is usually a heavy fall of snow, often continuing daily, at intervals for some weeks, with but little thawing weather. The cases of invalids being relieved, and taking up their permanent residence in this region, is yearly increasing, they being living witnesses of its health-restoring qualities.

"I may add my own individual experience to the above, during the past eight years, having four times visited Lake Superior.

Yours, &c.,
"J. D."

LA POINTE, 77 miles west of Ontonagon, situated on the south end of Madeline Island, the largest of the *Apostle Islands*, is one of the oldest settlements on Lake Superior; it was first peopled by the French Jesuits and traders in 1680, being 420 miles west of the *Saint Ste. Marie*, which was settled about the same time. The mainland and islands in this vicinity have been for many ages the favorite

abode of the American Indian, now lingering and fading away as the country is being opened and settled by the white race.

The village now contains 300 inhabitants, most of whom are half-breeds and French. Here is an old Roman Catholic church, and one Methodist church; 2 hotels, 2 stores, and several coopering establishments for the making of fish-barrels.

The harbor and steamboat landing are on the south end of the island, where may usually be seen fishing-boats and other craft navigating this part of Lake Superior.

Wheat, rye, barley, oats, peas, potatoes and other vegetables, are raised in large quantities. Apples, cherries, gooseberries and currants are raised in the gardens at La Pointe. The wild fruits are plums, cranberries, strawberries, red raspberries, and whortleberries. The principal forest-trees on the islands are maple, pine, hemlock, birch, poplar, and cedar trees.

BAYFIELD, capital of La Pointe Co., Wis., is favorably situated on the southern shore of Lake Superior, 80 miles east of its western terminus, and 3 miles west of La Pointe, being 80 miles west of Ontonagon. The harbor is secure and capacious, being protected by the Apostle Islands, lying to the northeast. The town plot rises from 60 to 80 feet above the waters of the lake, affording a splendid view of the bay, the adjacent islands and headlands. Its commercial advantages are surpassed by no other point on Lake Superior, being on the direct route to St. Paul, Minn., and the Upper Mississippi. Here are situated a Presbyterian, a Methodist, and a Roman Catholic church; 2 hotels, 4 stores, 2 warehouses, 1 steam saw-mill, and several mechanics' shops. Population in 1860, 300.

The *Hudson and Bayfield Railroad*, 164 miles in length, has been surveyed and will most probably be completed within a few years, there being a favorable land grant conceded to the company. This will afford a speedy route to St. Paul and other ports on the Mississippi River.

LA POINTE BAY, on the west side of which is situated the port of Bayfield, is a large and safe body of water, being protected from winds blowing from every point of the compass. The shores of the islands and mainland are bold, while the harbor affords good anchorage for the whole fleet of the lakes.

The Indian Agency for the Chippewa tribe of Indians residing on the borders of Lake Superior, have their headquarters at Bayfield. The annual annuities are usually paid in August of each year, when large numbers flock to the Agency to obtain their pay in money, provisions, and clothing.

ASHLAND, 12 miles south of La Pointe, at the head of Chagwamegon Bay, is another new settlement no doubt destined to rise to some importance, it having a very spacious and secure harbor.

MASKEG RIVER, a considerable stream, the outlet of several small lakes, enters Lake Superior about 15 miles east of Ashland; some 10 miles farther eastward enters MONTREAL RIVER, forming the boundary, in part, between the States of Michigan and Wisconsin.

The TWELVE APOSTLES' ISLES consist of the Madeline, Cap, Line, Sugar, Oak, Otter, Bear, Rock, Cat, Ironwood, Outer, and Presque Isle, besides a few smaller islands, being grouped together a short distance off the mainland, presenting during the summer months a most picturesque and lovely appearance. Here are to be seen clay and sandstone cliffs rising from 100 to 200 feet above the waters, while most of the islands are clothed with a rich foliage of forest-trees.

THE TWELVE APOSTLES' ISLANDS.

The following description of these romantic islands is copied from *Owen's Geological Survey of Wisconsin, &c.*

"When the waters of Lake Superior assumed their present level, these islands were doubtless a part of the promontory, which I have described as occupying the space between Chagwamegon Bay and Brute River. They are composed of drift-hills and red clay, resting on sandstone which is occasionally visible. In the lapse of ages, the winds, waves, and cur-

rents of the lakes cut away channels in these soft materials, and finally separated the lowest parts of the promontory into islands, and island-rocks, now twenty-three in number, which are true outliers of the drift and sandstone.

"At a distance they appear like mainland, with deep bays and points, gradually becoming more elevated to the westward. 'Ile au Chêne,' or *Oak Island*, which is next the Detour (or mainland), is a pile of detached drift, 250 or 300 feet high, and is the highest of the group. *Madeline*, 'Wau-ga-ba-me' Island, is the largest (on which lies La Pointe), being 13 miles long, from northeast to southwest, and has an average of 3 miles in breadth. "Muk-quaw" or *Bear Island*, and "Esh-quagendeg" or *Outer Islands*, are about equal in size, being six miles long and two and a half wide.

"They embrace in all, an area of about 400 square miles, of which one-half is water. The soil is in some places good, but the major part would be difficult to clear and cultivate. The causes to which I have referred, as giving rise to thickets of evergreens along the coast of the lake, operate here on all sides, and have covered almost the whole surface with cedar, birch, aspen, hemlock, and pine. There are, however, patches of sugar-tree land, and natural meadows.

"The waters around the islands afford excellent white fish, trout, and siskowit, which do not appear to diminish after many years of extensive fishing for the lower lake markets. For trout and siskowit, which are caught with a line in deep water, the best ground of the neighborhood is off Bark Point or 'Point Ecorce' of the French. Speckled or brook trout are also taken in all the small streams.

"That portion of the soil of the islands fit for cultivation, produces potatoes and all manner of garden vegetables and roots in great luxuriance. In the flat wet

parts, both the soil and climate are favorable to grass; and the crop is certain and stout. Wheat, oats, and barley do well on good soil when well cultivated.

"In regard to health, no portion of the continent surpasses the Apostle Islands. In the summer months they present to the residents of the South the most cool and delightful resort that can be imagined, and for invalids, especially such as are affected in the lungs or liver, the uniform bracing atmosphere of Lake Superior produces the most surprising and beneficial effects."

Healthy Influence of Lake Superior.

No better evidence can be given of the healthy climate of the Lake Superior region than the following extracts from letters, written by well-known individuals:

"BAYFIELD, July 28th, 1860.

"Dear Sir:—Perhaps it would be interesting to you to state, in a few words, the happy effects that this climate has produced for me.

"Previous to my coming here I consulted with three physicians in Philadelphia, one in the central part of Pennsylvania, one in Washington, D. C., and one in Georgetown, D. C. It was the opinion of all that *consumption* was tightening her grasp upon me, and that soon I would be laid in the grave. Under medical advice I made use of an inhaling apparatus, drank cod-liver oil and whiskey, but all without any beneficial results. Through the advice of friends, and in hopes of saving my life, I came to this place, June 6th, 1857, bringing with me three gallons of cod-liver oil and three gallons of old rye whiskey. This bracing atmosphere seemed to give me immediate relief, and in a short time it seemed as if a heavy load

was removed from my chest. I used the cod-liver oil in feed for young chickens and greasing my boots, and gave the most of the whisky away. I am now (three years after my arrival here) enjoying excellent health. Respectfully yours,

"J. H. N."

BAYFIELD TO SUPERIOR CITY.

On proceeding from Bayfield, westward, the steamer passes round Point de Tour, ten miles north, and soon enters *Fond du Lac*, a noble bay situated at the head of Lake Superior. It may be said to be 60 miles long and 20 miles wide, abounding in good fishing-grounds, as does the neighborhood of the Twelve Apostles.

The Group of Islands known as the "TWELVE APOSTLES," are designated by the following names:—

Line, or Michigan.*	Ironwood.
Madeline.*	Otter.
Sugar, or Basswood.*	Rock.
Cap.*	Two Islands.
Oak.*	Bear. [house].
Outer.	Raspberry* (Light-York.*
Presque Isle.	Little Fishing.*
Manitou.	Eagle.*
Cat.	Steamboat.*
Devil.	

* Sighted in passing La Pointe and Bayfield Channel.

The **City of Superior**, the county seat of Douglas County. It is in N. lat. 46°38'; W. long. 92°03'; mean annual temperature 41° Fahr. It is advantageously situated on the south side of the Bay of Superior, formed by the Minnesota, and Wisconsin Points; between these points is the entry to the harbor through which is discharged the waters of the St. Louis and the Nemadji rivers; the former being the largest tributary of Lake Superior. The United States Government has recently made an appropriation of \$189,000, which, in the opinion of compe-

tent engineers, is sufficient to make the harbor of Superior, what it was by nature designed to be, one of the finest harbors on the continent; it is eight miles in length and three-fourths of a mile in width, affording a sufficient depth of water for the largest class of Lake steamers. Standing at the west end of Lake Superior, 80 miles west of Bayfield, 160 miles north of St. Paul, and 130 miles east of Crow Wing, on the Upper Mississippi; to both the latter places a railroad is being surveyed, and ere long will be completed. The *Northern Pacific Railroad* is also intended to terminate at this place, thus forming through lines of railroad from the navigable waters of the Mississippi and the Red River of the North, and from them to Puget Sound and the Pacific Ocean.

Superior was surveyed and laid out in June, 1854, rapidly increasing in population until the year 1857; since that period it has slowly increased in numbers, there now being about 800 inhabitants. Here is a court-house and jail, four churches, one hotel, ten or fifteen stores and store-houses, five steam saw-mills, one steam planing mill and sash factory, one printing office, one tannery, and several mechanic shops. The fisheries off the Minnesota and Wisconsin Points are extensively and profitably carried on, where are annually taken large quantities of white-fish, Mackinac-trout, and Sigkowitz. Steamers run, through the season of navigation, from May to November, from Cleveland, Detroit, and Chicago, carrying lumber, fish and agricultural products to the lake and river ports below. Stages run tri-weekly from Superior to St. Paul, Minn., connecting with steamers on the Mississippi. In the vicinity of Superior and the river St. Louis are copper mines, and a valuable deposit of slate which is extensively quarried by two or three companies, and shipped to eastern and southern markets.

The boating and carrying business at Superior, and along the North Shore, is mostly performed by Indians and half-breeds, who usually can be hired at from two to three dollars a day; the charges usually corresponding to the standing or appearance of the party requiring their assistance. After an agreement is made they usually want an advance of wages, on one pretext or another, but almost invariably for the purpose of procuring whisky, which, if complied with, generally ends in their getting intoxicated, when a delay of a day or two is necessary to give them time to become sober. Often threats have to be made in order to make them faithful by telling them that the party they are serving is a "mighty great man," and that if they get drunk and deceive him he will never allow them to come back alive.

Du Luth, Minn., the county seat of St. Louis County, is advantageously situated on the north side of Lake Superior, at the base of Minnesota Point, being seven miles from the City of Superior, with which it is connected by a boat ferry. Here is located the United States Land Office for the Northern District of Minnesota, a public-house, two stores, and about 100 inhabitants. It is the point designated in the charter as the terminus of the Lake Superior and Mississippi Railroad. A stone quarry is worked at this place producing building stone of a good quality.

Minnesota Point is a strip of land jutting out into the lake some seven or eight miles, on the end of which is a light-house to guide the mariner into the Bay of Superior.

St. Louis River, forming the head waters of Lake Superior, together with its many tributaries, wind their course among the Syenite hills of the Missaba range and the coast ranges of trap on the north shore of Lake Superior, draining a valley distinct from the above lake. The

tributaries come in from all points of the compass except the southeast, and uniting, form a river at the junction of the Cloquet, the largest tributary of no mean dimensions; with alternating rapids and placid waters, running through alluvial bottom lands, productive in character and picturesque in appearance. No settlements now disturb the quiet stillness, and the observer's attention is disturbed by nothing, save the occasional rapid or the paddle of a transient voyageur. It rises nearly north of its mouth, in Seven-Beaver Lake; its general course being first southwest, then south and southeast, being about 175 miles in length. Its principal tributaries are Upper Embarrass River, Floodwood River, and Big Whiteface River. Three or four miles below the mouth of the Cloquet River, you reach the head of the Grand Rapids. Here huge bowlders are piled up in the channel, and, from geological indications, rest upon the upturned edges of the slate that underlie this whole region. For six miles this character of rapids continues, passing around the east end of a range of hills that appear to bear nearly westerly, then, taking a sweep to the westward, it passes around the west end of an extensive range that extends to the northeast, forming the summit of the trap ranges between the Cloquet River and Lake Superior. This range of hills affords a vast field for the explorer and mineralogist. Five or six miles below the foot of Grand Rapids, the river rushes between perpendicular walls of slate, valuable for roofing, purposes, and after widening to the dimensions of a small lake, below, containing a number of slate islands thickly wooded, for a distance of a couple of miles it contracts again, gathering all its force for its final rush down the Grand Rapids or Falls, to a level with Lake Superior. Here, in a course of eight miles by the stream, the fall amounts to about four hundred feet. At every point you

are in sight or hearing of the never-ceasing roar of rapids, and the thundering of falls and cascades. From Fond du Lac to the City of Superior, 22 miles, the river affords good navigation.

ONEOTA, Minn., is situated on the west side of St. Louis Bay, eight miles above the City of Superior. Here is a steam saw-mill, a planing mill, a public house, a store, and about 200 inhabitants. Steamers of a large class can ascend to this place in safety; the bay being an expansion of the St. Louis River.

Fond du Lac, Minn., situated at the head of navigation on St. Louis River, 20 miles above the City of Superior, is one of the oldest settlements in the vicinity of Lake Superior. The American Fur Company here had its head-quarters, and is now the payment ground of the Chippewa Indians living westward. It now contains about 100 inhabitants and is, no doubt, destined to become a place of considerable importance. Within 10 miles of Fond du Lac are two extensive slate quarries from which quantities of slate of superior quality are being mined and exported. Here are a succession of falls in the river of about 60 feet descent, affording an immense water-power.

NORTH SHORE OF LAKE SUPERIOR.

The natural objects of interest on the North Shore of Lake Superior almost vie with the Pictured Rocks of the South Shore. The *Great Palisades*, between Beaver Bay and Baptism River, are a remarkable formation. "The rock rises from the margin of the lake to the height of over 300 feet, presenting perpendicular columns from sixty to one hundred feet high, and from one to six feet in diameter. It is almost entirely detached from the main land by a ravine, through which Palisade Creek comes from the westward. From the top of this rock a magnificent view was afforded of the Apostle Islands

about 30 miles distant, and the outline of the high ranges south of the lake, from the Porcupine Mountains to Fond du Lac.

"The *Fall, Gorge, and Arch*, on Spirit River, are a combination of the freaks of nature. Here are a succession of falls and rapids; within forty or fifty yards the water falls a distance of 78 feet. At the mouth of the river an arch has been cut through the Amygdaloidal beds, on the left side, through which the river enters the lake, when its mouth becomes blocked up by sand and gravel during the prevalence of storms.

"The Falls, Gorge, and Potholes of Kawimbash or Temperance River. So called owing to there being no bar at its entrance, thus affording a good boat harbor. The Upper and Lower Falls, about half a mile distant, are of the most interesting and romantic character. The Lower Fall is composed of two perpendicular pitches, presenting an almost unbroken sheet of water, about 30 feet descent, being about 200 feet from the Lake shore."—*Owen's Geological Report*.

Tourists desirous of visiting the North Shore for fishing or pleasure are advised to procure the services of experienced *voyageurs*, who can be most conveniently procured at the City of Superior at from one and a half to three dollars a day.

The numerous rivers and creeks, falling into Lake Superior along the North Shore, from the City of Superior to Fort William, Canada, for a distance of 160 miles, are generally rapid streams of moderate length. They are mostly pure water, abounding in speckled trout and other kinds of fish. Many of the largest afford good boating facilities, with occasional portages, until you reach the divide which separates the waters flowing into Lake Superior from those which flow into the Mississippi River and the Lake of the Woods. It is said that for hundreds of miles in a northwest direction the streams and lakes afford almost uninter-

rupted canoe navigation—thus facilitating travel through this whole region of country extending to Lake Winnipeg, and Hudson Bay, lying some 500 or 600 miles north of Lake Superior.

TABLE OF ELEVATIONS.

	Feet above the Ocean.
Lake Superior,	600
Summit of Grand Portage,	1,066
Summit of Sandy Lake Portage, ..	1,400
Messabi Range, head St. Louis River,	1,750
Summit, 18 miles south of Superior City,	1,272
Trap Range, 9 miles above the Falls of St. Croix River,	1,076
Mississippi River, above Falls of St. Anthony,	778
Ditto, mouth of Crow Wing,	1,130
Ditto, ditto Sandy Lake,	1,253
Ditto, Pokegama Falls,	1,340
Ditto, Cass Lake,	1,400
Itasca Lake,	1,532

CLIFTON, St. Louis Co, Minn., situated 11 miles N. E. of the head of Lake Superior, is a new settlement. In the vicinity are rich copper mines and good farming lands.

BUCHANAN is another new settlement, situated northeast of Clifton, possessing similar advantages.

LITTLE AGATE BAY, 35 miles from Superior, is a beautiful sheet of water where are found large quantities of Agate.

BURLINGTON is a new settlement, situated near Agate Bay.

ENCAMPMENT is the name of a river, island, and village, where is a good harbor, the mouth of the river being protected by the island. On the river, near

its entrance into the lake, are falls affording fine water-power. Cliffs of greenstone are to be seen, rising from 200 to 300 feet above the water's edge, presenting a handsome appearance. To the north of Encampment, along the lake shore, abound porphyry and greenstone. This locality is noted for a great agitation of the magnetic needle; the depth of water in the vicinity is too great for vessels to anchor; the shores being remarkably bold, and in some places rising from 800 to 1,000 feet above the water.

HIAWATHA is another new settlement, situated on the west shore of Lake Superior, where are found copper ore and other valuable minerals, precious stones, etc.

BEAVER BAY, on the N. W. lake shore, at the mouth of Beaver River, affords a good harbor, where is a small settlement.

GRAND PORTAGE, Minn., advantageously situated on a secure bay, near the mouth of Pigeon River, is an old station of the American Fur Company. Here are a Roman Catholic Mission, a block-house, and some 12 or 15 dwellings. Mountains from 800 to 1,000 feet are here seen rising abruptly from the water's edge, presenting a bold and sublime appearance.

PIGEON BAY and RIVER forms the northwest boundary between the United States and Canada, or the Hudson Bay Company's territory. Pigeon River is but a second-class stream, and by its junction with Arrow River continues the boundary through Rainy Lake and River to the Lake of the Woods, where the 49th degree of north latitude is reached. The mouth of Pigeon River is about 48 degrees north latitude, and 89 degrees 30 minutes west from Greenwich.

Along the whole west shore of Lake Superior, from St. Louis River to Pigeon River, are alternations of metamorphosed schists and sandstone, with volcanic grits and other imbedded traps and porphyry, with elevations rising from 800 to 1,200

feet above the lake, often presenting a grand appearance.

ISLE ROYALE, Houghton Co., Mich., being about 45 miles in length from N. E. to S. W., and from 8 to 12 miles in width, is a rich and important island, abounding in copper ore and other minerals, and also precious stones. The principal harbor and only settlement is on *Siskowit Bay*, being on the east shore of the island, about 50 miles distant from Eagle Harbor, on the main shore of Michigan.

The other harbors are—Washington Harbor on the southwest, Todd's Harbor on the west, and Rock Harbor and Chipewewa Harbor on the northeast part of the island. In some places on the west are perpendicular cliffs of green-stone, very bold, rising from the water's edge, while on the eastern shore conglomerate rock or coarse sandstone abounds, with occasional stony beach. On this coast are many islets and rocks of sandstone, rendering navigation somewhat dangerous. Good fishing-grounds abound all around this island, which will, no doubt, before many years, become a favorite summer resort for the invalid and sportsman, as well as the scientific tourist.

SISKOWIT LAKE is a considerable body of water lying near the centre of the island, which apparently has no outlet. Other small lakes and picturesque inlets and bays abound in all parts of the island. Hills, rising from 300 to 400 feet above the waters of the lake, exist in many localities throughout the island, which is indented by bays and inlets.

Northern Shore of Lake Superior.

EXTRACT from *Report on the Geology of the Lake Superior Country*, by FOSTER and WHITNEY:

NORTHERN SHORE.—"Beginning at Pigeon Bay, the boundary between the

United States and the British Possessions (north latitude 48°), we find the eastern portion of the peninsula abounds with bold rocky cliffs, consisting of trap and red granite.

"The Falls of Pigeon River, eighty or ninety feet in height, are occasioned by a trap dyke which cuts through a series of slate rocks highly indurated, and very similar in mineralogical characters to the old graywacke group. Trap dykes and interlaminated masses of traps were observed in the slate near the falls.

"The base of nearly all the ridges and cliffs between Pigeon River and Fort William (situated at the mouth of Kaministiquoi River, the western boundary of Upper Canada) is made up of these slates, and the overlying trap. Some of the low islands exhibit only the gray grits and slates. Welcome Islands, in Thunder Bay, display no traps, although, in the distance, they resemble igneous products, the joints being more obvious than the planes of stratification, thus giving a rude semi-columnar aspect to the cliffs.

"At Prince's Bay, and also along the chain of Islands which lines the coast, including Spar, Victoria, and Pie islands, the slates with the crowning traps are admirably displayed. At the British and North American Company's works the slates are traversed by a heavy vein of calc-spar and amethystine quartz, yielding gray sulphuret and pyritous copper and galena. From the vein where it cuts the overlying trap on the main shore, considerable silver has been extracted.

"At Thunder Cape, the slates form one of the most picturesque headlands on the whole coast of Lake Superior. They are made up of variously colored beds, such as compose the upper group of Mr. Logan, and repose in a nearly horizontal position. These detrital rocks attain a thickness of nearly a thousand feet, and are crowned with a sheet of trappean rocks three hundred feet in thickness.

"At L'Anse à la Bouteille (opposite the Slate Islands, on the north shore of Lake Superior) the slates reappear, with the granite protruding through them, and occupy the coast for fifteen miles; numerous dykes of greenstone, bearing east and west, are seen cutting the rocks vertically. The Slate Islands form a part of this group, and derive their name from their geological structure.

"They are next seen, according to Mr. Logan, for about seven miles on each side of the Old Pick River. Near Otterhead a gneissoidal rock forms the coast, which presents a remarkably regular set of strata in which the constituents of sienite are arranged in thin sheets and in a highly crystalline condition. From this point to the Michipicoten River the slates and granite occupy alternate reaches, along the coast, for the distance of fifty miles. 'With the exception of a few square miles of the upper trap of gargantua, these two rocks appear to hold the coast all the way to the vicinity of Pointe aux Mines, at the extremity of which they separate from the shore, maintaining a nearly straight southeasterly line across the Batchewanung Bay, leaving the trap of Mamainse between them and the lake. Thence they reach the northern part of Goulais Bay, and finally attain the promontory of Gros Cap, where they constitute a moderately bold range of hills, running eastwardly toward Lake Huron.'**

Fisheries of Lake Superior.

Good fishing-grounds occur all along the north shore of Lake Superior, affording a bountiful supply of white-fish, Mackinac trout, and many other species of the finny tribe. On the south shore there are fisheries at White-Fish Point, Grand

Island, near the Pictured Rocks, Keweenaw Point, La Pointe, and Apostles' Islands, and at different stations on Isle Royale, where large quantities are taken and exported; but there are no reliable statistics as to the number of men employed or the number of barrels exported. Between the head of Keweenaw Point and the mouth of the Ontonagon River, considerable quantities of fish are taken, for which there is a ready market at the mining stations. In addition to the white fish and Mackinac trout, the siskowit is occasionally taken. Its favorite resort, however, is the deep water in the vicinity of Isle Royale.

LAKE SUPERIOR TROUT-FISHING IN WINTER.—The Lake Superior *Journal* says:

"Angling through the ice to a depth of thirty fathoms of water is a novel mode of fishing somewhat peculiar to this peculiar region of the world. It is carrying the war into fishdom with a vengeance, and is denounced, no doubt, in the communities on the bottom of these northern lakes as a scaly piece of warfare. The large and splendid salmon-trout of these waters have no peace; in the summer they are enticed into the deceitful meshes of the gill-net, and in the winter, when they hide themselves in the deep caverns of the lakes, with fifty fathoms of water above their heads, and a defence of ice two or three feet in thickness on the top of that, they are tempted to destruction by the fatal hook.

"Large numbers of these trout are caught every winter in this way on Lakes Superior; the Indian, always skilled in the fishing business, knows exactly where to find them and how to kill them. The whites make excursions out on the lake in pleasant weather to enjoy this sport. There is a favorite resort for both fish and fishermen near Gros Cap, at the entrance of Lake Superior, through the rocky gateway between Gros Cap and Point Iroquois, about 18 miles above the Saut, and many

* Canadian Report, 1846-'47.

a large trout, at this point, is pulled up from its warm bed at the bottom of the lake, in winter, and made to bite the cold ice in this upper world. To see one of these fine fish, four or five feet in length, and weighing half as much as a man, floundering on the snow and ice, weltering and freezing to death in its own blood, oftentimes moves the heart of the fisherman to expressions of pity.

"The *modus operandi* in this kind of great trout-fishing is novel in the extreme, and could a stranger to the business overlook at a distance a party engaged in the sport, he would certainly think they were mad, or each one making foot-races against time. A hole is made through the ice, smooth and round, and the fisherman drops down his large hook, baited with a small herring, pork, or other meat, and when he ascertains the right depth, he waits—with fisherman's luck—some time for a bite, which in this case is a pull all together, for the fisherman throws the line over his shoulder, and walks from the hole at the top of his speed till the fish bounds out on the ice. We have known of as many as fifty of these splendid trout caught in this way by a single fisherman in a single day: it is thus a great source of pleasure and a valuable resource of food, especially in Lent, and the most scrupulous anti-pork believers might here 'down pork and up fish' without any offence to conscience."

List of Vessels Lost in the Lake Superior Trade.

Since the discovery of copper in the Upper Peninsula, in 1845, and the commencement of the Lake Superior steamer and vessel trade, many craft engaged in the trade have been lost. Previous to the discovery of copper, there was no other trade but that in furs, and one of the fur-trading vessels was lost—the

John Jacob Astor. We have compiled the following table, which will be found of interest to those connected with the Lake Superior copper trade:—

Name of Vessel lost.	Value.	Value Cargo.	Year.
Schooner Merchant.....	\$4,000	\$2,000	1847
Propeller Goliath.....	18,000	18,000	1847
Steamer Ben Franklin.....	15,000	4,000	1860
Propeller Monticello.....	80,000	10,000	1861
Schooner Siskowit.....	1,000	500	.....
Propeller Independence.....	12,000	18,000	1868
Steamer Albany.....	30,000	2,500	1868
Propeller Peninsula.....	18,000	12,000	1864
Steamer E. K. Collins.....	100,000	1,500	1864
Steamer Baltimore.....	15,000	4,000	1866
Steamer Superior.....	15,000	10,000	1866
Propeller B. L. Webb.....	50,000	15,000	1868
Propeller City of Superior.....	50,000	25,000	1867
Propeller Indiana.....	8,000	2,500	1868

\$366,000 \$126,000

—making a grand total of \$491,000.

Since the above Table was compiled the following losses have occurred in the Lake Superior trade:

Steamer Arctic, wrecked on Lake Superior, June, 1860.

Steamer Gazelle, wrecked on Lake Superior, 1860.

Steamer Elgin, lost on Lake Michigan, September 7, 1860.

Steamer North Star, burnt at Cleveland, February, 1862.

Steamer Sunbeam, lost in a gale on Lake Superior, August 28, 1863.

Pewabic, sank in Lake Huron, August 9, 1865, forty lives lost.

Lac la Belle, sunk in St. Clair River, November, 1866.

Steamer Cleveland, lost in 1866.

Steamer Traveler, lost in 1866.

The loss of life by the accidents given above is, as near as can be ascertained, as follows:—

Schooner Merchant.....	18
Propeller Independence.....	3
Steamer E. K. Collins.....	20
Steamer Superior.....	54
Steamer Lady Elgin.....	350
Steamer Sunbeam.....	35
Propeller Pewabic.....	40

Total520

NAVAL VESSELS ON THE LAKES.

MISSISSIPPI AND LAKE MICHIGAN CANAL.

A REPORT has recently been made in relation to the practicability, cost, and military and commercial advantages of opening a passage for gunboats and armed vessels from the Mississippi to the Lakes, by improving the navigation of the Illinois River, and enlarging the Illinois and Michigan Canal. The following is an extract from the above Report :

"The Great Lakes and the Mississippi River are among the grandest features of the geography of the globe. Their names are at once suggestive of commercial and agricultural wealth and national greatness. No such systems of internal navigation exist elsewhere in the world. The most careful and accurate statements of their present uses for commercial purposes are truly wonderful, while the magnificent future to which enlightened enterprise may lead, tasks the strongest imagination.

"The Mississippi system of navigable waters is variously estimated at from 10,000 to 20,000 miles. Its numerous ramifications penetrate a country of unrivalled fertility, and in many parts abounding in useful metals. On the Lakes, we have a coast of 3,500 miles. Their commerce is estimated at the value of \$400,000,000, 'in articles of prime necessity to the inhabitants of the Eastern States, and to our foreign commerce.' That of the Mississippi, in peaceful times, is supposed to equal this. It is the union of these two mighty systems that we contemplate in the proposed improvement.

"For this purpose no other route exists comparable to the line now proposed, in the economy of cost of the improvement, or in general utility. It is one of nature's highways—one of the lines which she

marks out for the guidance of the great emigrant movements of the race, and by which topography foretells the march of empire. The aboriginal savage travelled it by instinct, and now educated intelligence can find no better place for completing and uniting lines of travel and traffic embracing half a continent."

Estimate for a *Ship and Steamboat Canal* from Lake Michigan to the Illinois River, and the improvement of the Illinois River to the Mississippi River; the canal to be 160 feet wide on the bottom, sides protected with stone walls 10 feet high; the canal and river locks to be 350 feet long and 70 feet wide, with depth of water sufficient to pass steamboats and vessels drawing six feet of water; the canal to be supplied with water from Lake Michigan.

Chicago to Lockport, 99 miles.	
The estimated cost of earth and rock excavation on the summit level from Chicago to Lockport, with walls on both sides 10 feet through the earth, is.....	\$7,092,700
Lockport to LaSalle, 67 miles:	
The estimated cost of canal to Lake Joliet, and short canals at 16 locks, walled on both sides; also six stone dams, 600 feet long, eleven canal and five river locks, each 350 feet long and 70 feet wide—making 188 feet of lockage between Lockport and LaSalle—is	4,081,000
LaSalle to the Mississippi River, 290 miles:	
The cost of seven tree and crib dams, 900 feet long, the cribs to be filled with stone, and stone abutments; also seven stone locks, 850 feet long, and 70 feet wide, with entrances protected, and insuring a depth of water on all bars, to pass the largest class steamboats and vessels drawing six feet, will be.....	1,645,000
Add for bridges, right of way, engineering, contingencies, &c.....	578,000
Total.....	\$13,346,894

The Lakes—Land of the Free.

Columbia's shores are wild and wide,
 Columbia's *Lakes* are grand,
 And rudely planted side by side,
 Her forests meet the eye;
 But narrow must those shores be made,
 And low Columbia's hills,
 And low her ancient forests laid,
 Ere *Freedom* leaves her fields;
 For 'tis the land where, rude and wild,
 She played her gambols when a child.
 And deep and wide her streams that flow
 Impetuous to the tide,
 And thick and green the laurels grow
 On every river side;
 But should a trans-Atlantic host
 Pollute our waters fair,
 We'll meet them on the rocky coast,
 And gather laurels there;
 For O, Columbia's sons are brave,
 And free as ocean's wildest wave.
 The gale that waves her mountain pine
 Is fragrant and serene,
 And never brighter sun did shine
 Than lights her valleys green;
 But putrid must those breezes blow,
 The sun must set in gore,
 Ere footsteps of a foreign foe
 Imprint Columbia's shore;
 For O, her sons are brave and free,
 Their breasts beat high with Liberty.

The Land of Lake and River.

*Composed by Dr. Laycock, of Woodstock,
 C. W.—A CANADIAN SONG.*

The Land of Lake, River, and Forest wide,
 Where Niagara plunges in splendor and pride
 O'er the trembling cliffs her precipitous tide;
 Know ye the land?
 'Tis a glorious land!
 And the land is our own dear home

The land which nor Arts nor Industry graced,
 Where the bountiful seasons ran all to waste,
 Till the Briton the Savage and Sluggard dis-
 placed;

Know ye the land, &c.

The land where the Saxon, the Gaul, and the
 Celt,
 The first glow of patriot brotherhood felt,
 And forgetting old feuds in amity dwelt;

Know ye the land, &c.

The land unpolluted by Despot or Slave,
 Where justice is done on the Dastard and Knave,
 Where honor is paid to the Wise and the Brave;

Know ye the land, &c.

The land where the *Teacher* is honored and
 sought;
 Where the *Schools* are all busy, the children all
 taught;
 Where the *Thinker*, unfettered, can utter his
 thought;

Know ye the land, &c.

The land where the *Farmer* is Lord of the Soil,
 Where the *Totter* himself reaps the fruit of his
 toil,
 Where none has a *Title* his neighbor to spoil;

Know ye the land, &c.

The land where the *Christian* can openly pray,
 As Scripture and Conscience may show him the
 way,
 Fearless of clerical tyrant or lay;

Know ye the land, &c.

The land which, the older and stronger it grew,
 To Law and to Loyalty still kept more true,
 Both to *Prince* and to *People* according their
 due;

Know ye the land?

'Tis a glorious land!

And the land is our own dear home!

Meteorological Table,

SHOWING THE LATITUDE, LONGITUDE, ALTITUDE, TEMPERATURE, ETC., OF THE
PRINCIPAL CITIES AND PORTS ON THE AMERICAN SIDE OF THE
GREAT LAKES.

CITIES, etc.	Latitude.	Longitude.	Altitude.	Yearly Mean.	Four Seasons.			
					Spring.	Summer.	Autumn.	Winter.
LAKE ONTARIO.								
Sacket's Harbor, N. Y.....	43° 55'	76° 00'	250	46.40	42.49	67.82	50.58	24.80
Oswego, "	43° 20'	76° 40'	250	46.44	43.70	67.00	50.40	24.72
Charlotte, "	43° 12'	77° 51'	250	47.88	43.72	68.46	50.77	28.86
Fort Niagara, "	43° 15'	79° 00'	250	46.60	41.38	67.20	50.00	27.86
LAKE ERIE.								
Buffalo, N. Y.....	42° 53'	78° 50'	600	47.26	43.60	67.56	50.14	27.80
Cleveland, Ohio.....	41° 30'	81° 47'	600	49.70	46.84	69.86	51.97	30.86
Toledo, "	41° 45'	83° 36'	565	50.00	47.00	71.00	52.00	29.00
Monroe City, Mich.....	41° 43'	83° 24'	565	49.23	46.22	71.00	51.33	28.62
Detroit (Detroit R.), Mich..	42° 20'	83° 00'	580	48.00	45.94	69.20	49.81	28.17
LAKE HURON.								
Port Huron (St. Clair R), Mich	42° 53'	82° 24'	590	47.00	43.68	67.00	49.00	25.60
Tawas City, Mich.....	44° 15'	.....	590	44.33	37.22	65.15	47.06	24.61
Fort Mackinac, "	45° 51'	84° 33'	700	41.00	38.70	62.00	43.54	18.30
Green Bay (Green B.), Wis.	44° 30'	80° 05'	600	44.50	43.52	68.50	46.00	20.00
LAKE MICHIGAN.								
Grand Haven, Mich.....	43° 05'	86° 10'	580	47.36	44.59	68.62	49.56	26.62
Milwaukee, Wis.....	43° 03'	87° 55'	600	46.00	42.89	67.08	48.34	25.60
Chicago, Ill.....	41° 52'	87° 35'	590	47.00	45.00	68.50	49.00	26.00
Michigan City, Ind.....	41° 40'	86° 53'	590	49.00	46.00	70.00	50.00	28.00
LAKE SUPERIOR.								
Saut Ste. Marie, Mich.....	46° 30'	84° 43'	600	40.50	37.60	62.00	43.54	20.00
Marquette, "	46° 32'	87° 41'	630	41.50	38.30	63.10	43.84	20.00
Copper Harbor, "	47° 30'	88° 00'	620	41.00	38.47	60.80	42.96	21.78
Ontonagon, "	46° 52'	89° 30'	600	40.00	37.00	62.60	42.86	17.85
Bayfield, Wis.....	46° 45'	91° 00'	620	40.00	38.00	62.00	43.00	16.60
Superior City, Wis.....	46° 40'	92° 03'	600	40.00	38.00	63.00	42.50	14.60

LAKE SUPERIOR,

Its Bays, Harbors, Islands, Tributaries, &c.

OBJECTS OF INTEREST ON THE SOUTH SHORE.

	Miles.		Miles.
Saint Ste. Marie, Mich. N.		<i>Portage Entry and Light (West),</i>	245
lat. 46°30', W. long. 84°43'.		<i>Portage Lake,</i>	6-251
Head of Ship Canal and Rapids,	1	HOUGHTON, † N. lat. 46°40', W.	
Round Island and Light,	6—7	long. 88°30'.....	8-259
Waiska Bay,	2—9	<i>Hancock, †</i>	1-260
Iroquois Point and Light,	7—16	Head of Portage Lake (8 miles),	268
Teguamenon Bay and River,	9—25		
White Fish Point and Light,	15—40	Traverse island from Portage	
Carp River,	20—60	Entry,	10-255
Two-Heart River,	6—66	Tobacco River,	12-267
Sucker River,	12—78	<i>Lac La Belle, †</i> and Bete Grise Bay	14-281
Grand Marais River,	12—90	Mount Houghton (900 feet high).	
Grand Sauble, 300 feet high,	10-100	Montreal River (Fishing Station),	6-287
Cascade Falls, 100 feet,	18-118	Kcweenaw Point,	8-295
The Chapel,	2-120	Manitou Island and Light	3-298
Arched Rock, or Grand		COPPER HARBOR, † N. lat. 47°30',	
Portal,	4-124	W. long. 88°,	10-308
Sail Rock,	2-126	Agate Harbor,	10-318
The Amphitheatre, ...	2-128	<i>Eagle Harbor †</i> and Light,	6-324
Miner's Castle, & River, } Pictured	3-131	EAGLE RIVER, † N. lat. 47°25',	
Grand Island and Harbor,	3-134	W. long. 88°20',	9-333
<i>Mining</i> , and Iron Works,	2-136	Entrance to Ship Canal & Portage	
Au Train Point,	7-143	Lake Route,	20-353
Au Train Island, and River,	6-149	Salmon Trout River,	8-366
Au Sauble River,	6-155	Graveruet River,	5-366
<i>Harvey</i> , Mouth Chocolat River, ..	12-167	Elm River,	8-374
MARQUETTE * AND LIGHT, N. lat.		Misery River,	5-379
46°32', W. long. 87°41'	3-170	Sleeping River,	6-385
Dead River,	2-172	Flint Steel River,	6-391
Presque Isle,	1-173	ONTONOGAN, † N. lat. 46°52', W.	
Middle Island,	2-175	long. 89°30'.....	9-400
Granite Point and Island,	5-180	Iron River,	11-411
Garlic River,	8-188	Porcupine Mount'ns, 1,300 ft. high,	8-419
Little-Iron River, and Lake Inde-		Carp River,	10-429
pendence	10-198	Presque Isle River,	6-435
Salmon Trout River,	8-206	Black River,	6-441
Pine River and Lake,	6-212	<i>Montreal River</i> boundary between	
Huron Islands and Light,	10-222	Michigan and Wisconsin,	20-461
Huron Bay,	6-228	Markeg, or Bad River,	10-471
Point Abbaye,	4-232	Chawawagon Point, Bay, & Light,	11-482
Kcweenaw Bay (13 miles wide).		<i>Ashland</i> , Wisconsin head Chaw-	
<i>L'Ance</i> , and Settlement (South), .	13-245	awagon Bay.	

	Miles.		Miles.
<i>La Pointe</i> , Madeline Island,.....	3-485	Burnt Wood River,.....	10-545
(The Twelve Apostle Islands).		Poplar River,	9-554
BAYFIELD, Wisconsin, N. lat.		Cotton Wood River,.....	4-558
46°45', W. long. 91°3',	3-488	Amican River,	2-560
Basswood Island,	7-495	Mouth Nemadje, or Left Hand	
Raspberry Island, and Light,....	6-501	River, (Alloues Bay).	
York Island,	4-505	Wisconsin Point,.....	7-567
Fishing Island,.....	4-509	Minnesota Point and Light,....	1-568
Bark Bay and Point,	10-519	St. Louis Bay and River.	
Apakwa, or Cranberry River, ...	6-525	Superior City , Wisconsin, N.	
Iron River,	10-535	lat. 46°40', W. long. 92°	2-570

* Shipping Port for Iron. † Shipping Ports for Copper.

Objects of Interest on the North Shore.

	Miles.		Miles.
Superior City , Wisconsin, (160 miles North of St. Paul, Minn.).		FORT WILLIAM, Canada, N. lat.	
<i>Du Luth</i> , Minn.	7	48°23', W. long. 89°27',... . . .	3-150
Lester River,	5-12	Thunder Bay, 30 miles long.	
Kassabika River,.....	7-19	Thunder Cape, 1,350 feet high,....	15-165
French River (Copper Mines), ...	3-22	Black Bay,	10-175
<i>Buchanon</i> ,	4-26	Point Porphyry,.....	5-180
Knife River (Copper Mines), ...	1-27	Entrance to Neepigon Bay,	30-210
<i>Burlington</i> ,	10-37	Ste. Ignace Island (Silver and Copper Mines),.....	10-220
Stewart's River,	3-40	Slate Islands,.....	30-250
Encampment River and Island ..	3-43	Pic Island,	15-265
Split Rock River,.....	7-50	Peninsula Harbor,.....	8-273
<i>Beaver Bay</i> , N. lat. 47°12', W. long. 91°	10-60	Pic River and Harbor,	10-283
Palisades,	5-65	Otter Island, Head and Cove, ...	30-313
Baptism River,.....	1-66	Michipicoten Island, 800 ft. high, <i>Michipicoten</i> , Harbor and River, N. lat. 47°56', W. long. 85°06'.	45-383
Little Marais,.....	6-72	Cape Gargantua,	25-408
Manitou River,	3-75	Leach Island,	12-420
Two-Island River,.....	8-83	Lizard Islands,.....	6-426
Temperance River,	5-88	Montreal Island and River,	14-440
Poplar River,	6-94	Mica Bay (Copper Mine),	20-460
<i>Grand Portage</i> , Indian trading post, N. lat. 47°50', W. long. 90°	16-110	Mamainse Point,	6-466
Isle Royal, attached to Michigan, <i>Pigeon River</i> , boundary between the United States and Canada,	10-120	Batchewanaung Bay (Fishing St'n)	10-476
Pie Island, 700 feet high,.....	20-140	Sandy Islands,	4-480
Welcome Island,	7-147	Maple Island,	7-484
Mouth Kaministiquia River,		Goulois Bay and Point,.....	8-495
		Parisien Island,	5-500
		Gros Cap, 700 feet high,.....	10-510
		Point Aux Pins,.....	7-517
		Saut Ste. Marie , Canada, ..	8-525

Trip along the North Shore of Lake Superior,

MADE ON BOARD THE CANADIAN STEAMER PLOUGHBOY, AUGUST, 1860.

On leaving the mouth of the *Ship Canal*, above the Rapids at the Saut Ste. Marie, a beautiful stretch of the river is passed and *Waika Bay* entered, which is a small expanse of water extending westward to *Point Iroquois*, on the south shore, 15 miles distant. Immediately opposite rises GROS CAP, on the Canada side, being about four miles asunder. This bold headland consists of hills of porphyry rising from 600 to 700 feet above the waters of the lake. "Gros Cap is a name given by the *voyageurs* to almost innumerable projecting headlands; but in this case appropriate—since it is the conspicuous feature at the entrance of the lake."

North of Gros Cap lies GOULAIS BAY, and GOULAIS POINT, another bold headland which is seen in the distance. *Goulais River* enters the bay, affording, in connection with the adjacent waters, good fishing-grounds; the brook or speckled trout being mostly taken in the river. Here is a large Indian settlement of the Chippewa tribe. The whole north shore, as seen from the deck of the steamer, presents a bold and grand appearance, while in the distance, westward, may be seen the broad waters of Lake Superior.

T AQUAMENON BAY is next entered, which is about 25 miles long and as many broad, terminating at *White-Fish Point*, 40 miles above Saut Ste. Marie. PARISEIN ISLAND is passed 30 miles from the Saut, lying near the middle of the above bay, being attached to Canada.

SANDY ISLANDS, lying off *Batchewauaug Bay*, form, with others, a handsome group of islands, where are good fishing-grounds, being distant from the Saut Ste. Marie about 35 miles.

MAMAINSE POINT (*Little Sturgeon*), opposite *White-Fish Point*, is another bold headland, where is a fishing station and a

few dwellings. The Montreal Company's copper mine is located near this point, 45 miles north of the Saut, where is a small settlement of miners. Here is a good harbor, the land rising abruptly to the height of 300 feet, presenting a rugged appearance. Some 12 or 15 miles north are located, on MICA BAY, the Quebec Copper Mining Company's Works, at present abandoned, owing to their being found unproductive. Still farther north, skirting Lake Superior, is to be found a vast *Mineral Region*, as yet only partially explored.

MONTREAL ISLAND, and RIVER, 20 miles north of Mamainse, afford good fishing-grounds. Here is a harbor exposed to the west winds from off the lake, which can safely be approached when the winds are not boisterous.

LIZARD ISLAND and LEACH ISLAND, some 10 miles farther northward, are next passed, lying contiguous to the mainland.

CAPE GARGANTUA, 40 miles north of Mamainse, is a bold headland. On the south side is a harbor protected by a small island. From this cape to the island of Michipicoten the distance is about 30 miles.

MICHIPICOTEN HARBOR, and RIVER, 110 miles north of the Saut Ste. Marie, situated in N. lat. 47° 56', W. long. 85° 06', affords a safe anchorage, being surrounded by high hills. Here is established a Roman Catholic mission, and an important Hudson Bay Company's post, from whence diverges the river and portage route to James's Bay, some 350 miles distant. The shore of the Lake here tends westward toward *Otter Head*, about 50 miles distant, presenting a bold and rugged appearance. This post, no doubt, is destined to become a place of resort as well as a commercial depot, from whence is now distributed the merchandise belonging to the above gigantic company—having exclusive sway over

an immense region of country, extending northward to the arctic regions, and westward to the Pacific Ocean.

MICHIPICOTEN ISLAND (the *Island of Knobs or Hills*), 65 miles from Mamainse Point in a direct course, running in a northwest direction, lies about 40 miles west of Michipicoten Harbor. This island, 15 miles in length and 6 miles wide, may be called the *gem* of Lake Superior, presenting a most beautiful appearance as approached from the southward, where a few picturesque islands may be seen near the entrance to a safe and commodious harbor, which can be entered during all winds. Nature seems to have adapted this island as a place of resort for the seekers of health and pleasure. Within the bay or harbor a beautiful cluster of islands adorns its entrance, where may be found agates and other precious stones; while inland is a most charming body of water, surrounded by wooded hills rising from 300 to 500 feet above the waters of Lake Superior. The shores of the island abound with greenstone and amygdaloid, while copper and silver mines are said to exist in the interior, of great value, although, as yet, but partially explored. The fisheries here are also valuable, affording profitable employment to the hardy fisherman of this region. As yet, but one single shanty is erected on the shores of this romantic island, where, sooner or later, will flock the wealthy and beautiful in search of health and recreation, such as are afforded by pure air, boating, fishing, and hunting.

The fish mostly taken in this part of the lake are white-fish, siskowit, Mackinac trout, and speckled trout, the former being taken by gill-nets.

On the mainland are found the carabou, a large species of deer, bears, foxes, otters, beavers, martins, rabbits, partridges, pigeons, and other wild game. The barberry, red raspberry, and whortleberry are also found in different localities.

CARIBOU ISLAND, lying about 25 miles south of Michipicoten, near the middle of the lake, is a small body of land attached to Canada. It is usually passed in sight when the steamers are on their route to Fort William.

OTTER BAY, 25 miles north of Michipicoten, is a beautiful and secure body of water, being protected by an island at its entrance. Here is a wild and rugged section of country, abounding in game of the fur-bearing species.

Other bays and islands are found along the north shore beyond Otter Head, toward Pic River and Island, and said to be of great beauty, the whole coast being bold and rugged as seen from the water. At the mouth of the Pic is situated a Hudson Bay Company's Post.

SLATE ISLANDS are a cluster of great interest, where is to be found a large and secure harbor, lying north of the principal island of the group. To the north, on the mainland, are numerous bays and inlets affording safe harbor. As yet, the wild savage of the north alone inhabits this section of Canada West, which no doubt is rich in minerals of different kinds. The Hudson Bay Company's vessels now afford the only means of visiting this interesting region, which can alone be brought into notice and settled by the discovery of copper or silver mines of value sufficient to induce capitalists to organize Mining Companies.

COPPER REGION OF LAKE SUPERIOR— NORTH SHORE.

See *Whitney's Metallic Wealth of the United States*, Phila., 1854.

The North Shore of Lake Superior is supposed to be very rich in mineral productions, although as yet but partially explored. The "Montreal Mining Company" have a mine which is now being

worked to a limited extent at Mamainse Point, affording gray sulphuret of copper of a rich quality. The "Quebec and Lake Superior Mining Association" commenced operations in 1846 at Mica Bay, a few miles north of Mamainse, on a vein said to be rich in gray sulphuret of copper. An adit was driven 200 feet, three shafts sunk, and the 10-fathom level commenced. After spending \$30,000 it was discovered that the mines were unproductive, and the works were abandoned.

A number of localities were explored, and worked to some extent on Michipicoten Island and on the mainland to the northward, but they are now nearly all abandoned. A surveying party, however, are now (1860) engaged in exploring the north shore of Lake Superior, under the authority of the Provincial Parliament, in order to be able to report in regard to the mineral region.

The northwest borders of the lake, and in particular the Island of St. Ignace, Black Bay, Thunder Cape, Pie Island, and the vicinity of Prince's Bay are supposed to be rich in both copper and silver. Splendid crystallizations of amethystine quartz and calc spar have been obtained on Spar Island, near Prince's Bay, and at other localities.

FORT WILLIAM, an important Hudson Bay Company's Post, is advantageously situated at the mouth of the Kaministiquia River, in north latitude 48 degrees 23 minutes, west longitude 89 degrees 27 minutes. Here is a convenient wharf and safe harbor, the bar off the mouth of the river affording 7 or 8 feet of water, which can easily be increased by dredging. The Company's buildings consist of a spacious dwelling-house, a store, and 3 storehouses, besides some 10 or 12 houses for the accommodation of the *attachés* and servants in the employ of the above gigantic company. The land is cleared

for a considerable distance on both sides of the river, presenting a thrifty and fertile appearance. Wheat, rye, oats, barley, potatoes, and most kinds of vegetables are here raised in abundance; also, grass and clover of different kinds. The early frosts are the great hindrance to this whole section of country,—which is rich in minerals, timber, furs, and fish; altogether producing a great source of wealth to the above company. Pine, spruce, hemlock, cypress, and balsam trees are common, also white birch, sugar-maple, elm, and ash, together with some hardy fruit-bearing trees and shrubs.

The *Roman Catholic Mission*, situated 2 miles above the company's post, on the opposite side of the river, is an interesting locality. Here is a Roman Catholic church and some 50 or 60 houses, being mostly inhabited by half-breeds and civilized Indians, numbering about 300 souls. The good influence of the Roman Catholic priests, along the shores of Lake Superior are generally admitted by all unprejudiced visitors—the poor and often degraded Indian being instructed in agriculture and industrial pursuits, tending to elevate the human species in every clime.

McKay's Mountain, lying 3 miles west of Fort William, near the Roman Catholic Mission, presents an abrupt and grand appearance from the water, being elevated 1,000 feet. Far inland are seen other high ranges of hills and mountains, presenting altogether, in connection with the islands, a most interesting and sublime view.

KAMINISTIQUIA, or "*Gah-mahnatekwai-ahk*" River, signifying in the Chippewa language the, "*place where there are many currents*," empties its waters into Thunder Bay. This beautiful stream affords navigation for about 12 miles, when rapids are encountered by the ascending *voyageur*. Some 30 miles above its mouth is a fall of about 200 feet perpendicular descent.

THUNDER BAY presents a large expanse of water, being about 25 miles in length and from 10 to 15 miles wide, into which flows several small streams, abounding in speckled trout. *Thunder Cape*, on the east, is a most remarkable and bold highland, being elevated 1,350 feet above Lake Superior. It rises in some places almost perpendicular, presenting a basaltic appearance, having on its summit an extinct volcano. From the elevated portions of this cape a grand and imposing view is obtained of surrounding mountains, headlands, and islands—overlooking *Isle Royale* to the south, and the north shore from McKay's Mountain to the mouth of Pigeon River, near Grand Portage, Minnesota.

PIE ISLAND, in the Indian dialect called "*Mahkeneeng*" or *Tortoise*, bounding Thunder Bay on the south, is about 8 miles long and 5 miles wide, and presents a most singular appearance, being elevated at one point 850 feet above the lake. This bold eminence is shaped like an enormous *slouched hat*, or inverted pie, giving name to the island by the French or English explorers, while the Indians gave it the name of tortoise from its singular shape. This elevated point is basaltic, rising perpendicular near the top, like the *Palisades* of the Hudson River.

Thunder Bay, and its vicinity, has long been the favorite residence of Indian tribes who now roam over this vast section of country, from Lake Superior to Hudson Bay on the north. The mountain peaks they look upon with awe and veneration, often ascribing some fabulous legend to prominent localities. A learned Missionary, in describing this interesting portion of Lake Superior and its inhabitants, remarked, that "the old Indians were of the opinion that *thunder clouds* are large gigantic birds, having their nests on high hills or mountains, and who made themselves heard and seen very far off. The head they described as resembling that of

a huge eagle, having on one side a wing and one paw, on the other side an arm and one foot. The lightning is supposed to issue from the extremity of the beak through the paw, with which they launch it forth in fiery darts over the surrounding country."

Black Bay, lying east of Thunder Cape, is 45 miles long, and from six to eight miles wide, being encompassed on both sides by high and lofty hills. Towards the north are two peaked eminences termed the *Mamelons* or *Paps*, from their singular formation, resembling a female's breast, when seen at a distance.

Neepigon Bay is another romantic sheet of water, containing a number of beautiful wooded islands. It is about forty miles long and fifteen miles wide, being mostly surrounded by high and rocky eminences. Here the explorer, hunter, and angler may alike enjoy themselves with the wonders of the surrounding scene. Copper, silver, lead, and precious stones are here to be found in abundance on the islands and the mainland; while there is no end to the game and fish of this region.

The *Island of St. Ignace*, lying on the north shore of Lake Superior, is a large and important body of land, being rich in minerals and precious stones. It is about 17 miles long and six miles wide; the hills rising to 1,300 feet in some places, giving it a wild and romantic appearance from the water. Here are five small lakes, all being connected, and the outlet forming a beautiful stream, with rapids and falls. Large quantities of brook trout make these lakes and streams their favorite resort, they being but frequently visited except by the trapper and miner. Copper, silver, and lead are said to be found on this island in large quantities, as well as on other islands in its vicinity. The whole archipelago and mainland here afford good and safe harbors; the Canada side of the lakes being greatly favored in this respect.

RAILROAD AND STEAMBOAT ROUTES

FROM THE CITY OF NEW YORK TO LAKE SUPERIOR AND THE UPPER MISSISSIPPI RIVER—COMBINING COMFORT AND SPEED.

1. By *Day Boats* running to Albany from the foot of Desbrosses Street; or the *People's Line of Steamers*, running from the foot of Canal Street every evening at 6 P. M., affording the most desirable route for pleasure travelers to Albany and Niagara Falls, the latter being one of the grandest objects of admiration and instruction on the Continent of America. Here the combined waters of all the great Inland Seas plunge over a perpendicular precipice of 150 feet descent. A few days can here be profitably employed in viewing the varied scenery both on the American and the Canadian side of Niagara River, here forming one of the most magnificent works of Nature.

Going Westward by Railroad, the tourist has a choice of two favorite lines of travel, viz., by the *Lake Shore Line Railroad*, running from Buffalo to Cleveland, Ohio, 183 miles; or by the *Great Western Railway of Canada*, terminating opposite Detroit, Mich., 230 miles distant from Suspension Bridge.

On arriving at Cleveland or Detroit, the tourist intending to visit Lake Superior, or the Upper Mississippi, can proceed by railroad to Chicago or Milwaukee,

from both of which places lines of Railroad run to the Mississippi River, connecting with steamers, or to Green Bay, Wis., the latter forming a favorite through route to Lake Superior, passing through Green Bay, a most beautiful sheet of water, 120 miles in length and 20 or 30 miles in width.

The *Lake Superior Line of Steamers*, running from Cleveland and Detroit, afford the pleasure traveler seeking health and enjoyment one of the most grand excursions on the face of the globe—passing through Detroit River, Lake St. Clair, St. Clair River, Lake Huron, St. Mary's River, and over the pure and magnificent waters of Lake Superior.

The tourist desiring to visit Mackinac, Green Bay, Milwaukee, or Chicago, can proceed by Propeller Line of steamers, passing through the romantic Straits of Mackinac and Lake Michigan to their place of destination.

Both of the above great Steamboat lines of travel, being about 1,000 miles in length, terminating at Superior City, Wis., and at Chicago, Ill., passing through St. Clair River and Lake Huron, afford unrivaled opportunities to view the grandest lake and river scenery imaginable.

2. **RAILROAD ROUTE**, via *Central Railway of New Jersey* and the *Pennsylvania Central Railway*, affords a most direct and speedy mode of conveyance to Harrisburg, Pittsburgh, Cleveland, and Chicago.

Passenger trains leave New York several times daily from Pier 15, North River, running to Easton, Penn., from thence to Harrisburg, 183 miles from the City of New York. Here the line of travel connects with the *Northern Central Railway*, extending from Baltimore, Md., and with the *Pennsylvania Central Railway* (106 miles from Philadelphia), running westward to Pittsburgh, a further distance of 249 miles, passing over the Alleghany range of mountains. From Pittsburgh passenger trains leave several

times daily for Cleveland, Ohio, via the *Cleveland and Pittsburgh Railway*, 150 miles in length; total distance from New York 581 miles.

Steamers and Propellers of a large class leave Cleveland daily during the season of navigation for all the Upper Lake ports, stopping at Detroit to land and receive passengers.

Passenger trains also leave Pittsburgh several times daily, for Chicago, via the *Pittsburgh, Fort Wayne, and Chicago Railway*, 468 miles in length. This great railway line affords the most direct route between the cities of New York and Philadelphia to Chicago, the Mississippi River, and to Omaha, situated on the west bank of the Missouri River, here connecting with the great *Central Pacific Railway*.

Table of Distances.

	Miles.
NEW YORK to HARRISBURG, Penn.....	183
HARRISBURG to PITTSBURGH, Penn.	249—432
PITTSBURGH to CHICAGO, Ill.....	468—900
CHICAGO to OMAHA, Neb.....	494—1394

Steamers run from OMAHA to FORT BENTON, on the Upper Missouri River, during the season of navigation.

DIRECT RAILROAD ROUTE FROM NEW YORK TO ST. PAUL.

	Miles.
NEW YORK to PITTSBURGH, Penn.....	432
PITTSBURGH to CHICAGO, Ill.....	468—900
CHICAGO to PRAIRIE DU CHIEN, Wis.....	230—1130
PRAIRIE DU CHIEN to ST. PAUL, Minn.....	212—1342

THE UPPER MISSISSIPPI.

THE vast range of country drained by the Mississippi river proper, independent of its great tributary, the Missouri river, embraces most of the State of Illinois, and a great portion of the States of Missouri, Iowa, Wisconsin, and Minnesota; a small part of the waters of Illinois, on its north-east border, flows into Lake Michigan, while nearly one half of the waters of Wisconsin flow in the same direction, finding their outlet through the Great Lakes and the St. Lawrence river into the Atlantic Ocean. All the waters of Missouri and Iowa find their way into the Missouri or Mississippi river, and thence into the Gulf of Mexico. The waters of Minnesota in part flow northward, through the Red river of the North, into Lake Winnipeg, and thence into Hudson's Bay. A portion flows eastward into Lake Superior, whilst its most important streams are the Upper Mississippi, fed by numerous lakes, and the St.

Peter's or Minnesota river, falling into the Mississippi a few miles below the Falls of St. Anthony.

The Mississippi river is navigable for steamers of a large class, during a good stage of water from St. Paul to St. Louis, a distance of about 800 miles, and from St. Louis to New Orleans at all seasons of the year, except when interrupted by ice, a further distance of about 1,200 miles; making an uninterrupted navigation, during most of the year, of upward of 2,000 miles, from the Falls of St. Anthony, to the Gulf of Mexico. It is also navigable for steamers of a small class for about 150 miles above the Falls of St. Anthony. The entire navigation of this great river and its numerous tributaries being estimated at 16,000 miles.

The Area and Population of the five States mostly drained by the Mississippi, are as follows:

	Area sq. miles.	Population, 1860.	Population, 1865.
Illinois	55,400	1,711,951	est. 2,000,000
Missouri.....	65,000	1,182,012	" 1,300,000
Iowa.....	55,000	674,913	754,732
Wisconsin	53,924	775,881	868,325
Minnesota	83,500	172,023	264,600
Total.....	312,824	4,516,780	5,187,657

This rich and fertile portion of the Union, when as densely populated as the State of New York, will contain about 25,000,000 inhabitants, and be capable of

raising annually an immense amount of bread stuffs, meats, and other agricultural products for home consumption and foreign markets.

Agricultural Products.—The following were the principal agricultural products by the report of the Commissioner of Agriculture, for 1866.

States.	Bushels Wheat.	Indian Corn.	Oats.
Illinois.....	28,551,421	155,844,350	30,054,370
Missouri (1860).....	4,227,586	72,892,157	3,680,870
Iowa.....	15,753,323	52,288,184	12,607,749
Minnesota.....	4,425,467	6,577,795	4,388,848
Wisconsin.....	20,307,220	9,414,583	17,174,086
Total.....	73,265,717	297,018,069	67,905,923

All this immense product, together with vegetables, beef, pork, and lumber, finds its outlet by means of the Mississippi river, the Lakes and St. Lawrence river, and the numerous Railroads running to Eastern markets.

The principal cities and centers of trade for the above States, lying on navigable waters, and from which Railroads diverge to different sections of the country, are St. Louis, Chicago, Milwaukee, Dubuque, and St. Paul. Between these different cities a healthy rivalry exists for the trade of this great North-Western region, which is annually increasing in population and wealth.

A large number of Steamers run between St. Louis, Dubuque, and St. Paul, stopping at intermediate landings, affording daily opportunities for travelers visiting the Upper Mississippi, now annually thronged with pleasure seekers and invalids in search of health.

Steamers, propellers, and sailing vessels run from Chicago, Milwaukee, and other lake ports on Lake Michigan, to

Green Bay, Mackinac, Lake Superior, Detroit, Cleveland, Buffalo, and Lake Ontario, via the Welland Canal. These steamers and propellers are usually thronged with passengers during the summer months. Mackinac, Saut Ste. Marie, and the different ports on Lake Superior being delightful and healthy places of resort.

A Railroad and Steamboat route is now in operation, running from Chicago to Green Bay, and thence to Marquette, on Lake Superior, affording a speedy conveyance to this health restoring region. A Railroad is also in progress of construction to run from Bayfield, or Superior City, to St. Paul, Minnesota, which, when finished, will form one of the most desirable railroad and steamboat routes on the Continent of America—thus uniting the travel on the Mississippi, with the Great Lakes or Inland Seas of America, forming a line of travel from New Orleans to Lake Superior, and from thence to Montreal and Quebec, a distance of about 3,800 miles, or in other words, from the Gulf of Mexico to the Gulf of St. Lawrence.

TABLE OF DISTANCES,

FROM NEW ORLEANS to QUEBEC, via LAKE SUPERIOR.

CITIES, &c.	Miles.	CITIES, &c.	Miles.
New Orleans.....	00	LA CROSSE, Wis.....	1,853
BATON ROUGE, La.....	135	ST. PAUL, Minn.....	2,060
VICKSBURG, Miss.....	387	SUPERIOR CITY.....	2,220
HELENA, Ark.....	715	SAUT STE. MARIE.....	2,720
MEMPHIS, Tenn.....	800	DETROIT, Mich.....	3,093
CAIRO, Ill.....	1,020	TORONTO, Can.....	3,317
ST. LOUIS, Mo.....	1,247	MONTREAL.....	3,650
DUBUQUE, Iowa.....	1,707	Quebec.....	3,820

TABLE OF DISTANCES,

From the CITY OF NEW YORK, to ST. PAUL, Minnesota, by the most DIRECT ROUTE.

CITIES, &c.	LINE OF TRAVEL.	Miles.
NEW YORK to ALBANY, via <i>Hudson River Railroad</i>		145
ALBANY to SUSPENSION BRIDGE, via <i>New York Central Railroad</i>		304-449
SUSPENSION BRIDGE to DETROIT, Mich., via <i>Gt. Western Railroad of Canada</i>		230-679
DETROIT to GRAND HAVEN, Mich., via <i>Detroit and Milwaukee Railroad</i>		189-868
GRAND HAVEN to MILWAUKEE, Wis., via <i>Steamboat Route across Lake Michigan</i>		85-953
MILWAUKEE to LA CROSSE, Wis., via <i>Milwaukee and St. Paul Railroad</i>		195-1,148
LA CROSSE to ST. PAUL, MINN., via <i>Steamboat Route on Mississippi river</i> ..		210-1,358
Distance from BOSTON to ST. PAUL, via Detroit, etc.,		1,403 miles.

Railroad and Steamboat Route,

From the CITY OF NEW YORK to SUPERIOR CITY, WISCONSIN.

CITIES, &c.,	LINE OF TRAVEL.	Miles.
NEW YORK to DUNKIRK, via <i>Erie Railroad</i>		460
DUNKIRK to CLEVELAND, Ohio, via <i>Lake Shore Railroad</i>		143-603
CLEVELAND to DETROIT, Mich., via <i>Steamboat Route across Lake Erie</i>		120-723
DETROIT to PORT HURON, Mich., via <i>Steamboat Route</i>		73-796
PORT HURON to SAUT STE. MARIE, Mich., via <i>Steamboat Route crossing Lake Huron</i>		300-1,096
SAUT STE. MARIE to MARQUETTE, Mich., via <i>Steamboat Route crossing Lake Superior</i>		160-1,256
MARQUETTE to ONTONAGON*, Mich., via <i>Steamboat Route crossing Lake Superior</i>		220-1,476
ONTONAGON to BAYFIELD, Wis., via <i>Steamboat Route crossing Lake Superior</i> ..		78-1,554
BAYFIELD to SUPERIOR CITY, Wis., via " " " " " "		80-1,634

The above *Great Railroad and Steamboat Routes*, extending from the Atlantic seaboard to the head of navigation on the Mississippi river, and to the head of Lake Superior, passing through Lake Huron, now forms two great lines of travel, East and West.

The Railroad lines from New York and Boston, to Chicago and Milwaukee, and to Prairie du Chien and La Crosse, lying on the east side of the Mississippi river, are running throughout the entire year, affording great facilities for passenger and freight traffic.

The Steamers on the Upper Mississippi,

and on Lakes Huron and Superior, run for about seven months in the year, from May to the first of December, affording great facilities for the carrying of passengers and heavy freight.

These great through lines of travel connect with the *Grand Trunk Railway of Canada*, and with the *Pennsylvania Railroads*, all of which tend to give increased facilities to reach the head of Lake Superior and the Upper Mississippi, being on the direct route toward Montana, Idaho, Oregon, and Washington Territory—passing the Gold Fields lying contiguous to the Rocky Mountains.

*A Railroad is under construction to extend from Marquette to Ontonagon, a distance of about 120 miles, which will shorten the distance to the head of Lake Superior about 100 miles.

Steamboat Route from St. Louis to Dubuque and St. Paul

USUAL TIME, to DUBUQUE, 2½ days; to ST. PAUL, 4½ days. THROUGH FARE, \$20.



LANDINGS.	Miles.	LANDINGS.	Miles.
St. LOUIS	0	DUNLEITH, Ill.....	1-461
Mouth Missouri River.....	20	Potosi Landing, Wis.....	14-475
Alton, Ill.	5-25	Buena Vista, Iowa.....	15-490
Mouth Illinois River.....		Cassville, Wis.....	4-494
Cap au Gris.....	40-85	Guttenburg, Iowa.....	10-504
Clarksville, Mo.....	37-102	Clayton, Iowa.....	12-516
Louisiana, Mo.....	12-114	McGREGOR, Iowa.....	11-527
HANNIBAL, Mo.....	30-144	Prairie du Chien, Wis. ..	3-530
QUINCY, Ill.....	20-164	☞ To Chicago, 229 Miles.	
Lagrange, Mo.....	12-176	Lynxville, Wis.....	14-544
Canton.....	8-184	LANSING, Iowa.....	16-560
Alexandria, Mo.....	20-204	De Soto, Wis.....	6-566
Warsaw, Ill.....		Victory, Wis.....	10-576
Keokuk, Iowa	4-208	Bad Ax City, Wis.....	10-586
Montrose, Iowa.....	12-220	Brownsville, Minn.....	16-602
Nauvoo, Ill.....	3-223	La Crosse, Wis.	12-614
Fort Madison, Iowa.....	9-232	☞ To Milwaukee, 195 Miles.	
Pontoosuc, Ill.....	6-238	La Crescent, Minn.....	2-616
BURLINGTON, Iowa.....	17-255	Richmond, Minn.....	16-632
OQUAWKA, Ill.....	15-270	Trempeleau, Wis.....	5-637
Keithsburg, Ill.....	12-282	Winona, Minn.	17-654
New Boston, Ill.....	7-289	Fountain City, Wis.....	12-660
MUSCATINE, Iowa.....	18-307	Mount Vernon, Minn.....	14-680
ROCK ISLAND, Ill. } DAVENPORT, Iowa }.....	30-337	Minneiska, Minn.....	4-684
Le Claire, Iowa.....	18-355	Alma, Wis.....	14-698
Princeton, Iowa.....	6-361	WABASHA, Minn.....	10-708
Camanche, Iowa.....	10-371	Reed's Landing.....	6-714
Albany, Ill.....	3-374	Foot Lake Pepin.....	2-716
Clinton, Iowa.....	6-380	North Pepin, Wis.....	6-722
FULTON, Ill. } LYONS, Iowa }.....	2-382	LAKE CITY, Minn.....	5-727
Sabula, Iowa.....	20-402	Maiden Rock, Wis.....	8-735
SAVANNA, Ill.....	3-405	Frontenac, Minn.....	3-738
Bellevue, Iowa.....	23-428	REP WING, Minn.....	18-756
GALENA, Ill.....	12-440	PRESCOTT, Wis.....	28-784
Dubuque, Iowa	20-460	Mouth St. Croix River.....	
☞ To Chicago, 189 Miles.		Point Douglass, Minn.....	1-785
		HASTINGS, Minn.....	3-788
		St. PAUL, Minn.	32-820

Steamboat Route from St. Paul to Dubuque and St. Louis,
CONNECTING with RAILROADS RUNNING to MILWAUKEE and CHICAGO.



LANDINGS.	Miles.	LANDINGS.	Miles.
St. PAUL	0	Dubuque, Iowa	1-360
HASTINGS, Minn.....	32	☞ To Chicago, 189 Miles.	
Point Douglass, Minn.....	3-35	GALENA, Ill.....	20-380
Mouth St. Croix River.		Bellevue, Iowa.....	12-392
PRESCOTT, Wis.....	1-36	Savanna, Ill.....	23-415
RED WING, Minn.....	28-64	Sabula, Iowa.....	3-418
Head Lake Pepin.....	2-66	LYONS, Iowa }	
Frontenac, Minn.....	16-82	FULTON, Ill }	20-438
Maiden Rock, Wis.....	3-85	Clinton, Iowa.....	2-440
LAKE CITY, Minn.....	8-93	Albany, Ill.....	6-446
North Pepin, Wis.....	5-98	Camanche, Iowa.....	3-449
Reed's Landing, Minn.....	8-106	Princeton, Iowa.....	10-459
WABASHAW, Minn.....	6-112	Le Claire, Iowa.....	6-465
Alma, Wis.....	10-122	DAVENPORT, Iowa }	
Minneiska, Minn.....	14-136	ROCK ISLAND, Ill }	18-483
Mount Vernon, Minn.....	4-140	MUSCATINE, Iowa.....	30-513
Fountain City, Wis.....	14-154	New Boston, Ill.....	18-531
Winona, Minn	12-166	Keithsburg, Ill.....	7-538
Trempealeau, Wis.....	17-183	OQUAWKA, Ill.....	12-550
Richmond, Minn.....	5-188	BURLINGTON, Iowa.....	15-565
La Crescent, Minn.....	16-204	Pontoosuc, Ill.....	17-582
La Crosse, Wis.	2-206	Fort Madison, Iowa.....	6-588
☞ To Milwaukee, 195 Miles.		Nauvoo, Ill.....	9-597
Brownsville, Minn.....	12-218	Montrose, Iowa.....	3-600
Bad Ax City, Wis.....	16-234	Keokuk, Iowa	12-612
Victory, Wis.....	10-244	Warsaw, Ill.....	4-616
De Soto, Wis.....	10-254	Alexandria, Mo.....	
LANSING, Iowa.....	6-260	Canton, Mo.....	20-636
Lynxville, Wis.....	16-276	Lagrange, Mo.....	8-644
Prairie du Chien, Wis.	14-290	QUINCY, Ill.....	12-656
☞ To Milwaukee, 194 Miles.		HANNIBAL, Mo.....	20-676
MCGREGOR, Iowa.....	3-293	Louisiana, Mo.....	30-706
Clayton, Iowa.....	11-304	Clarksville, Mo.....	12-718
Guttenburg, Iowa.....	12-316	Cap au Gris.....	37-755
Osseville, Wis.....	10-326	Mouth Illinois River	
Buona Vista, Iowa.....	4-303	Alton, Ill	40-795
Potosi Landing, Wis.....	15-345	Mouth Missouri River.....	5-800
DUNLEITH, Ill.....	14-359	St. LOUIS	20-820

TABLE OF DISTANCES

FROM ST. LOUIS to NEW ORLEANS.

LANDINGS.	Miles.	LANDINGS.	Miles.
ST. LOUIS, Mo.	00	Commerce, Miss.....	40-487
Jefferson Barracks.....	12	HELENA, Ark.....	45-532
Herculanum.....	18-30	Mouth of White River.....	75-607
Selma, Mo.....	6-36	NAPOLEON.....	35-642
Ste. Genevieve.....	23-59	Gaines' Landing.....	40-682
Kaskaskia Landing, Ill.....	6-65	Columbia, Ark.....	20-702
Mouth Kaskaskia River.....	15-80	Greenville.....	12-714
Chester, Mo.....	4-84	Port Worthington.....	30-744
Grand Tower.....	46-130	Grand Lake, Ark.....	5-749
Bainbridge.....	10-140	Ashton.....	15-764
Cape Girardeau.....	15-156	Lako Providence, La.....	10-774
Commerce, Mo.....	16-172	Milliken's Bend.....	50-824
Cairo, Ill.	35-207	Vicksburg, Miss.	26-850
COLUMBUS, Ken.....	18-225	Grand Gulf, Miss.....	50-900
Hickman, Ken.....	25-250	Rodney, Miss.....	17-917
New Madrid, Mo.....	32-282	Natchez, Miss.	60-977
Island No. 11.....	5-287	Mouth Red River.....	60-1,037
Needham's Cut-off.....	54-341	Bayou Sara, La.....	40-1,077
Plumb Point.....	20-361	Port Hudson, La.....	11-1,088
Fulton, Tenn.....	10-371	Baton Rouge, La.	24-1,112
Mouth of Hatchee River.....	6-377	Plaquemine, La.....	25-1,137
Randolph.....	5-382	DONALDSONVILLE, La.....	30-1,167
Memphis, Tenn	65-447	NEW ORLEANS, La. ..	80-1,247

Steamboat Route from St. Paul to Mankato, Minn.

LANDINGS.	Miles.	LANDINGS.	Miles.
St. PAUL	0	MANKATO	0
Mendota.....	5	St. Peter	30
Fort Snelling.....	1-6	Ottawa.....	16-46
Credit River.....	10-16	Le Sueur.....	12-58
Bloomington.....	4-20	Henderson.....	10-68
SHAKOPEE.....	12-32	Belle Plaine.....	11-79
Chaska.....	6-38	St. Lawrence.....	6-85
Carver.....	4-42	Strait's Landing.....	7-92
Louisville.....	4-46	Louisville.....	10-102
Strait's Landing.....	10-56	Carver.....	4-108
St. Lawrence.....	7-68	Chaska.....	4-110
Belle Plaine.....	6-69	SHAKOPEE.....	6-116
Henderson.....	11-80	Bloomington.....	12-128
Le Sueur.....	10-90	Credit River.....	4-132
Ottawa.....	12-102	Fort Snelling.....	10-142
St. Peter	16-118	Mendota.....	1-143
MANKATO,	30-148	St. PAUL	5-148

RAILROADS IN IOWA,

WITH THEIR CONNECTIONS TO CHICAGO.

1. Chicago and North-Western, Dubuque and Sioux City, and Dubuque and South-Western Railway.

STATIONS.	Miles.	STATIONS.	Miles.
Chicago	0	FARLEY JUNCTION	23
Junction.....	30	Dyersville.....	6-29
ELGIN	12-42	Earlville.....	8-37
BELVIDERE	36-78	Delaware.....	4-41
ROCKFORD	14-92	MANCHESTER	6-47
FREEPORT	29-121	Masonville.....	7-54
DUNLEITH	67-188	Winthrop.....	7-61
(Mississippi river.)		Independence.....	8-69
Dubuque, Iowa	0	Jesup.....	9-78
Julien.....	10	Raymond.....	9-87
Peosta.....	5-15	Waterloo.....	6-93
Epworth.....	4-19	CEDAR FALLS	6-99
FARLEY JUNCTION	4-23	New Hartford.....	10-100
Worthington.....	7-30	Parkersburg.....	9-119
Sand Springs.....	7-37	Aplington.....	5-123
Monticello.....	6-43	Ackley.....	9-132
Langworthy.....	4-47	Iowa Falls	11-143
Anamosa.....	7-54	(Stages.)	
Viola.....	7-61	Alden,	
Springville.....	4-65	Webster,	
Marion.....	8-73	FORT DODGE,	
CEDAR RAPIDS	6-79	Sioux City (Missouri river).	

2. Chicago and North-Western, Dixon Air Line and Iowa Division, Cedar Rapids and Missouri River Railway.

STATIONS.	Miles.	STATIONS	Miles.
Chicago	0	Mount Vernon.....	9-203
Junction.....	30	Cedar Rapids	16-219
DEKON	68-98	Blairtown.....	24-243
(Junction Illinois Central.)		Belle Plaine.....	10-253
FULTON	38-136	Toledo.....	17-270
(Mississippi river.)		Marshall.....	18-288
Clinton, Iowa	1-137	State Center.....	14-302
Camanche.....	5-142	Nevada.....	17-319
Low Moor.....	5-147	Boonsboro	21-340
De Witt.....	9-156	Jefferson.....	30-370
Wheatland.....	16-172	Denison.....	53-423
London.....	5-177	St. John's.....	43-466
Clarence.....	7-184	Council Bluffs.....	24-490
Mechanicsville.....	10-194	Omaha, Neb.	4-494

3. Chicago and Rock Island, Mississippi and Missouri Railroads.

STATIONS.	Miles.	STATIONS.	Miles.
Chicago	0	Wilton.....	209
JOLIET.....	40	Moscow.....	3-212
OTTAWA.....	44-84	Atilissa.....	5-217
LA SALLE.....	15-99	West Liberty.....	5-222
(<i>Illinois river.</i>)		Iowa City	16-238
BUREAU.....	15-114	Oxford.....	15-258
Rock Island	68-182	MARENGO.....	16-269
(<i>Mississippi river.</i>)		Victor.....	12-281
Davenport, Iowa	2-184	Brooklyn.....	8-289
Walcott.....	12-196	Grinnell.....	15-304
Fulton.....	5-201	KELLOGG.....	11-315
Durant.....	2-203		
Wilton.....	6-209		
Muscatine	13-222	(<i>Stages.</i>)	
Ononwa.....	12-234		
Clifton.....	10-244	Des Moines,	
Ainsworth.....	8-252	Council Bluff.	
WASHINGTON.....	7-259		

4. Chicago, Burlington and Quincy, Burlington and Missouri Railroads.

STATIONS.	Miles.	STATIONS.	Miles.
Chicago	0	Danville.....	4-223
AURORA.....	40	New London.....	6-229
MENDOTA.....	45-85	Mount Pleasant.....	3-238
(<i>Illinois Central R. R.</i>)		Checauqua.....	7-245
GALESBURG.....	80-165	Fairfield.....	15-260
Oquawka Junction.....	34-199	Whitfield.....	5-265
E. Burlington.....	10-209	Batavia.....	7-272
(<i>Mississippi river.</i>)		Agency City.....	7-279
Burlington, Iowa	1-210	Ottumwa	6-285
Middletown.....	9-219	CHARITON.....	55-340

5. Des Moines Valley Railroad.

STATIONS.	Miles.	STATIONS.	Miles.
Keokuk, Iowa	0	Ottumwa	16-76
Sand Prairie.....	14	Eddyville.....	19-92
Belfast.....	6-20	OSKALOOSA.....	7-101
Croton.....	5-25	Leighton.....	8-108
Farmington.....	5-30	Pella.....	8-116
Bentonsport.....	9-39	Monroe	14-130
Summit.....	6-45	Prairie City.....	10-140
Independence.....	14-59	Des Moines	22-162

CHICAGO,

"THE GARDEN CITY," the largest city of Illinois, is advantageously situated on the south-western shore of Lake Michigan, at the mouth of Chicago river, in N. lat., 41° 52', and W. long., from Greenwich, 87° 35'; being elevated eight to ten feet above the lake, the level of which great body of water is 578 feet above the Atlantic Ocean. This city has within thirty years risen from a small settlement around an old fort (Dearborn), to a place of great commercial importance, being now one of the largest interior cities in the United States, exhibiting a rapidity of growth and wealth never before known in the annals of the country. The harbor and river has a depth of from 12 to 14 feet of water, which makes it a commodious and safe haven; and it has been much improved artificially by the construction of piers, which extend on each side of the entrance of the river, for some distance into the lake, to prevent the accumulation of sand upon the bar. The light-house is on the south side of the harbor, and shows a fixed light on a tower 40 feet above the surface of the lake; there is also a beacon light on the end of the pier. In a naval and military point of view, this is one of the most important ports on the Upper Lakes, and should be strongly defended. Along the river and its branches, for several miles, are immense grain warehouses, some of which are capable of storing upward of 1,000,000 bushels of grain—and alongside of which vessels can be loaded within a few hours. The whole capacity for storage of grain exceeds 10,000,000 bushels. There are also immense storehouses for the storage of flour, beef, pork, whiskey, and other merchandise, and capacious docks and yards for lumber, wood, coal, &c., Chicago now being one of the

greatest grain, provision, and lumber markets in the world; the shipment of flour and grain alone, in 1865, being upward of 53,000,000 bushels.

The city of Chicago is laid out at right angles, the streets run from the lake westward, intersected by others, all of which are about 80 feet wide; it extends along the lake, north and south, about 8 miles, there being a gradual rise in the ground, affording a good drainage into the river and lake. The business portion of the city is mostly built of brick, and a fine quality of stone, sometimes called "Athens marble." This stone is found in the vicinity of the city, and is highly prized as a building material. The dwelling-houses are mostly constructed of wood, except costly residences, which are of brick, or stone and marble.

The city contains a United States custom-house and post-office building, a court-house and jail, the county buildings, a Marine Hospital, Rush Medical College, and Chicago Medical College; the Chamber of Commerce, a new edifice, built of Athens stone; a new opera house, academy of music, and other places of amusement; market houses; several large hotels; 120 churches of different denominations, many of which are costly edifices; 15 banks; 10 marine and fire insurance companies; gas works and water works. The manufacturing establishments of Chicago are numerous and extensive, consisting of iron foundries and machine shops, railroad car manufactory, steam saw, planing, and flouring mills, manufactories of agricultural implements, breweries, distilleries, &c. Numerous steamers, propellers, and sailing vessels ply between this place and the ports on Lake Michigan and Green Bay; also, to the Lake Superior ports, Collingwood and

Goderich, Can., Detroit, Cleveland, Dunkirk, Buffalo, and to the ports on Lake Ontario, passing through the Welland Canal vessels occasionally sailing to and from European ports, via the St. Lawrence river.

The *Illinois and Michigan Canal*, connecting Lake Michigan with Illinois river, which is 60 feet wide at the top, 6 feet deep, and 107 miles in length, including five miles of river navigation, terminates here, through which is brought a large amount of produce from the south and southwest; and the numerous Railroads radiating from Chicago add to the vast accumulation which is here shipped for the Atlantic sea-board. Chicago being within a short distance of the most extensive coal-fields to be found in Illinois, and the pineries of Michigan and Wisconsin, as well as surrounded by the finest grain region on the face of the globe, makes it the natural outlet for the varied and rich produce of an immense section of fertile country. The establishment of the great *Union Stock Yard*, during the past year, will render Chicago more attractive than ever as a cattle market. The receipts of beef cattle during the year ending March 31, 1866, amounted to 348,928; the total number of hogs, live and dressed, being 1,178,832; the re-

ceipts of lumber during the year ending March 31, 1866, amounted to 647,145,734 feet, against 501,592,406 feet received the preceding year. The *Lake Tunnel*, now in progress of construction, extending about two miles from shore under Lake Michigan, is intended to supply the city with pure and wholesome water. Two *Artesian Wells* are also in operation, situated three miles west of the lake, yielding 1,200,000 gallons of pure water daily. The *City Railroads* extend to the limits of the city in every direction, affording a cheap and speedy mode of conveyance, while, from the numerous railroad depots, passengers are conveyed to remote points, east, west, north, and south.

Number of Vessels arrived and cleared in 1865, with their Tonnage.

Total Vessels.....	10,067
Total Tonnage.....	2,092,276

POPULATION OF CHICAGO AT DIFFERENT PERIODS.

United States Census, 1840....	4,853
State Census, 1845.....	12,088
United States Census, 1850....	29,963
State Census, 1855.....	80,000
United States Census, 1860....	109,260
State Census, 1865.....	178,900

LAKE TUNNEL.

During the month of March, 1867, the grand work of the age, the Lake Tunnel, extending two miles into and under Lake Michigan, was completed, furnishing an abundant supply of pure water for the city. In addition to the above, the splendid new blocks of buildings, es-

pecially the Oriental Building, the Mercantile Building, and the magnificent Michigan Southern and Rock Island Depot for the Pacific Road, are ornaments to the city, now numbering (1868) 225,000 inhabitants.

PRINCIPAL HOTELS IN CHICAGO.

NAME.	LOCATION.	NAME.	LOCATION.
Adams House,	Lake st., cor. Mich. av.	Richmond House,	S. Water & Mich. av.
Briggs House,	Randolph & Wells.	Sherman House,	Randolph & Clark.
Matteson House,	Randolph & Dearborn.	Tremont House,	Lake & Dearborn.

Chicago and North-Western Railway and its Branches.

	Miles.
1. WISCONSIN DIVISION.—Chicago to Green Bay, Wis.....	242
2. MILWAUKEE DIVISION.—Chicago to Milwaukee, Wis.....	85
3. KENOSHA DIVISION.—Kenosha to Rockford, Ill.....	72
4. MADISON DIVISION.—Belvidere to Madison, Wis.....	68
5. PENINSULAR DIVISION.—Escanaba to Marquette, Mich.....	68
6. FOX RIVER VALLEY.—Elgin to Geneva Lake, Wis.....	43
7. GALENA DIVISION.—Chicago to Freeport, Ill.....	121
8. IOWA DIVISION.—Chicago to Omaha, Neb.....	494
Total.....	1,193

Other Railroads diverging from Chicago.

Chicago and Rock Island.....	182
Chicago, Burlington and Quincy.....	275
Galesburg and Burlington Branch.....	45
Chicago, Alton and St. Louis.....	280
Illinois Central* (Chicago to Cairo).....	365
Chicago and Great Eastern (Chicago to Cincinnati).....	294
Pittsburgh, Fort Wayne and Chicago.....	468
Michigan Southern and Northern Indiana (Chicago to Toledo, Ohio)....	243
Michigan Central (Detroit to Chicago).....	284
Grand Total.....	3,498

RAILROAD ROUTE,

FROM CHICAGO to GALENA, DUNLEITH, and DUBUQUE.

Passenger cars leave the Wells Street depot, Chicago, morning and evening, for Dunleith and Dubuque, connecting with STEAMERS running on the Mississippi river, and with the *Dubuque and Sioux City Railway*.

On starting from the depot, the Galena Division of the Chicago and North-western Railway, runs west to the limits of the city, three miles, where may be seen, on the right hand, the celebrated ARTESIAN WELLS, and extensive ice house, where an immense volume of pure water is flowing continually, rising 25 feet above

the earth's surface. Here are two wells, 700 feet in depth, yielding 1,200,000 gallons of water daily. In the winter season, the water is conveyed into extensive reservoirs, and suffered to congeal, producing ice of a good quality for city consumption and shipment.

The broad prairie land is next reached, skirted in the distance by a small growth of timber.

HARLEM, 9 miles from Chicago, is a small settlement, surrounded by oak and other prairie trees. The wide-spread prairie, with a rich growth of grass, and

* Main Branch, Dunleith to Centralia, 848 miles.

extensive corn-fields, next attracts the attention of the traveler.

COTTAGE HILL, 16 miles, is a small scattered settlement, surrounded by rich lands, under a high state of cultivation.

BABCOCK'S GROVE, 20 miles, is the name of a settlement surrounded by an extensive range of forest trees, through which the railroad track passes.

DANBY, 22½ miles, is a small village, surrounded by a rolling prairie.

WHEATON, 25 miles, is a flourishing village, where is situated *Wheaton College*, several churches, stores, and manufacturing establishments.

WINFIELD, 28 miles, is surrounded by forest trees and prairie openings of small size.

JUNCTION, 30 miles. Here is a small settlement, and machine shops for railroad purposes. The *Chicago, Burlington*, and *Quincy Railroad* here diverges toward the Southwest, while the *Dixon and Iowa Division* of the Chicago and Northwestern Railway runs west to Fulton, situated on the Mississippi River.

In this vicinity may be found the prairie hen, quail, snipe, plover, ducks, wild geese, and other game in their season, during the spring and fall months.

WAYNE, 35 miles, is a small railroad station.

CLINTONVILLE, 39 miles, is situated on Fox River, where are several flouring mills, propelled by water power.

Elgin, 42 miles from Chicago, situated on Fox River, is a large and flourishing town. Here are several flouring mills, a woolen factory, and other manufacturing establishments, propelled by water power. There is also an extensive watch manufactory, giving employment to several hundred workmen. Population, about 4,000. The *Fox River Valley Railroad* runs north from this place into Wisconsin, 43 miles, extending through a fertile section of country, which be-

comes somewhat hilly, with a fine growth of forest trees.

GILBERT'S STATION, 50 miles.

HUNTLEY, 55 miles, is a scattered village, surrounded by a rich section of country, where may be seen an extensive level prairie.

UNION, 62½ miles, is a small, scattered settlement.

MARENGO, 66 miles, is a thriving village. where are several steam flouring and other mills.

GARDEN PRAIRIE, 72 miles, is a small village, surrounded by a fine section of country, producing corn and wheat in great abundance.

Belvidere, 78 miles from Chicago, is a large and flourishing village, situated on Kishwaukee river, flowing into Rock river. It is the capital of Boone County, and contains about 3,500 inhabitants. Here are two flouring mills and other manufacturing establishments, propelled by water power; several churches, hotels, and stores.

The *Beloit and Madison Railroad*, 68 miles in length, extends north through a fertile section of country.

CHERRY VALLEY, 84 miles, is situated on Kishwaukee river, which is here crossed by a long wooden bridge.

The City of **Rockford**, 92 miles from Chicago, and 96 from Dunleith, is advantageously situated on Rock river, where is a good water power. It is the capital of Winnebago County, and contains, besides the county buildings, fourteen churches, three national banks, several public houses, and numerous stores. There are several flouring mills, saw mills, a cotton factory, two woolen factories, and several other factories, employing water power. Population, about 10,000.

The *Kenosha Division* of the Chicago and Northwestern Railway terminates here, being 72 miles in length.

WINNEBAGO, 99 miles, is a small village.

PECATONICA, 106 miles, is a small settlement situated on a stream of the same name.

RIDOUT STATION, 114 miles.

The City of **Freeport**, 121 miles from Chicago, and 67 from Dunleith, the capital of Stephenson County, is favorably situated on Pecatonica river, being surrounded by a very fertile section of country. By means of a dam, a good water power is obtained, and used for propelling flouring mills, and other mills and factories. Here are ten churches, two banks, several hotels, numerous stores, and about 9,000 inhabitants. The *Western Union Railroad*, extending from Racine, Wis., to Savanna, on the Mississippi, runs through Freeport, where terminates the *Chicago and North-Western Railway*; the *Illinois Central Railroad*, running from Cairo, continues on to Dunleith.

ELEROY, 129 miles, is a small village.

LENA, 134 miles, is a small place, surrounded by rich prairie lands.

NOEA, 142 miles, is a small settlement.

WARREN, 145 miles from Chicago, is situated near the State line, which divides Illinois from Wisconsin, being 32 miles south of **MINERAL POINT**, which is the center of the lead region of Wisconsin. Warren is a flourishing place for trade, being surrounded by a rich agricultural and mineral section of country. Population, 2,500.

APPLE RIVER STATION, 151 miles. Here the country becomes rough and broken, surrounded by the lead region of Illinois and Wisconsin. Westward, the railroad passes through some deep cuts, and over high embankments.

SCALE'S MOUND, 160 miles, is a small settlement, surrounded by a hilly section of country, filled with lead mines.

COUNCIL HILL, 165 miles, is another small settlement, surrounded by lead mines, where excavations may be seen along the roadside. Westward the line of the railroad is very crooked, presenting some beautiful scenery as you approach Fevre River.

The City of **Galena**, 172 miles west of Chicago, the capital of Jo Daviess County, is an old and flourishing place of business, situated on Fevre river, six miles above its entrance into the Mississippi river. It is situated in a romantic ravine, and on hill-sides of great natural beauty. Galena owes its importance, mainly, to the rich mines of lead with which it is surrounded, and possessing a secure harbor for steamers. Here are eight or ten churches, two banks, several hotels, numerous stores, and many fine private dwellings. Population, about 8,000. The trade of this city, formerly, was very extensive, but since the completion of the railroad to Dunleith, and access to Dubuque, it has, in part, lost its commercial importance, yet it is still a place of much wealth.

MENOMINEE STATION, 180 miles from Chicago, lies near the Mississippi River, where its waters are first seen flowing onward to the Gulf of Mexico.

Dunleith, Illinois, lies on the east bank of the Mississippi, here about half a mile in width, directly opposite Dubuque, by which it is connected by a steam ferry. The *Illinois Central Railroad* terminates here, running north from Cairo, 496 miles, thus forming, in part, a line of travel to Chicago, and a through line of travel to the mouth of the Ohio river. At Dunleith are a machine shop and foundry, an elevator for grain, a few stores and store-houses, public-houses and about 500 inhabitants.

DUBUQUE.

The City of **Dubuque** is advantageously situated on the west bank of the Mississippi river, here about half a mile in width, the bluffs being about one mile apart, in N. lat. 42° 30', W. long., 576 feet above the Gulf of Mexico. It stands on a plateau of ground, elevated about 20 feet above high water in the river, with bluffs rising to the height of 175 feet, which are of varied form, easy of access, and occupied by private residences, affording from their summits a fine view of the city and river. Dubuque was first settled in 1832, and incorporated as a city in 1847, being the county seat of Dubuque County. It is divided into five wards, and in 1865 contained a population of 16,814 inhabitants, and is rapidly increasing.

The city contains a United States Custom House, built of Nauvoo limestone, and accommodates the post office, the assessor and collector of the internal revenue for the third Congressional district, the office of the surveyor-general for Iowa and Wisconsin, and the clerk of the U. S. district court, and the court-room for said court; the county buildings, and a city hall, containing a general market, city court-room, room for the meeting of the city council, other offices for city purposes, and a large hall capable of seating 5,000 people; eighteen churches of different denominations; three public school buildings, attended by 600 pupils, a high-school building and several, primary school buildings; also, the Lee Seminary, a private school for young ladies;



three national banks, and several private banks; a fire insurance company and numerous agencies; five hotels, and numerous stores and warehouses. Here are two large distilleries, six breweries, a brass and iron foundry, two flouring mills, five saw mills, a tub and pail factory, three sash, door and blind manufactories, a window shade factory, a threshing machine factory, a steam engine factory, two boiler factories, a car factory, and many other manufacturing establishments.

The *Dubuque and Sioux City Railroad* is now finished to Iowa Falls, 144 miles, and will soon be completed to Fort Dodge, 200 miles. When finished to Sioux City, on the Missouri River, a total distance of 325 miles, with its south-western branch to Cedar Rapids, it will afford great advantages to this portion of Iowa. A railroad is also being constructed from Cedar Falls to St. Paul, Minn., running in a northerly direction. Steamers of a large class form daily lines to St. Louis, on the south, and Prairie du Chien, and St. Paul, on the north, connecting with railroads running east and west.

HISTORY OF DUBUQUE.

DUBUQUE was the first place permanently occupied by white men in the State of Iowa. The first white persons who saw the beautiful prairie on which the city now stands were Father MARQUETTE and his companions, connected with the Catholic Missions in Canada, and then upon a voyage for missionary purposes and exploration down the Mississippi. At that time—in the summer of 1673—heavy timber covered the bluffs, and scattering oaks grew upon the plateau now occupied by costly buildings. It was nearly a hundred years afterwards before trading posts were established on the Mississippi river, at Kaskaskia, St. Louis, and Prairie du Chien, and not until 1788, that JULIEN DUBUQUE, a Frenchman, obtained permission of the Sac and Fox Indians, in a council held at Prairie du Chien, to explore and work the lead mines in the vicinity of Dubuque. The same privilege was also granted to him in 1796 by Baron Carondelet, Governor of Louisiana, then a Spanish province, embracing all the land west of the Mississippi. He died in 1810, and was buried on the point of a steep bluff below the city.

The Upper Mississippi lead mines were first worked on the east side of the river by the Indians to furnish a means of commerce with the Indian traders. In 1823 they were worked by white men in the neighborhood of Galena, Ill.

The Black Hawk war commenced in 1831, and was closed in 1832. After the treaty made with the Sacs and Foxes, in the fall of the latter year, the Indians abandoned the place, the whites returned, and the first permanent settlement was made—the only one then in the territory west of the Mississippi, and north of the State of Missouri.

At this time no part of Iowa had been obtained from the Indians. The country west of the Mississippi was a part of the "Louisiana purchase," obtained from the French government in 1803. That part of the territory, including what is now Iowa, was successively a part of the country attached to the Territory of Orleans, of Louisiana, of Indiana, and subsequently of Missouri until 1821.

After the admission of Missouri, in the last named year, the territory north of that State and west of the river—a part of which is now Iowa—remained unorganized, until settlements had been made on the west side of the river, and this region was attached to Michigan Territory in 1834.

In 1836, Iowa became a part of Wisconsin Territory, and was organized as Iowa Territory, in 1838. In 1847 it was admitted into the Union as a State.

The progress of Dubuque since 1838 may be inferred from the facts that the "corporation tax" of that year amounted to only \$524, and in 1839 to \$740, while the city tax levied in 1857 exceeded \$113,000. The assessed value of the property in the latter year was nearly \$14,000,000. From 1840 to 1850, the population increased from 1,000 to 4,071. The corporate limits then included one mile square. They have since, by an amendment made to the charter in 1852, been made to include about eleven square miles. The population, by a census taken in 1865, was 15,814.

The first permanent settlement in Iowa may be said to have been made here, and the appropriate name DUBUQUE given it by the sanction of a public meeting held in 1833, in honor of the name of its first settler, forty-five years before.

The land upon which the principal part

of the city is built is, upon an average, forty feet above the river, is mostly of a sandy and gravelly nature, and, therefore, generally dry. Few cities are so fortunate in relation to health. The ratio of deaths, to the whole number of inhabitants, appears, by the mortuary statistics for many years past, to be only about one in a hundred.

The climate of the whole of Iowa is represented as excellent; the air, especially on the prairies, being dry and bracing. The mean annual temperature varies from 46° to 52° Fahrenheit. The country generally, excepting the low margins of the rivers, is as free from epidemic diseases as the most favored portion of the Union.

The bluffs afford good quarries of building stone, and extensive brick manufactories are in operation within the city limits. A number of lumber yards and steam saw-mills are supplied by rafts

of material from the pineries of Wisconsin and Minnesota.

One of the greatest sources of natural wealth in this vicinity are the inexhaustible mines of lead, yielding, even with the present imperfect mining, a product of nearly half a million dollars annually.

The position of Dubuque, upon the Mississippi, nearly midway between St. Louis and St. Paul, about four hundred miles equi-distant, and also its location on the railroad lines across northern Illinois and southern Wisconsin, have made it the center of trade for this portion of the North-west. Sustained as the city is, by Railroads running west towards the Missouri river and the trade to a great extent, of the northern half of Iowa, and a part of that of Minnesota and western Wisconsin, and eventually of Nebraska and Dacotah, it is, no doubt, destined to become a large and important commercial metropolis.

The River Commerce of the West.

So much has been said heretofore of the immense Commerce of the Northern Lakes, and the River Commerce of the West, that it may be worth while to call

attention to the following Tabular Statement, showing the amount of Tonnage belonging to the leading ports on the Mississippi river and its tributaries:

Custom Houses.	No. of steamers.	Registered tonnage.	Capacity in tons.	Value in dollars.
Cincinnati.....	150	80,497 16	42,968	\$4,134,000
Dubuque.....	20	3,204 87	5,187	459,500
Evansville.....	25	3,048 51	5,019	402,600
Galena.....	20	2,397 77	3,805	435,000
Keokuk.....	15	1,178 86	2,192	178,500
Louisville.....	66	14,100 64	25,425	1,994,500
Memphis.....	60	9,849 62	15,121	1,011,200
Nashville.....	12	1,188 06	2,156	108,000
New Orleans.....	80	15,860 07	21,625	1,292,000
Paducah.....	10	2,100 80	2,898	265,000
Pittsburgh.....	159	88,598 00	42,471	3,920,800
St. Paul.....	89	8,088 52	4,978	607,500
St. Louis.....	210	86,582 84	110,760	8,830,000
Wheeling.....	44	9,588 11	8,075	918,000
Total.....	910	316,067 83	292,144	\$24,586,600

These figures are compiled from authentic records by a western official, and may be relied upon. They show that the war has not destroyed the commerce of the western rivers, as had been erroneously supposed. The great depots of this commerce are St. Louis, Pittsburgh, Cincinnati, New Orleans, and Louisville, in the order named. The pre-eminence of St. Louis and Pittsburgh is owing to their being the terminal points of the water route of the great transit from the seaboard to the Mississippi. Beginning

at Philadelphia, this transit reaches Pittsburgh by railroad, and there the water route begins. How vast this interest is, we see in the prosperity of the intermediate cities of Wheeling, Cincinnati, Louisville, and Evansville. Notwithstanding all that has been said of the miserable navigation of the Ohio, this table shows that the commerce of that river still remains the principal item in the trade of the West, despite all the rivalry of great lines of Railway.

INFORMATION FOR TRAVELERS.

THE following are the Lines of Railroad running North, North-west, West, South-west, or South from Chicago, with the leading points to which they tend, or which are taken upon their course. These lines form the main arteries of the great Railway System of the West, of which Chicago may not be inaptly termed the heart, and they are cut and crossed in every conceivable direction by other roads, carrying the traveler to within a few miles of any point he may desire to reach. On many of these roads there is no second-class fare; we give it in all cases where tickets are issued at other than first-class rates:

1. The *Milwaukee Division* of the Chicago and North-Western Railway, skirts the western shore of Lake Michigan a distance of 85 miles, thence to La Crosse on the Mississippi river, via *Milwaukee and St. Paul Railway*, 280 miles, where it connects with Steamers for St. Paul and other points on the Upper Mississippi. The following are the Distances and Fares from Chicago:

	Miles.	1st Class.	2d Class.
Milwaukee.....	85		
La Crosse.....	280		
Winona.....	320		
St. Paul.....	486		

2. The *Chicago and North-Western Railway* [main line] runs from Chicago in a northwesterly direction to Janesville, a distance of 91 miles, and thence runs almost due north to the head of Green Bay, skirting the western shore of Lake Michigan at a distance of about 14 miles. The distance to Green Bay [Fort Howard] is 242 miles. Thence by Steamer to Escanaba is about 95 miles. This point is at the lower end of Green Bay whence to Marquette, on Lake Superior, is 75 miles. The following are the Distances of these points from Chicago with the Fares:

	Miles.	1st Class.
Janesville.....	91	\$8.50
Fort Howard.....	242	8.75
Escanaba.....	337	10.00
Marquette.....	412	10.00

3. The *Galena Division* of the North-western Railroad runs due west from Chicago in a straight line to the Mississippi on the west border of the State of Illinois, at Fulton, a distance of 136 miles; crossing the Mississippi River on a splendid *iron bridge* to Clinton, Iowa, thence through Cedar Rapids and Boone to Council Bluffs and OMAHA, where connections are made with the GREAT UNION PACIFIC RAILWAY, now com-

pleted to LARAMIE, 571 miles west of Omaha.

At Missouri Valley Junction, Iowa, the *Pacific and Sioux City Railroad* runs 75 miles to Sioux City.

The following are the Distances and Fares from Chicago:

	Miles.	1st Class.	2d Class.
Fulton	126	\$5.45	\$4.25
Boone	342	14.90	....
Council Bluffs...	491	21.50	....
Omaha	494	22.00	....
Sioux City.....	544	25.00	....

The *Chicago and Northwestern Railway* also runs trains to, or connecting with, trains for Madison, Wisconsin, and Prairie du Chien on the Mississippi.

	Miles.	1st Class.	2d Class.
Madison.....	188	\$5.00	....
Prairie du Chien.	239	9.00	\$7.50

5. The *Chicago, Burlington and Quincy Railroad* runs from Chicago south-west by west to Galesburg, in the interior of the State, where it divides, one branch going to Burlington, and another to Quincy, both points lying on the Mississippi river. At Quincy it connects with the Hannibal and St. Joseph Railroad, which runs across the State of Missouri to the Missouri river, connecting at St. Joseph with packet lines to all points on the Missouri; also connects with stage lines to all the most important points west of the Missouri. The following are the Distances and Fares from Chicago:

	Miles.	1st Class.	2d Class.
Galesburg.....	165		
Burlington.....	210		
Quincy.....	265		
St. Joseph.....	471		

6. The *Chicago and Rock Island Rail-*

road runs across the State of Illinois, nearly due west from Chicago, to Rock Island, on the Mississippi river, and is continued in the Mississippi and Missouri Railroad to Kellogg, about half way across the State of Iowa, and the extension across the State to Council Bluffs and Omaha City is in progress [now supplied by stages]. The following are the Distances and Fares:

	Miles.	1st Class.	2d Class.
Rock Island.....	183		
Kellogg.....	315		
Council Bluffs...	446		

7. The *Chicago and St. Louis Railroad* runs through the State of Illinois in a south-west by south direction, taking a number of the most important towns on its course—as Bloomington and Springfield. It connects with Steamers to all points on the Mississippi and Missouri rivers. The Distances and Fares are as follows:

	Miles.	1st Class.	2d Class.
Bloomington....	126		
Springfield.....	185		
Alton.....	257		
St. Louis.....	290		

8. The *Illinois Central Railroad* runs from Chicago nearly south to Cairo, at the junction of the Ohio and Mississippi rivers. At three-fourths of the distance thither, it joins at Centralia with the main line which runs from Centralia to Dunleith, taking a meridional course right through the middle of the State. It connects at Cairo with Steamers to all points. The following are the Distances and Fares:

	Miles.	1st Class.
Centralia.....	258	
Cairo.....	365	

CHICAGO to DUNLEITH and DUBUQUE,

VIA NORTH WESTERN RAILWAY, CONNECTING AT DUBUQUE WITH THE NORTH WESTERN UNION PACKET LINE OF STEAMERS RUNNING ON THE UPPER MISSISSIPPI RIVER.



Going West.		Officers.	Going East.	
Through Passenger Trains leave Chicago for Freeport and Dunleith at 9 A.M. and 10 P.M.		WM. B. OGDEN, <i>Pres.</i> , Chicago. GEO. L. DUNLAP, <i>Supt.</i> , " B. F. PATRICK, <i>Pass. Agt.</i> , "	Through Passenger Trains leave Dunleith for Freeport, Chicago, etc., at 5 A.M. and 5 P.M.	
STATIONS.	Miles. Fare.	Connecting Lines.	STATIONS.	Miles. Fare.
CHICAGO	0 \$ cts.	Railroads and Steamers.	DUBUQUE	0 \$ cts:
Harlem.....	9		DUNLEITH	0
Cottage Hill.....	16		Menominee	8
Danby.....	23	Chicago, Burlington & Quincy Railway.	Galena	17
Winfield.....	28		Council Hill	24
Junction	30	Fox River Valley Railroad.	Scales Mound.....	29
Wayne.....	35		Apple River.....	38
Clintonville.....	39		WARREN.....	44
ELGIN.....	42		Nora	47
Gilbert's	50		Lena	55
Huntley	55		Eleroy	60
Union	62		Freeport.....	68
Marengo	68		(Chicago & N. Western R.R.)	
Garden Prairie....	72	Beloit and Madison Branch.	Ridott.....	75
BELVIDERE	78 3 15		Pecatonica	83
Cherry Valley	84	Kenosha & Rockford Railroad.	Winnebago	90
Rockford.....	92 3 70		Rockford.....	97
Winnebago.....	99		Cherry Valley ...	105
Pecatonica	106		BELVIDERE.....	111
Ridott	114		Garden Prairie...117	
Freeport.....	121 4 85	Illinois Central Railroad, running from Dunleith to Cairo.	Marengo.....	123
(Illinois Central Railroad.)			Union	127
Eleroy	129		Huntley	134
Lena	134		Gilbert's.....	139
Nora	142		ELGIN	147
WARREN.....	145	Mineral Point Railroad, 32 miles in length.	Clintonville.....	150
Apple River.....	151		Wayne	154
Scales Mound.....	160		Junction	159
Council Hill.....	165		Winfield	161
Galena	172 7 30		Danby.....	166
Menominee	181		Cottage Hill.....	173
DUNLEITH.....	189 7 95	Steamers on Mississippi River.	Harlem.....	180
DUBUQUE ...	8 45	Dubuque and Sioux Railroad.	CHICAGO	189

CHICAGO to GREEN BAY, Wisconsin,
VIA CHICAGO AND NORTHWESTERN RAILWAY, CONNECTING WITH STEAMERS
FOR LAKE SUPERIOR, ETC.

Going North.	Officers.	Going South.
Through Passenger Trains for Green Bay and St. Paul, Minn., leave at 9 A.M. and 4.30 P.M.	WM. B. OGDEN, <i>Pres.</i> , Chicago. GEO. L. DUNLOP, <i>Supt.</i> , " A. A. HOBART, <i>Asst. Supt.</i> , " B. F. PATRICK, <i>Pass. Agt.</i> , "	Through Passenger Trains leave Green Bay for Chicago, etc., at 6.20 A.M. and 4.15 P.M..
STATIONS. Miles. Fare.	Connecting Lines.	STATIONS. Miles. Fare.
CHICAGO 0 \$ cts. Des Plaines..... 16 Dunton..... 22 Palatine..... 26 Barrington..... 31 Crystal Lake..... 42 WOODSTOCK..... 51 HARVARD..... 62 2 50 Sharon, Wis..... 70 CLINTON..... 78 3 15 Shopiere..... 82 Janesville..... 91 3 50 MILTON JUNCTION... 99 3 80 Fort Atkinson... 110 Jefferson..... 116 Watertown..... 130 4 75 Juneau..... 145 Minn. Junction... 148 5 00 Burnett..... 151 Chester..... 160 Oakfield..... 168 Fond du Lac... 176 6 25 OSHKOSH..... 193 6 80 Menasha..... 206 APPLETON..... 213 7 60 Little Chute..... 218 Kaukauna..... 220 Wrightstown... 226 De Pere..... 236 Fort Howard... 242 GREEN BAY 242 8 75	Railroads and Steamers. Fox River Valley Railroad. Kenosha and Rock River R.R. Racine and Mississippi R. R. Janesville Junction Railroad. Milwaukee & Prairie du Chien Railroad, for Madison, etc. Milwaukee & St. Paul R.R. for Portage City, La Crosse, etc. Milwaukee and St. Paul R.R. for Beaver Dam, etc. Horicon Div. to Berlin, etc. Steamers on Lake Winnebago. Steamers on Fox and Wolf Rivers, etc. Steamers for Escanaba, Lake Michigan, etc.	GREEN BAY . 0 \$ cts. Fort Howard... 1 De Pere..... 6 Wrightstown... 16 Kaukauna..... 25 Little Chute..... 26 APPLETON..... 28 Menasha..... 35 OSHKOSH..... 48 Fond du Lac... 65 Oakfield..... 74 Chester..... 82 Burnett..... 87 Minn. Junction... 94 Juneau..... 97 Watertown... 112 Jefferson..... 125 Fort Atkinson... 131 MILTON JUNCTION... 143 Janesville..... 151 Shopiere..... Clinton..... 164 Sharon..... Harvard, Ill..... 179 Woodstock..... 191 Crystal Lake... 199 Barrington..... 210 Palatine..... 216 Dunton..... 220 Des Plaines... 225 CHICAGO 242

STEAMBOAT ROUTE

FROM GREEN BAY TO ESCANABA, MICH.

A Steamer runs daily, during the Season of Navigation, on the arrival of the Cars from CHICAGO, for ESCANABA, connecting with Cars on the *Peninsula Railroad*, for MARQUETTE—thus forming a Through Line of Travel from Chicago to Lake Superior.

RAILROAD AND STEAMBOAT ROUTE,

FROM CHICAGO to GREEN BAY and LAKE SUPERIOR, via the CHICAGO AND NORTH WESTERN RAILWAY, connecting with the MILWAUKEE AND PRAIRIE DU CHIEN RAILWAY, and with the MILWAUKEE AND ST. PAUL RAILWAY.

On leaving CHICAGO from Kinzie street depot, the railway runs direct over a level prairie, to DES PLAINES RIVER and STATION, 16 miles. Here is a beautiful growth of wood along the margin of the river, being the first passed.

DUNTON, 22 miles from Chicago, is a small village, surrounded by a fine section of country.

PALATINE, 26 miles, is finely situated on a rolling prairie, producing large crops of corn and wheat.

BARRINGTON, 31 miles, is another small village. Young timber, consisting of oak, poplar, basswood, and hickory, is seen in every direction, the land being hilly on approaching Fox river, where an iron bridge spans the stream.

CARY, 38 miles, is a small settlement.

CRYSTAL LAKE STATION, 42 miles, is one mile from the village and lake of the same name. A branch railroad runs to the lake, from which large quantities of ice are annually taken and carried to Chicago, the water being of a very pure quality.

WOODSTOCK, 51 miles, capital of McHenry county, is a flourishing village of about 1,500 inhabitants, being surrounded by a fertile section of country.

HARVARD, 63 miles, is a thriving village, where passengers usually stop for refreshments. The *Kenosha Railroad* crosses at this station, running west to Rockford, Illinois.

CLINTON JUNCTION, 78 miles. The WESTERN UNION RAILROAD, running from Racine, Wis., to Savanna, Ill., 142 miles, crosses at this station.

Janesville, 91 miles, is a flourishing city, capital of Rock County, Wis. It is finely situated on both sides of Rock river, 45 miles southeast of Madison, and 63 miles southwest of Milwaukee, by railroad. It contains a court house and jail, ten churches, several public houses, two national banks, and the State institution for the blind. Rock river here affords extensive water power, which is employed in mills and factories of various kinds, there being six flouring mills, two saw mills, two woolen factories, machine shops, foundries, &c. It was incorporated as a city in 1853, and contained in 1865 about 8,000 inhabitants.

MILTON JUNCTION, 99 miles. Here the *Chicago and North-Western Railway* unites with the *Milwaukee and Prairie du Chien Railway*. Passengers bound for Prairie du Chien run direct through Madison, Wis., to the Mississippi river, forming a favorite route of travel to Iowa and Minnesota.

FORT ATKINSON, 110 miles, is an old military post and settlement situated on Rock river.

JEFFERSON, 116 miles, the capital of Jefferson County, Wis., is a flourishing village, containing 1,600 inhabitants.

The City of **Watertown**, 130 miles north of Chicago, and 43 miles northwest of Milwaukee, with which it is connected by railroad, is a large and flourishing town, situated on Rock river, where is a good water power. It contained, in 1865, 6,682 inhabitants, being surrounded by a fertile and rich section of country. Here is the junction of the

Chicago and North-Western, and *Milwaukee and St. Paul Railways*, being distant 151 miles from La Crosse.

JUNEAU, 145 miles, is a small village, being the capital of Dodge county, named in memory of the first white settler of Wisconsin. Besides the county buildings, there are two churches, two hotels, and several stores.

MINNESOTA JUNCTION, 148 miles. Here a Railroad branches off to *Beaver Dam* and other stations northwest.

BURNET, 151 miles, is a small village situated on the west side of Horicon Lake.

CHESTER, 160 miles, is situated on the west side of Lake Horicon, which is about twelve miles long and six miles wide.

OSKFIELD, 168 miles is a small settlement.

Fond du Lac, capital of Fond du Lac County, is a flourishing city, favorably situated at the head of Lake Winnebago, 87 miles N. N. W. from Milwaukee, and 176 miles from Chicago, by the *Chicago and North-Western Railway*, now finished through to Green Bay, a total distance of 242 miles. Here are located the county buildings, ten churches, four banks, six public-houses, 100 stores of different kinds, a steam grist mill, ten steam saw mills, a steam car factory, steam engine manufactory, machine shops, and various other manufacturing establishments. Population, 11,000. The lumber and produce business is very extensively carried on here, affording profitable returns. Fond du Lac is celebrated for its *fountains*, water being found of a pure quality by means of Artesian Wells, in which the city abounds.

The City of **Oshkosh**, 193 miles from Chicago, lying on the west side of Lake Winnebago, 20 miles north of Fond du Lac, is a large and flourishing place,

being favorably situated at the mouth of Fox river on both sides of the stream. It now contains an active population of about 9,000 inhabitants. From its wharves steamers run to all the ports on the lake and Fox river, while the *Chicago and North-Western Railway* extends northward to Green Bay. It contains the county buildings, ten churches, several well-kept hotels, 100 stores of different kinds, besides steam grist mills, steam saw mills, iron foundries, cabinet shops, and a great number of other manufacturing establishments. This is a great mart for lumber, being brought down the Fox or Wolf river for upwards of 100 miles, this stream flowing through a fine *pine region* of country, for which northern Wisconsin is justly celebrated.

LAKE WINNEBAGO is a most beautiful sheet of water, being 32 miles long and about 12 miles wide, with bold land on the east shore, while on the west it seems elevated but a few feet above the waters of the lake. It abounds with several varieties of fish, of a fine flavor, affording rare sport to the angler. Steamers run through the Upper Fox or Wolf river, emptying into the lake at Oshkosh, for upwards of 100 miles, bringing down immense quantities of lumber, and agricultural products.

The *Fox River Improvement* is a work of great magnitude, affording by means of locks and dams a water communication from Green Bay to Lake Winnebago, and thence south-westward through the Upper Fox river to Portage City, where, by means of a canal, it interlocks with the Wisconsin river, falling into the Mississippi at Prairie du Chien.

This enterprise is thus graphically described:

“‘**MERTING OF THE WATERS.**’—A gentleman, recently from Green Bay, mentioned a curious fact a day or two since

illustrative of the results of the completion of the River Improvement. He saw lying at the docks in that place the steamer *Appleton Belle*, built at Pittsburgh, and the steamer *Gurdon Grant*, built at Philadelphia—points on opposite sides of the Alleghany Mountains, and on waters flowing on one hand to the Atlantic, and on the other to the Mississippi and Gulf of Mexico. The *Belle* had sailed northward and westward through the Ohio, Mississippi, and Wisconsin; and the *Grant* in a contrary direction through the Delaware and Hudson, along the Erie Canal, and the chain of the Great Lakes. These are the victories of commerce, in which Wisconsin is playing a prominent part."

NEENAH, lying at the foot of Lake Winnebago, on the west shore, is a flourishing village of about 2,500 inhabitants.

MENASHA, 35 miles from Green Bay, is situated on an expansion of the river, here called *Lake Butte des Morts*, where is a lock and a canal of about one mile in length. Here are several large manufacturing establishments, and a population of about 2,000.

APPLETON, Outagamie Co., Wis., 213 miles from Chicago, is situated on Fox or Neenah river, 30 miles from its entrance into Green Bay, and five miles from Lake Winnebago, where are rapids called the *Grand Chute*. The river descends here about 30 feet in one mile and a half, affording an inexhaustible amount of water-power. Here are located three flouring mills, six saw mills, and several other extensive manufacturing establishments. This is the capital of the county, where is situated the *Lawrence University*; and it is no doubt destined to become a large manufacturing and commercial place, from the facilities which it possesses, by means of navigation and hydraulic power. Population, 3,000. Steamers run south

into Lake Winnebago, and north into Green Bay.

The approach to Appleton from Green Bay, by water, is most lovely and picturesque—the river here winding through a rich section of country, clothed for several miles by a dense forest, extending to the very margin of the water. During the early autumn months, the scene is truly gorgeous, the foliage presenting every variety of color.

LITTLE CHUTE, 25 miles from Green Bay, is a small French settlement, where is an old Roman Catholic Mission House. Here are four locks, there being a descent of 40 feet in the river.

KAUKAUNA, 4 miles further, is a small village. Here are five locks, overcoming a fall of 60 feet.

WRIGHTSTOWN, 16 miles from Green Bay, is a small settlement, where is a steam saw mill and other manufacturing establishments.

LITTLE KAUKAUNA, here is a fall of 8 feet, with lock and dam.

DE PERE, 6 miles above Green Bay, is a town of about 700 inhabitants, where is a fall of 8 feet, also a lock for the passage of steamers.

Green Bay to Fond du Lac, Wisconsin.

There is now a railroad and steamboat route, extending from Green Bay to Appleton, Oshkosh, and Fond du Lac, situated at the head of Lake Winnebago, 60 miles distant, the latter passing through Fox river and the above beautiful sheet of water.

FOX, or NEENAH RIVER rises in Marquette Co., Wis., and, passing through Lake Winnebago, forms its outlet. This important stream is rendered navigable for steamers of a small class by means

of dams and locks, forming, in connection with a short canal to the Wisconsin river, a direct water communication from Green Bay to the Mississippi river, a distance of about 200 miles. The rapids in the lower part of Fox river afford an immense water-power, while the upper section of country through which it flows, produces lumber and grain in great abundance. Here is a fall of 170 feet in the distance of 35 miles, after leaving Lake Winnebago.

The City of **Green Bay**, and capital of Brown Co., Wis., is favorably situated at the head of Green Bay, where enters the Lower Fox and East rivers, both being navigable for a few miles, the former being improved, by means of locks and canals, so as to form a navigable communication with Lake Winnebago and the Upper Fox river, connecting by means of a canal, $1\frac{1}{2}$ miles in length, with the Wisconsin river, emptying into the Mississippi at Prairie du Chien. It is thus on the line of water communication between the Gulf of Mexico and the Gulf of St. Lawrence. The capacity of the harbor is unequalled, there being a sufficient depth of water to admit vessels of a large size, and room to accommodate all the shipping of the Upper Lakes. The *Chicago and North-Western Railway* terminates at Fort Howard, opposite Green Bay, being 242 miles in length, uniting with lines of travel through Wisconsin, and connecting at its terminus with lines of Steamers running to Escanaba, Mackinac, and other ports of Canada and the United States. A railroad is proposed to be built to run from Green Bay to St. Paul, Minn., and another to run north to Escanaba—thus making a direct railroad communication from Milwaukee and Chicago, to Lake Superior. This latter route has become a favorite

pleasure trip, connecting at Green Bay with a daily line of Steamers running to Escanaba, Mich., there again connecting with the *Peninsular Railroad*, running to the Iron and Copper mines of Lake Superior.

A free drawbridge connects Green Bay with *Fort Howard*, where is located the railroad depot, the river here being about one third of a mile in width. Docks are erected on both sides of the stream for the accommodation of vessels.

The city of *Green Bay* and *Fort Howard*, united, contain a population of about 4,000 inhabitants, their interest being closely identified. Here are congregated ten churches, two national banks, ten hotels, fifty or sixty stores and warehouses, two elevators, one steam grist mill, steam saw mills, one iron foundry and machine shop, one ship yard for building steamers, &c.

The water power of Fox river, it having a descent of 170 feet below Lake Winnebago, affords advantages unsurpassed for milling and manufacturing purposes. At *De Pere*, 5 miles above Green Bay, where lake navigation ceases, there being a fall of 12 feet in the river, are located numerous mills and manufacturing establishments, the water-power being as yet but partially improved, affording room for other establishments.

GREEN BAY, about 100 miles long and from 20 to 30 miles wide, is a splendid sheet of water, destined no doubt to be enlivened with commerce and pleasure excursions. Here are to be seen a number of picturesque islands and headlands. Several important streams enter into Green Bay, the largest of which is Neenah or Fox river, at its head, and is the outlet of Winnebago Lake. Menomonee river forms the boundary between the States of Wisconsin and Michigan, and

empties into the bay opposite Green Island.

The recent improvement of the Fox and Wisconsin rivers not only opens steamboat navigation between the Bay and the head of Lake Winnebago, but it connects the Fox and Wisconsin rivers, one of which, flowing northward, falls into the Atlantic through the St. Lawrence, and the other, running southward, discharges its waters, through the Mississippi, into the Gulf of Mexico. By this connection a steamer can start from

New Orleans, pass up the Mississippi to the mouth of the Wisconsin, pass up this river to Portage, through a short canal to the Upper Fox river, down this river to Lake Winnebago, at Oshkosh—down the lake to the point where it contracts into the Lower Fox—down this romantic river some thirty-five miles, by means of numerous canals around the principal rapids, into Green Bay, and so on without interruption through the great lakes into the St. Lawrence to the Atlantic Ocean.

GREEN BAY to ESCANABA and MARQUETTE,

By STEAMER and RAILROAD ROUTE.

On leaving the City of GREEN BAY in one of the steamers of the Green Bay Transit Company for Escanaba, 100 miles, you pass through one of the most beautiful sheets of water, connecting with Lake Michigan on the north.

The harbor of Green Bay is formed by the Fox or Neenah river, which here enters from the south, the outward channel being crooked and circuitous until the Light-house, 7 miles distant, is passed, when the bay widens, and a large expanse of water is presented to view.

OONTO, 30 miles north of Green Bay, having daily communication by steamboat, is a flourishing lumbering village lying on the west side of the bay, at the mouth of a river of the same name.

LITTLE STURGEON POINT, 40 miles, lies on the east shore.

STURGEON BAY is a deep indentation, running nearly across the neck of land which separates Green Bay from Lake Michigan, where it is proposed to construct a ship canal.

MENOMONEE, 58 miles, lies at the mouth of the river of the same name,

which divides the States of Wisconsin and Michigan. This is a large and flourishing lumbering village, from where are annually shipped large quantities of lumber to Chicago, and eastern markets.

GREEN ISLAND, 60 miles, being half-way to Escanaba, lies in the middle of the bay, where is a light-house to guide the mariner.

HAT ISLAND and STRAWBERRY ISLAND are small bodies of land passed on the east, near the main shore.

CHAMBER'S ISLAND, 75 miles, is a large and fertile body of land, lying near the middle of the bay, here being about 20 miles wide.

PORT DES MORTS, or DEATH'S DOOR, is the entrance into Lake Michigan, separating the main land from Washington Island, on the north, which is attached to the State of Michigan. To the east lie the broad waters of Lake Michigan.

CEDAR RIVER, 90 miles, enters from the west, where is a lumbering establishment, the whole west shore of Green Bay producing a large growth of pine and other kinds of timber.

The Steamer now runs direct for *Little Bay de Noquet*, 30 miles distant, affording a view of the waters of Lake Michigan on the east, while to the north lies *Great Bay de Noquet*, about 10 miles wide and 20 miles in length.

PENSAUKEE, PESHTIGO, and other towns are springing up on the west shore of Green Bay, where are to be found numerous large lumber establishments, situated on the streams running into the bay.

ESCANABA, Delta Co., Michigan, is a new and promising town, situated on the western shore of Little Bay de Noc, 120 miles north of the city of Green Bay, and at the southern terminus of the *Peninsula Railroad of Michigan*. This place, laid out in the Spring of 1864, has commanding advantages, where is a good and secure harbor, of easy access, with a sufficient depth of water for the largest class of vessels navigating the lakes. The docks erected by the railroad company are of a substantial and commodious character, intended for the transshipment of iron and copper ore from the Lake Superior mines, distant about 65 miles.

The site of the town lies on Sand Point,

where is a favorable view of the waters of Green Bay lying to the south, and Little Bay de Noc on the north. The streets are laid out at right angles, with ample public grounds adjoining the waterfront. Stores and warehouses are about being erected, also a church, and a first-class hotel. The future of this place is hard to predict, its growth being identified with the rich mineral deposits of the Upper Peninsula of Michigan, bordering on Lake Superior.

The *Peninsular Railroad* runs from the wharf at Escanaba, through a new and wild section of country to Negaunee, 62 miles, there intersecting the *Bay de Noquet and Marquette Railroad*, 14 miles above Marquette, forming a through line of travel.

The *Bay de Noquet and Marquette*, and the *Marquette and Ontonagon Railroads*, form a connection at the iron mines, and now extend to Lake Michigan, 40 miles from Marquette. This important road will be extended to Ontonagon, 120 miles, also, to Portage Lake, thus connecting the iron and copper regions of Lake Superior.



MILWAUKEE TO MADISON & PRAIRIE DU CHIEN,
VIA MILWAUKEE AND PRAIRIE DU CHIEN RAILWAY, CONNECTING WITH
RAILROAD & STEAMERS FOR ST. PAUL, MINN.



Going West.		Officers.	Going East.	
Through Passenger Trains leave Milwaukee at 11 A. M. and 9 P. M.		L. H. MEYER, <i>Pres.</i> , N. York. S. S. MERRILL, <i>Gen. Man.</i> , Milwaukee.	Through Passenger Trains leave Prairie du Chien at 7.50 A. M. and 9 P. M.	
STATIONS.	Miles. Fare.	Connecting Lines.	STATIONS.	Miles. Fare.
Milwaukee.....	0 \$ cts.	Railroads and Steamers.	Prairie du Chien	0 \$ cts.
Elm Grove.....	10	Milwaukee and St. Paul R. R., for Watertown, Portage City, La Crosse, etc.	Lower Town.....	2
JUNCTION.....	14	Chicago and Northwestern R. R., running from Chicago to Green Bay, etc.	Bridgeport.....	8
Waukesha.....	20	Beloit and Madison R. R.	Wauzeka.....	18
Genesee.....	28	Wisconsin River.	Woodman.....	22
Eagle.....	38	Mississippi River & McGregor Western R. R.	Boscobel.....	28
Palmyra.....	42	Steamers for St. Paul, etc.	Muscoda.....	43
WHITE WATER.....	50		Avoca.....	49
Milton.....	62		Lone Rock.....	55
Milton Junc.....	63		Spring Green.....	62
Edgerton.....	70		Arena.....	69
Stoughton.....	80		Mazomanie.....	75
McFarland.....	89		Black Earth.....	79
Madison.....	95		Cross Plains.....	84
Middleton.....	102		Middleton.....	92
Cross Plains.....	110		Madison.....	98
Black Earth.....	115		McFarland.....	105
Mazomanie.....	118		Stoughton.....	113
Arena.....	124		Edgerton.....	123
Spring Green.....	132		Milton Junction.....	130
Lone Rock.....	138		Milton.....	132
Avoca.....	145		WHITE WATER.....	143
Muscoda.....	151		Palmyra.....	152
Boscobel.....	165		Eagle.....	157
Woodman.....	171		Genesee.....	165
Wauzeka.....	176		Waukesha.....	173
Bridgeport.....	186		JUNCTION.....	180
Lower Town.....	192		Elm Grove.....	184
Prairie du Chien	194		Milwaukee.....	194

☛ The MILWAUKEE and PRAIRIE DU CHIEN RAILWAY, in connection with the DETROIT and MILWAUKEE RAILROAD, and other Railroads, form a direct Line of Travel from the Eastern States and Canada, to the Mississippi River.

CHICAGO to MILWAUKEE, LA CROSSE & ST. PAUL

VIA CHICAGO AND MILWAUKEE, AND MILWAUKEE AND ST. PAUL RAILROADS.

Going North.	Officers.	Going South.		
Through Passenger Trains leave Chicago for Milwaukee, &c., at 9 A.M. and 3.45 P.M.	GEO. L. DUNLAP, <i>Supt.</i> , Chicago A. REASONER, <i>Supt.</i> , Milwaukee D. A. OLIN, <i>Asst. Supt.</i> , "	Through Passenger Trains leave La Crosse for Milwaukee, etc., at 5 A.M. and 9 P.M.		
STATIONS	Miles.	Fare.		
CHICAGO 0 \$ cts. Rosehill..... 8 Evanstown..... 12 Winnetka..... 16 Glencoe..... 19 Highland Park..... 23 Lake Forrest..... 23 Rockland..... 30 WAUKEGAN..... 35 State Line..... 45 KENOSHA, Wis.... 52 Racine Junction... 60 Racine..... 62 Oak Creek..... 76 Milwaukee..... 85 \$ 00 Depart and P.M. (<i>Milwaukee & St. Paul R.R.</i>) Oconomowoc.... 116 WATERTOWN..... 128 4 75 Columbus..... 148 5 75 PORTAGE CITY... 176 6 80 Kilbourn City... 190 7 50 Manston..... 212 Lisbon..... 217 8 60 Greenfield..... 241 Sparta..... 255 10 00 West Salem..... 269 LA CROSSE..... 280 11 00 <i>Arrive,</i>	Connecting Lines. Railroad and Steamers. Kenosha and Rockford R. R. Racine and Mississippi R. R. Railroads and Steamers. Chicago & North Western Rail- way running to Green Bay. Wisconsin River. Steamers on the Mississippi running to St. Paul.	STATIONS.	Miles.	Fare.
		LA CROSSE .. 0 \$ cts. West Salem..... 11 Sparta..... 25 Greenfield..... 39 Lisbon..... 63 Manston..... 68 Kilbourn City... 90 PORTAGE CITY... 104 Columbus..... 132 WATERTOWN..... 152 Oconomowoc..... 164 Milwaukee..... 195 Depart, A.M. & P.M. (<i>Chicago & Milwaukee R.R.</i>) Oak Creek..... 204 Racine..... 218 Racine Junction. 220 KENOSHA..... 228 State Line..... 235 WAUKEGAN, Ill... 245 Rockland..... 250 Lake Forest..... 252 Highland Park... 257 Glencoe..... 261 Winnetka..... 264 Evanston..... 268 Rosehill..... 272 CHICAGO..... 280 11 00 <i>Arrive,</i>		

STEAMBOAT ROUTE

FROM LA CROSSE TO ST. PAUL, MINN.

On the arrival of Through Trains at LA CROSSE, from CHICAGO and MILWAUKEE, passengers are immediately conveyed by Steamers, running on the Mississippi River, to ST. PAUL and all the intermediate landings—affording the most direct and speedy route to the Upper Mississippi.

RAILROAD ROUTE from MILWAUKEE to MADISON and PRAIRIE du CHIEN.

This popular and direct route of travel, running from Lake Michigan to the Mississippi river, runs for the most part through a rich agricultural section of country, passing through several important cities and villages.

At the JUNCTION, 14 miles, the *Milwaukee and Watertown Division* of the Milwaukee and St. Paul Railway diverges towards Watertown, forming a line of travel to La Crosse and St. Paul.

WAUKESHA, 20 miles, is a flourishing village, and the capital of Waukesha county, situated on Fox river. The court-house and jail are built of a fine quality of limestone, quarried in the immediate vicinity. There are 5 churches, 2 banks, an institution styled Carroll College, several public houses, a flouring mill, iron foundry, a machine shop and car factory. The population of the village is about 3,000.

WHITE WATER, 50 miles, is a thriving village, situated on an affluent of Rock river, where is a good water power. Here are 5 churches, 2 banks, flouring mills, a paper mill, and other manufacturing establishments. The population in 1860 was 2,731.

MILTON JUNCTION, 63 miles, is situated 99 miles north of Chicago. Here crosses the *Chicago and North-Western Railway*, running to Green Bay, 143 miles distant.

The Railroad route from Milton Junction to Madison, 32 miles, runs through a good section of country, where lie several beautiful bodies of water, forming the head sources of Rock river, which river in its course to the Mississippi drains the finest portions of Wisconsin and Illinois.

RAILROAD ROUTE CONTINUED—CHI. AGO AND MILWAUKEE TO ST. PAUL.

The City of **Madison**, the capital of the State of Wisconsin, and seat of justice of Dane co., is delightfully situated on an isthmus between Lakes Mendota and Monona, 95 miles, by railroad route west of Milwaukee, and 132 miles north-west of Chicago, in lat. 43° 5' north, long. 89° 20' west, being elevated 256 feet above Lake Michigan, and 843 feet above the Atlantic ocean. The new capitol is a beautiful structure, standing 70 feet above the level of the surrounding lakes, and in the centre of a public park adorned with beautiful forest trees. The University of Wisconsin, which was instituted in 1849, stands on an eminence one mile west of the capitol, on ground elevated about 125 feet above the lakes. The Wisconsin Historical Society is a flourishing and highly useful institution. It possesses a rare library of choice books and many fine specimens of great interest. The city contains 12 churches, 4 banks, 4 hotels, 75 stores, a woolen factory, 2 iron foundries, several steam mills, and other manufacturing establishments. It contained, in 1865, 9,191 inhabitants.

Here are four beautiful lakes in the immediate vicinity of the city: Lake Mendota, the largest, which lies on the north side, is 6 miles long by 4 miles wide, being a lovely sheet of water, with clean, gravelly shores and bold banks. Lake Monona is rather smaller, and floats a small steamer, which affords a most delightful excursion around the lake.

This beautiful city and its vicinity is much frequented by pleasure seekers as

a place of summer resort. The author of "Western Portraiture" gives the following lively sketch of this place and its environs: "Madison perhaps combines and overlooks more charming and diversified scenery to please the eye of fancy and promote health and pleasure than any town in the West: and in these respects it surpasses every other State capital in the Union. Its bright clear lakes, fresh groves, rippling rivulets, shady dales, and flowery meadow lawns, are commingled in greater profusion and disposed in more picturesque order than we have ever elsewhere beheld. Nor is it less noteworthy for its business advantages and its healthy position."

The railroad route west of Madison passes through a broken and hilly section of country producing large crops of wheat and other kinds of grain, although not so thickly settled as the more favored portions of the State.

MOSO-MAINE, 23 miles from Madison, is a thriving village, surrounded by a good section of country, which becomes more sandy as you proceed westward, toward the valley of the Wisconsin river.

At HELENA, 35 miles west of Madison, the railroad track crosses the Wisconsin river, here about one-third of a mile in width. This stream is navigable for a small class of steamers from its mouth to Portage City, where is constructed a canal, uniting with Fox river, which empties into Winnebago Lake, thus forming a water communication, when the river is high, from the Mississippi river to Green Bay, and thence into Lake Michigan.

The *Menominee and Prairie du Chien Railroad* continues on the north side of Wisconsin River, passing through its valley, which is fringed with hills or bluffs in many places, the soil being sandy and rather unproductive.

BOSCOBEL, 70 miles west of Madison, is a flourishing village, situated on the river. Other small villages are passed before reaching Prairie du Chien, which is divided into two villages or settlements. A steam ferry crosses the Mississippi from Lower Prairie du Chien to McGregor, Iowa.

For a description of PRAIRIE DU CHIEN, see p. 42.

Table, showing the Elevation of several Places above the Gulf of Mexico.

	Feet.		Feet.
Cairo, Illinois.....	275	Crow Wing, Minn.....	1,100
St. Louis, Missouri.....	335	Itasca Lake, Minn.....	1,550
Alton, Illinois.....	246		
Rock Island, Illinois.....	528	Lake Michigan, at Chicago, Ill....	578
Dubuque, Iowa.....	576	Lake Winnebago, Wisconsin.....	748
Prairie du Chien, Wis.....	602	Lake Superior.....	600
La Crosse, Wis.....	632	Lake Huron.....	576
Prescott, Wis.....	677	Lake St. Clair.....	570
St. Paul, Minn.....	690	Lake Erie.....	565
St. Anthony, Minn.....	760	Lake Ontario.....	232

Railroad Route from Milwaukee to La Crosse,

Via MILWAUKEE AND ST. PAUL RAILROAD.

THIS favorite railroad route runs west from Milwaukee, through a fine section of country, to WATERTOWN, 44 miles; there connecting with the *Chicago and North-western Railway*, running north to Fond du Lac, and Green Bay, the latter being 155 miles north of Milwaukee.

A railroad extends westward from the *Watertown Junction*, to Sun Prairie, to near Madison, the capital of the State, while the main line extends north-west, through Columbus to PORTAGE CITY, there, uniting with the line of the La Crosse and Milwaukee Railroad proper, running through Horicon, about half way from Milwaukee.

At *Portage City* the Fox River Canal is passed, which unites the waters of the Wisconsin river with Lake Michigan, by means of the Fox river Improvement, terminating at Green Bay.

The *Fox River Canal*, $1\frac{1}{2}$ miles in length, flows from the Wisconsin river, at *Portage City*, into Fox river, thus uniting the tributary waters of the Mississippi and St. Lawrence rivers. The fall of water in the canal is 7 feet, affording good hydraulic power for propelling mills, and other manufacturing purposes. The elevation of the water, at *Portage City*, Wis., is 773 feet above the ocean, being 195 feet above Lake Michigan, and 173 feet above the Mississippi, at the mouth of the Wisconsin river.

From *Portage City*, the Milwaukee and St. Paul Railway runs through *Kilbourn*

City, 109 miles, where the Wisconsin river is passed toward Lisbon, 135 miles. Here is a fine section of country, which is soon followed by a barren section, being, for the most part, clothed with a small growth of trees, while the soil is light and sandy.

Near *Greenfield Station*, 157 miles from Milwaukee, and 38 miles from La Crosse, are encountered the dividing bluffs which separate the La Crosse Valley from the tributaries of the Wisconsin river. Here is a tunnel, 68 rods in length, through which the railroad track passes, and poor land continues until near SPARTA, 27 miles from the Mississippi, when the rich La Crosse valley is reached and followed, the railroad running through a fine section of country.

From Sparta it is proposed to run a railroad north-west to opposite Winona, Minn., a distance of about 60 miles, crossing Black river, which is a fine stream flowing into the Mississippi near La Crosse, and affording along its valley an abundance of pine timber.

The railroad terminates at NORTH LA CROSSE, 195 miles from Milwaukee, where are commodious freight houses and the steamboat landing. Passengers are carried to and from La Crosse, half a mile distant, in omnibuses, over a bridge which spans the La Crosse river, here a sluggish stream.

For a description of LA CROSSE, see page 43.

Climate of Wisconsin.

WISCONSIN, lying between 42° 30' and 47° north latitude, extending to the south shore of Lake Superior, being bounded on the east by Lake Michigan, and on the west by the Mississippi river, is geographically considered one of the most highly favored of the States. "Its latitude would indicate a rather cold climate. Meteorological observations have demonstrated, however, that the mere circumstance of latitude is an unsafe criterion by which to judge of temperatures, since, within a given zone, owing to peculiarities of position, and configuration of surface, it not unfrequently happens that the terms north and south lose all their significance as indices of the distribution of heat.

"Bounded by great lakes on the north and east, and exposed on the south and north-west to the warm, moist winds of tropical seas in summer, and to the cold, and dry winds of sub-Arctic regions in winter, the scientific climatologist might with certainty predict an extensive range of temperature for the year between the maximum and minimum of summer and winter, respectively, as also between the mean or average of one and the other of these extreme seasons. And the results of numerous actual observations, extending through a series of years, show that the causes named do really produce those anticipated contrasts and local peculiarities, and to a very remarkable extent modify the climate of the State.

"Beginning with *Spring*, the season of planting, and early vegetable growth, and one of the most interesting of all, is that which indicates a mean temperature of 45° Fahr., for the season embracing

March, April, and May. Commencing at St. Paul, Minn., or Hudson, on the St. Croix Lake, it passes successively, in a south-east direction, to near Portage, north of Madison, and there by a rapid southern descent to Chicago, Ill.; thus showing that the mean temperature of spring is as high in the north-western part of this State, even as far north as Hudson, as it is in Chicago, in northern Illinois. This is a remarkable fact, and, when generally known, can not fail to correct the erroneous impressions which now prevail as to the agricultural capacity of the climate of north-western Wisconsin.

"The Isothermal Lines (lines passing through points whose *Summer* temperature is equal) are also worthy of special attention. It will be observed that the mean of 70° Fahr. (which is the average temperature of Southern New York, and of Northern Ohio, Indiana, and Illinois) when it reaches Chicago, in its western course, suddenly bends northward, entering Wisconsin at Beloit, in Rock county, passing through Madison, the capital of the State, and then bears north-westward to the county of St. Croix, whose western boundary it cuts near Prescott, situated at the mouth of the St. Croix river, and from thence strikes St. Paul, continuing northward toward Pembina, situated on the Red river of the North."

By a reference to I. A. LAPHAM'S "*Climatic Map of Wisconsin*," the range of summer and winter temperatures is most ingeniously and singularly shown; the influence of the Great Lakes tending to elevate the mean temperature of winter, and depressing that of summer.

STEAMBOAT EXCURSION,

FROM DUBUQUE to ST. PAUL, Minn., GIVING A DESCRIPTION of the CITIES, and VILLAGES, and OBJECTS of INTEREST on the UPPER MISSISSIPPI RIVER.

On starting from Dubuque, by Steamer the river here being about half-a-mile wide, you encounter low wooded islands, which are continually in sight from the deck or the fleet boat, which is alike calculated for the accommodation of passengers and for the carrying of freight.

The bluffs on either side of the stream, rising from 100 to 400 feet above the water, are also continually in sight, being separated from one to five miles asunder, with wooded sides, or prairie-like appearance of the interior. No language can describe the beauty and picturesque variety of these bluffs and islands, as seen under different effects of light and shade—the bright moonlight vying with the noon-day sun of this transparent region.

POTOSI, Wis., 15 miles, is a flourishing town in Grant county, lying near the mouth of a stream of the same name. It is situated in a narrow and picturesque valley or ravine, through which the water flows. The town is divided into three settlements or villages, namely, *Dublin, Lafayette, and Van Buren*, altogether, being the most important place in the county. Large quantities of lead are mined in this and the adjacent counties, and shipped at Potosi in steamboats. Here are congregated about 2,000 inhabitants.

BUENA VISTA, Iowa, 15 miles further, is a small village lying on the west side of the Mississippi.

CASSVILLE, Wis., 34 miles above Dubuque, is a flourishing village and steamboat landing, from which large quantities



of lead and agricultural products are shipped. Population, about 1,000.

GUTTENBERG, Iowa, 44 miles above Dubuque, is a thriving village, situated on the west side of the Mississippi, in Clayton county. Lead mines are worked in this vicinity, producing large quantities of ore; while the agricultural products shipped from this place are annually increasing in quantity. Population, about 1,200.

CLAYTON, Iowa, 12 miles further, is another flourishing village on the west side of the river. A large quantity of the surplus produce of Clayton county is shipped by steamboats at this place. Lead mines are worked near Clayton with considerable success. Population, about 1,000.

CLAYTON COUNTY, Iowa, extends 30 or 40 miles along the west bank of the Mississippi, and contained, in 1865, 21,922 inhabitants, mostly being engaged in agricultural pursuits. There were produced the same year in the county 897,063 bushels of wheat, 934,881 bushels of corn, and 607,928 bushels of oats, besides large quantities of other agricultural products.

MCGREGOR, Iowa, 67 miles above Dubuque, situated on the west side of the Mississippi river, is an incorporated city of

growing importance. It lies nearly opposite Prairie du Chien, Wis., which is the western terminus of the *Milwaukee and Prairie du Chien Railway*, being in close connection with both Milwaukee and Chicago by railroad routes. It was long known as "McGregor's Landing," being the depot of a large grain and produce market of wide extent, the interior country being very fertile and rapidly increasing in wealth and population. Here are several hotels, two banks, lumber yards, planing mills, saw mills, and other manufacturing establishments. Population, in 1865, 1,900.

The *McGregor Western Railroad* extends north-westward to the State Line, there connecting with the Minnesota Central Railroad, which is being constructed northward to St. Paul. It will also extend westward to the rich coal region of the Des Moines valley.

Prairie du Chien, Wis., is an old and interesting town, situated on the east side of the Mississippi river, 4 miles north of the mouth of the Wisconsin river, which is here elevated 600 feet above the Gulf of Mexico, being 71 miles above Dubuque, and 292 miles below St. Paul. By railroad route it is 194 miles west of Milwaukee, and 229 miles north-west of Chicago. The site is a level prairie, one or two miles wide, inclosed on the east by rocky bluffs, which stretch along the Mississippi on both sides for hundreds of miles. It is the western terminus of the *Milwaukee and Prairie du Chien Railway*, which runs through Madison, the capital of the State of Wisconsin, 98 miles distant. It contains 6 churches, a bank, several public houses, stores, and store-houses. Population, in 1865, 3,556.

Prairie du Chien is connected with McGregor, Iowa, by means of a steam ferry: it is also a great place for transshipment to the Upper Mississippi, several lines of steamers stopping here daily

on their upward and downward trips from St. Paul to Dubuque and St. Louis.

The Railroad route from Milwaukee to Prairie du Chien, passing through Madison, is fully described on page 37.

LYNXVILLE, Wis., 14 miles above Prairie du Chien, is a small settlement lying on the east side of the river.

LANSING, Iowa, situated on the west bank of the Mississippi river, in Alamakee county, near the northern border of the State, 100 miles north of Dubuque, is a flourishing place, being first settled in 1852. Here are several manufacturing establishments, a national bank, 8 churches, hotels, stores, and warehouses, it being a great depot for wheat and other produce. Pop., in 1865, 1,678.

DE SOTO, Wis., 36 miles above Prairie du Chien, is a small settlement on the east side of the river.

VICTORY, Wis., 10 miles further, is another small settlement. Here the river bottom is wide, and numerous islands are passed.

BAD AX CITY, Wis., 56 miles above Prairie du Chien, in Vernon county, is the name given to a small village situated a few miles above the mouth of Bad Ax river.

BROWNSVILLE, Houston co., Minn., is favorably situated on the west bank of the Mississippi, 12 miles below La Crosse, being surrounded by an agricultural district of country producing large crops of wheat and other farm products. This town was laid out in 1853, and is a commercial point of growing importance. Here are several stores, and store-houses for grain, from which are shipped large quantities of wheat. Population, 800. The river-bottom is here wide, with numerous islands, the water rising and falling at this point usually about 15 feet. The town stands above high-water mark, under a high and picturesque bluff, called Wild Cat Mountain, elevated 500 or 600 feet above the river.

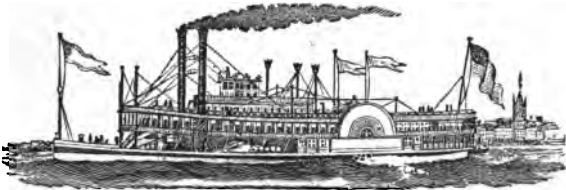
The City of **La Crosse**, La Crosse co., Wis., is situated on the east side of the Mississippi river, 84 miles above Prairie du Chien, standing 650 feet above the Gulf of Mexico, 210 miles below St. Paul, and 156 miles from Milwaukee by railroad route. It is a flourishing place, containing about 7,000 inhabitants, a courthouse and jail, United States Land Office, 3 churches, 2 banks, 10 hotels, 80 stores, 12 warehouses, 2 elevators, 5 steam saw mills, 2 steam shingle mills, 1 engine shop and boiler shop, 4 foundries, 1 ship yard, thrashing machine factory, 1 reaper and plow factory, 2 fanning mill factories, 2 flouring mills, 1 woolen factory, and 4 printing offices, besides many other kinds of mechanics' shops. The town is beautifully laid out in squares, and shade trees, consisting of elm, maple, and locust, adorn the streets. It is favored with a large amount of trade from southern Minnesota and the surrounding country, embracing the valleys of Black and La Crosse rivers.

Steamers land and receive passengers several times daily on their upward and downward trips during the season of navigation.

—

RUNNING the MISSISSIPPI RIVER by MOONLIGHT.

This magnificent stream above Dubuque presents varied beauties of the most romantic and picturesque character. As seen by moonlight from the deck of



the steamer, during the summer or autumn months, nothing can exceed the panoramic view of its banks, reflected in the water below. If to this sublime effect be added the aurora borealis, or northern lights, when the sky is partially obscured by clouds, you have the most gorgeous reflection in the waters that can be imagined—the dark somber appearance of the forest being enlivened by the silvery color of the water, reflecting the moon and all the prominent stars in its bosom.

This effect is often witnessed for hours, when, if the clouds are dispersed, a fog often rises that effectually obscures the banks and the heavens above; then the bell is sounded, and the impatient steamer is run for the nearest shore, bow foremost, and made fast to a tree until such time as the fog disappears, which usually is soon after the sun rises on the ensuing morning.

The sun effect during the day, if clear, is equally magnificent when passing the castellated bluffs which line both shores for many miles above La Crosse, the water below reflecting in splendor all the colors and inequalities of the elevated headlands, as well as the rich forest trees that line its banks.

The numerous low islands, also, mostly wooded, are lovely in the extreme, often presenting a labyrinth that seems exceedingly intricate to all but the practiced

pilot, who, from his eyrie in the wheel-house, directs the motions of the steamer as if she were a thing of life. It is utterly impossible for pen or brush to describe the varied beauties of the Upper Mississippi—nothing but a visit to its romantic valley, from one to ten miles in width, with rocky bluffs, partly clothed with green verdure, can convey any idea of its pure dark waters, green banks, and the blue sky here witnessed during most of the season of navigation.

The villages and settlements that lie nestled along its shores at intervals of some ten or twelve miles, inhabited by an intelligent class of people, giving life to the scene, altogether stamps this noble stream as exceeding all others on the continent of America, if not in the wide world.

LA CRESCENT, Minn., lying nearly opposite La Crosse, is a steamboat landing. The village is situated on high table-land, about half a mile from the river. Here are 2 churches, 3 public houses, and several stores and store-houses. Population, 500. It is in contemplation to construct a railroad from this place to Winona, 40 miles, running along the west bank of the Mississippi.

RICHMOND, Minn., 18 miles above La Crosse, is a small settlement in Winona county, where the steamers usually stop to receive passengers and freight.

TREMPELEAU, Wis., 23 miles above La Crosse, situated in Trempeleau county, near the mouth of a river of the same name, is a flourishing village, surrounded by a rich agricultural country, producing large crops of wheat and other agricultural products. Here are several stores and store-houses, and about 1,000 in-

habitants. The river-bottom is wide at this point, with several large islands along the Wisconsin shore, while the bluffs are truly grand and beautiful.

The City of **Winona**, Minn., the county seat of Winona county, is favorably situated upon a beautiful level prairie on the west bank of the Mississippi river, 195 miles above Dubuque, and 168 miles below St. Paul. It is surrounded by a fertile, well-cultivated, and populous section of country, being connected with the Wisconsin side by a steam ferry. It is the western terminus of the *Winona and St. Peter Railroad*, completed and in running order as far west as Rochester, 50 miles, and is being rapidly constructed west of that point to the Minnesota river.

The first white settlement was made in this place during the fall of 1851. In 1857 a charter was granted, and it was then regularly organized as a city. Population, in 1860, 2,468; in 1865, 4,439. Besides the city and county buildings, there is situated the Minnesota State Normal School, now in a very prosperous condition, 12 churches, 3 banks, 1 steam grist mill, 2 steam saw mills, 2 machine shops, 1 foundery, and several factories of agricultural implements, furniture, &c. Its hotel accommodations are good, there being several well-kept houses.

It is by far the largest wheat market in the State, and not second to any west of the Mississippi river. The receipt of wheat in 1860 was 1,600,000 bushels, and each succeeding year has marked some increase in this respect, it being justly considered the entrepot of southern and western Minnesota. A Railroad is now in progress of construction to extend from St. Paul to Winona, running for the most part on the west side of the river.

Winona and St. Peter Railway,

Finished to KASSON, 65 miles.

STATIONS.	Miles.
Winona	0
Minnesota City.....	6
Warren.....	2—8
New Boston.....	6—14
Greenwood.....	6—20
Richland.....	5—25
St. Charles.....	3—28
Saratoga.....	2—30
Chatfield.....	8—38
Preston.....	2—40
ROCHESTER	10—50
Kasson.....	15—65
Mantorville.....	3—68
Rice Lake.....	16—84
OWATONNA	13—97
St. Peter	150

Connecting with Steamers on the Minnesota river, when finished.

FOUNTAIN CITY, Wis., 12 miles above Winona, is a flourishing village, situated on the east side of the Mississippi, where are a convenient steamboat landing and several stores and store-houses. Population, 600.

The beauty of the river scenery increases as you proceed on the upward trip toward Lake Pepin. The bluffs often appear like castles, being 500 or 600 feet in height; their shadows, being reflected in the pure waters below, seem like enchantment to the beholder.

MOUNT VERNON, Minn., is a landing and small settlement in the north part of Winona county.

MINNEISKA, Minn., is situated on the west bank of the Mississippi, at the mouth of Whitewater river, 130 miles below St. Paul. Here are shipped annually about 400,000 bushels of wheat, besides oats, barley, wool, butter, &c. Population, about 500.

ALMA, Wis., is a small village situated near the mouth of Buffalo river. Large quantities of wheat are annually shipped from this landing.

WABASHA, Minn., 249 miles above Dubuque, and 114 miles below St. Paul, is the county seat of Wabasha county. It contains a court-house, 4 churches, an academy, 3 hotels, 20 stores, and several large warehouses for the storage of grain and shipping purposes. The wheat trade is very large at this point, as Wabasha is the shipping mart for several counties in Minnesota, and the fertile and wealthy valley of the Chippewa, in Wisconsin. It is one of the most promising of the young cities of the State, having a fine location near the foot of Lake Pepin.

REED'S LANDING, Minn., 4 miles above Wabasha, is situated opposite the mouth of the Chippewa river, and at the foot of Lake Pepin, 35 miles below Red Wing. It is a flourishing village, from which large quantities of wheat are transhipped. As the river both above and below Lake Pepin opens earlier in the spring than the lake, passengers destined for points above are conveyed by coaches to Red Wing, and there re-embark.

LAKE PEPIN, an expansion of the Mississippi river, lying 670 feet above the Gulf of Mexico, being about 30 miles in length and 3 miles wide, is a most lovely sheet of water, lying between the States of Minnesota and Wisconsin. Here may be seen abrupt headlands, bluffs, and picturesque prairie slopes of great beauty; added to which, the purity and healthy influence of the Lake and surrounding country render this vicinity one of the most inviting resorts on the waters of the Upper Mississippi.

The villages and landings on both shores are being annually visited by great numbers of seekers of health and pleasure, during warm weather, and the early fall months.



SCENERY ABOVE WISCONSIN.

The Maiden's Rock—Lake Pepin.

(Copied from *Harper's Magazine*, July, 1853.)



THE MAIDEN'S ROCK.

"Toward noon we entered that grand expansion of the Mississippi, called LAKE PEPIN. Its width is from three to five miles, and its length about twenty-five. It is destitute of islands, and all along its shores are high bluffs of picturesque forms, crowned with shrubbery, and commingled with dense forests. The white man has not yet made his mark upon Lake Pepin and its surroundings; and there lay its calm water, and yonder uprose its mighty watch-towers in all their primal beauty and grandeur. High above all the rest loomed the bare front of the Maiden's Rock, grand in nature, and interesting in its romantic associations. It has a sad story to tell to each

passer-by; and as each passer-by always repeats it, I will not be an exception. It is a true tale of Indian life, and will forever hallow the *Maiden's Rock*, or *Lover's Leap*.

"*Winona*, a beautiful girl of Wapasha's tribe, loved a young hunter and promised to become his bride. Her parents, like too many in Christian lands, were ambitious, and promised her to a distinguished young warrior, who had smitten manfully the hostile Chippewas. The maiden refused the hand of the brave, and clung to the fortunes of the hunter, who had been driven to the wilderness by menaces of death. The indignant father declared his determination to wed her to the warrior that very day. The family were encamped on Lake Pepin, in the shadow of the great rock. Starting like a frightened fawn at the cruel announcement, she swiftly climbed to the summit of the cliff, and there, with bitter words, reproached her friends for their cruelty to the hunter and her own heart. She then commenced singing her dirge. The relenting parents, seeing the peril of their child, besought her to come down, and take her hunter lover for a husband. But the maiden too well knew the treachery that was hidden in their promises, and, when her dirge was euded, she leaped from the lofty pinnacle, and fell among the rocks and shrubbery at its base, a martyr to true affection. Superstition invests that rock with a voice; and oftentimes, as the birch canoe glides near it at twilight, the dusky paddler fancies he hears the soft, low music of the dirge of *Winona*."

THE SUN RISING ON LAKE PEPIN.

During warm weather, when a calm state of the atmosphere prevails in this latitude, the waters and shores of Lake Pepin present a grand and beautiful appearance. The break of day is often announced by a golden sky in the east, fringing the horizon, gradually giving way to a silver tint as the rising sun makes its appearance. Then the beauty of the land and water is enhanced by a contrast of colors, the silvery tint being given to the water, like unto a mirror of vast proportions, reflecting the sun so as to dazzle the eye in its direct rays, while the yellow bluffs and the green foliage of the forest give a grandeur and beauty to the scene as witnessed from the deck of an ascending or descending steamer—the only perceptible motion of the air being caused by the speed of the steamer, while the lungs draw in this healthy and life-restoring influence, rendering the spirits buoyant and hopeful. A thin gossamer mist, or fog, sometimes rises in portions of the lake, giving another variety and interest to the scene, which when dispelled by the noon-day sun, an extended and lovely view is presented of unequalled splendor.

NORTH PEPIN, Wis., 6 miles above the foot of the lake, is a small village lying on the east shore. Here the scenery becomes grand and interesting.

Lake City, Minn., 270 miles above Dubuque, and 93 miles below St. Paul, has a most beautiful and commanding position, overlooking Lake Pepin, situated on a prairie that was, until a few years ago, a half-breed reservation. The city lies within an amphitheater of bluffs that shield it from the prairie above. The en-

tire plain is nine miles long, of irregular width, embracing about 10,000 acres of rich land. The whole view is commanded by several points, one of the most conspicuous of which is a sharp, tall peak, called "Sugar Loaf." From these the magnificent expanse of water and plain, and bluffs, and rocks, is spread before the eye for a distance of fifteen or twenty miles in either direction, lit up, as it were, by the transparent atmosphere and bright sky of Minnesota.

Lake City contains six churches, two banks, four hotels, three steam saw mills, a machine shop and plow factory, several stores and store-houses. Population, in 1865, 1,411, being surrounded by a rich and populous section of country.

The first English or American visitor to the Upper Mississippi, Captain Jonathan Carver, in 1766, paints in lively terms his delight in beholding Lake Pepin, and the country below it on the river. "In many places pyramids of rocks appeared, resembling old ruinous towers, at others, amazing precipices; and what is very remarkable, whilst this scene presented itself on one side, the opposite side of the same mountain was covered with the finest herbage, which gradually ascended to the summit. From thence the most beautiful and extensive prospect that imagination can form opens to your view." On the plain occupied by Lake City, he then saw "great plenty of turkeys and partridges," and "the largest buffaloes of any in America."

MAIDEN ROCK, Wis., 6 miles above Lake City. Here is to be seen some of the most beautiful scenery, for which Lake Pepin is justly celebrated.

FRONTENAC, Minn., is a small settlement on the west side of Lake Pepin.

RED WING, Minn., situated at the head of Lake Pepin, 64 miles below St. Paul,

is one of the most beautiful places on the Upper Mississippi, being surrounded in part by high and precipitous bluffs, rising from the water's edge, 350 feet in height, near the steamboat landing. It is the seat of justice for Goddhue county, being well situated for trade, having a good agricultural region back of it, which here finds an outlet; the quantity of grain annually shipped from this place being very large. Here are six churches, several public houses, and a number of stores, warehouses, and manufacturing establishments. Population, in 1865, 2,362.

PRESCOTT, Wis., 36 miles below St. Paul, situated at the mouth of the St. Croix river, is a place of growing importance. It contains three churches, a bank, several stores, a large steam saw mill, and other mills and factories. Population, in 1865, 1,061.

The RIVER ST. CROIX, an important and beautiful stream, rises in Douglass county, Wis., near the west end of Lake Superior, affording many fine water privileges. Its general course is south, forming, in part, the boundary between the States of Minnesota and Wisconsin, and

falling into the Mississippi 36 miles below St. Paul. The whole length is about 200 miles, and it is 100 yards wide at its mouth. *St. Croix Lake*, an expansion of the river, is 36 miles long, and three or four miles wide; commencing about one mile from its mouth. Several falls occur in the St. Croix, about the middle of its course, where is to be seen some beautiful river scenery. Steamers run on this river from its mouth to *St. Croix Falls*, 54 miles.

HUDSON, Wis., 16 miles above Prescott, the county seat of St. Croix county, is a flourishing village, being surrounded by a fine agricultural section of country, producing wheat in great abundance.

STILLWATER, Minn., 5 miles farther, lying on the north bank of the river, is well situated for trade, and is the depot for the extensive lumbering interests of the St. Croix valley. Steamers of a large class run from the Mississippi up to this place. It is the capital of Washington county, and contains, besides the county buildings, several churches, hotels, stores, and manufacturing establishments. Population, in 1865, 2,145.

Steamboat Route

FROM PRESCOTT, WIS., TO ST. CROIX FALLS, 54 miles.

LANDINGS.	Miles.	LANDINGS.	Miles.
PRESCOTT, Wis.....	0	ST. CROIX FALLS, Wis.....	0
Hudson, Wis.....	16	Osceola, Wis.....	9
Stillwater, Minn.....	5-21	Marine Mills, Minn.....	9-18
Marine Mills, Minn.....	15-36	Stillwater, Minn.....	15-33
Osceola, Wis.....	9-45	Hudson, Wis.....	5-38
ST. CROIX FALLS, Wis.....	9-54	PRESCOTT, Wis.....	16-54

FROM PRESCOTT TO ST. PAUL, 36 miles.

POINT DOUGLASS, Minn., 35 miles below St. Paul, is a small settlement lying opposite Prescott, at the mouth of the St. Croix river.

HASTINGS, Minn., 32 miles below St. Paul, the capital of Dakota county, is advantageously situated on the west bank of the Mississippi. It occupies a most

beautiful site, rising by easy grades to the prairie, and appearing to excellent advantage from the river; as a commercial point, it possesses advantages scarcely equaled in the State, commanding the trade of an area of hundreds of miles of interior country, fertile and populous. As a grain depot, few places possess the advantages that Hastings does, and, to accommodate this growing trade, many large and imposing warehouses have been erected. Besides the county buildings, here are five churches, the Minnesota Central University, several large stores and store-houses, three steam saw mills, an elevator, and several manufacturing establishments. Population, in 1865, 2,850. A railroad is in progress of construction, to run from St. Paul, on the east side of the Mississippi, here to cross the river and continue south on the west side to Winona, about 130 miles by railroad route.

NINNINGER, Dakota county, Minn., is a small village situated on the Mississippi river, 5 miles above Hastings.

After leaving Hastings, on the upward trip, a few small places are passed, the river here inclining to the westward until *Pine Bend* is reached, then the stream resumes its northward course to the city of St. Paul, the termination of navigation for steamers of a large class.

The City of **St. Paul**, a port of entry, capital of Minnesota, and seat of justice of Ramsey county, is most advantageously situated on the left bank of the Mississippi, 2,080 miles from its mouth, and 10 miles by land below the Falls of St. Anthony; being elevated 690 feet above the Gulf of Mexico; in lat. 44° 52' north, long. 93° 5' west from Greenwich. It is situated on a bluff, 60 or 70 feet high, rising to 100 feet, and presents a grand view from the river. It is near the head of steamboat naviga-

tion on the Mississippi, 5 miles below the mouth of the Minnesota river, which enters from the west at *Fort Snelling*, the river here being about a quarter of a mile in width. No place on the continent of America has a more commanding position or healthy location than this most favored city. Steamers of a large class, during a good stage of water, can descend to New Orleans, 2,060 miles distant; above the Falls of St. Anthony navigation is afforded, for steamers of a small class, for about 150 miles, while the St. Peter's or Minnesota river affords about a like extent of navigation, flowing through a very fertile section of country.

Saint Paul is one of the oldest settlements in the State. Father Hennepin visited and speaks of its site (1680). Jonathan Carver made a treaty in 1766 with the Dakotas in Carver's Cave, which is still in existence under Dayton's Bluff, within the present limits of the city. The site of the city was known to the Dakotas from time immemorial as "*Im-min-i-jaska*," or "*White Rock*," from its high bluff of white sandstone, a prominent landmark.

The first actual settlement was made in 1838 (just after the Indian title to the land east of the Mississippi had been extinguished) by one Parrant, a Canadian, who built a cabin on Bench Street. In 1840, a little log chapel was built by Father Gaultier, a Catholic missionary, on the present site of "Catholic Block." The church, or mission was called "St. Paul's," which henceforth became the name of the settlement. From this date the village grew slowly until the organization of the Territory in 1849, and the location of the capital at St. Paul gave it a new impetus. That spring there were only thirty buildings of all kinds in the village, but at the close of the season St. Paul contained several

hundred people. At the first session of the Territorial Legislature, in November, the "town of St. Paul" was incorporated, with an area of 290 acres. On March 4, 1854, the "City of St. Paul" was incorporated, with 2,400 acres in its boundaries, which was amended in 1858, to include 3,200 acres, its present area. It has a river front of almost four miles. Its growth in population for a few years was perhaps unsurpassed by any city in the Union. In 1838 it had only three inhabitants; in 1846, 10; in 1848, about 50 (white); in 1849, 400; 1850 (census), 1,112; 1854, 4,500; 1857, 9,973; 1860 (census), 10,277; 1865 (census), 15,107.

The public buildings in St. Paul are a State House, which is a brick edifice, standing on elevated ground; a courthouse, jail, and city hall; a public market building, five public-school edifices, an opera house, 20 church edifices, many of them being fine structures; also 4 national banks, besides several firms engaged in the banking business, three insurance companies, a gas company, several large and well-kept hotels, the *International Hotel* and the *Merchants' Hotel* being the most frequented; numerous stores and storehouses, several extensive breweries, flouring mills, and printing offices, besides numerous other manufacturing establishments. A wooden bridge here spans the Mississippi River, being a quarter of a mile in length; cost, \$150,000. A Government custom-house and post-office building is also being erected. Several railroads are also being constructed to run east, west, north, and south from St. Paul, making it the center of an extensive system of railways.

The arrival and departure of steamers are numerous during the season of navigation, there being daily lines from St. Louis, Dubuque, Prairie du Chien, La Crosse, and up the Minnesota River.

(Extract from the *St. Paul Press*,
June 30, 1866.)

ARRIVAL OF RED RIVER TRADERS AT ST. PAUL.

"The past two or three days an immense amount of furs and buffalo robes have been received by Pembina carts, and also by rail, from the Hudson Bay region. We saw yesterday at the railroad depot nearly one thousand bales of buffalo robes, making a pile as high as a house. They are being rapidly shipped below. There are ten robes in each bundle, making nearly ten thousand robes in all, worth from \$10 to \$12 each. These are but a portion of those on the way down, which are estimated at fifteen or twenty thousand.

"In addition to the buffalo robes, there have been about a hundred bundles of wolf-skins and other furs, many of them very valuable. In all, there will probably be \$300,000 worth of furs received at St. Paul this season, fully up to the amount marketed here in previous years, and maintaining the rank of St. Paul as one of the largest fur markets in the world.

"About 150 Red River carts were yesterday loaded up with groceries, miscellaneous, and Hudson Bay Company's stores, preparatory to making the long trip back to their hunting grounds on the shores of Lake Winnipeg, the Saskatchewan and Red Rivers. Business, consequently, was unusually lively among the wholesale dealers, and the streets were crowded with the unmistakable residents of the far Northwest, whose peculiarities of feature and costume are as distinctive as if they belonged to another race."

Progress of Minnesota in Population and Wealth.

The following table shows the general increase of population and assessed prop-

erty valuation in the State at large, from the date of its Territorial organization, and the superficial expansion of settlement as indicated by the number of counties assessed. The census enumerations of population are given for the years 1850, 1857, 1860, and 1865, the population for the remaining years being estimated from the popular vote:

TABLE SHOWING THE GROWTH OF THE STATE SINCE 1850.

Year.	No. assessed counties.	Val. of pers. and real estate.	Population.
1850.....	6	\$506,447	6,077
1851.....	3	1,252,123	7,000
1852.....	9	1,715,885	10,000
1853.....	6	2,701,437	14,000
1854.....	13	3,505,518	32,000
1855.....	18	10,424,157	40,000
1856.....	24	24,894,395	100,000

Year.	No. assessed counties.	Val. of pers. and real estate.	Population.
1857.....	31	49,836,678	150,087
1858.....	37	41,846,778	158,000
1859.....	40	35,564,493	162,000
1860.....	41	36,753,408	172,022
1861.....	44	39,077,531	190,000
1862.....	..	29,832,719	200,000
1863.....	..	32,211,324	225,000
1864.....	..	41,222,264	.....
1865.....	48	.....	250,099

POPULATION OF ST. PAUL.

The following table will indicate the growth of population since 1850:

Year.	Population.	Year.	Population.
1850....	840	1857....	9,973
1852....	1,800	1858....	10,000
1853....	2,500	1860....	10,600
1854....	4,500	1864....	12,500
1856....	8,500	1865....	13,176

St. Paul to St. Cloud, Minnesota,

Via the St. Paul and Pacific Railroad Route.

STATIONS.	Miles.	STATIONS.	Miles.
St. Paul	0	St. Cloud	0
St. ANTHONY.....	10	Clear Water Sta.....	11
Manomin.....	8-18	BIG LAKE	14-25
Anoka.....	10-28	Elk River.....	9-34
Itasca.....	7-35	Itasca.....	5-39
Elk River.....	5-40	Anoka.....	7-46
BIG LAKE	9-49	Manomin.....	10-56
Clear Water Sta.....	14-63	St. ANTHONY.....	8-64
St. Cloud	11-74	St. Paul	10-74

Early History of St. Paul.

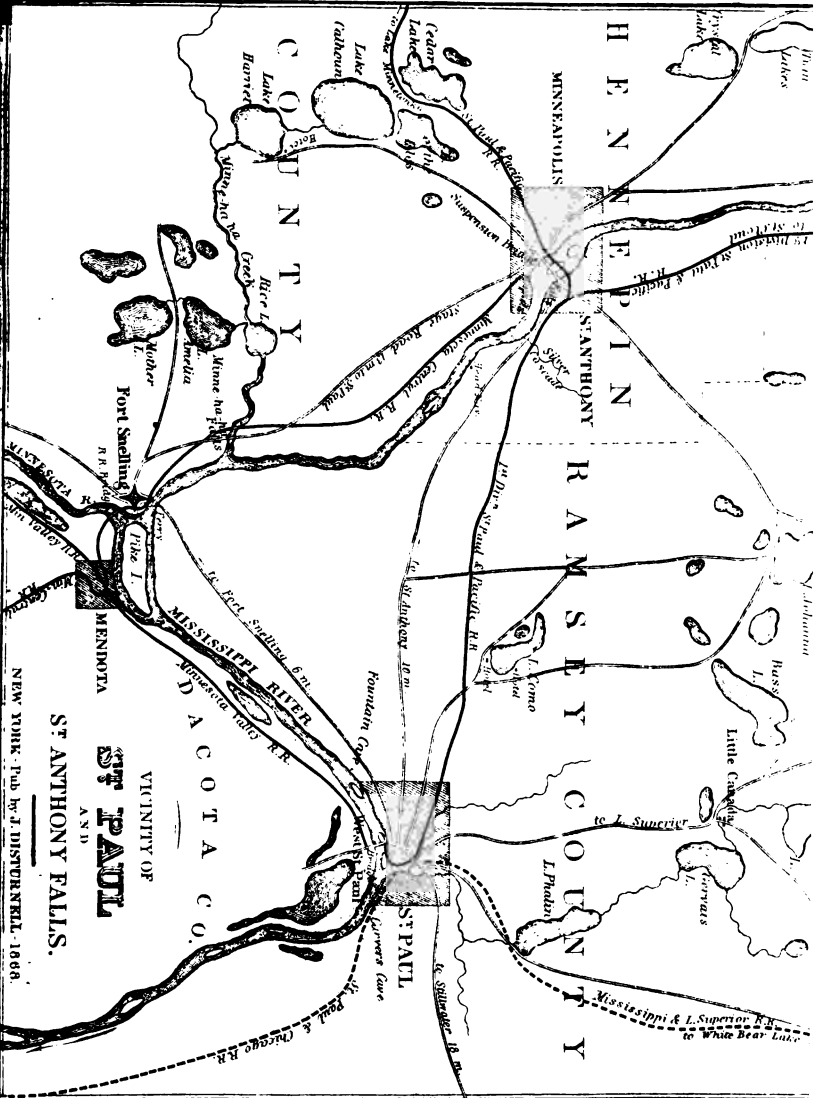
The history of what is now St. Paul divides itself into three distinct periods, marked by corresponding changes of names.

1. The period of Indian occupancy till 1838, when it was known as *Innijaska*, or "White Rock."

2. The period of squatter settlement, from 1838 to 1849, when it was known

by the Indians as "the place where they sell whisky," and by the whites as "Pig's Eye."

3. Since 1849, when it was selected as the Capital of the Territory of Minnesota by the name of *St. Paul*, which had been bestowed upon it two years before.



H E N N E P I N

MINNEAPOLIS

S T A N T H O N Y

R A M S E Y

C O U N T Y

C O O N T Y

D A C O T A C O .

MISSISSIPPI RIVER

S T P A U L

M E N D O T A

S T P A U L
A N D

S T A N T H O N Y F A L L S .

V I C I N I T Y O F

N E W Y O R K . P u b . b y T . H I S T O R N E L L . 1 8 6 8 .

FIRST WHITE MAN IN ST. PAUL.—Louis Hennepin, whose name is immortally associated with the history of Minnesota as the first white man who ascended the Mississippi within its borders, and as the discoverer of the Falls of St. Anthony, was undoubtedly the first white man who ever set foot upon the site of St. Paul. On April 30th, 1680, over one hundred and eighty-four years ago, Hennepin, a captive in the hands of a war party of Dakotas on their way to Mille Lacs, "landed in a bay, five leagues below the Falls of St. Anthony," a description of which, with other circumstances, fixes the locality under Dayton's Bluff, at the mouth of Trout Brook—about three quarters of a mile below the Steamboat landing.

THE FIRST AMERICAN IN ST. PAUL.—Eighty-seven years have passed since the arrival of Hennepin. Perrot has built and abandoned a fort on Lake Pepin, and planted the arms of France in Minnesota. Le Seuer has explored the Minnesota and given it the name of his gallant friend, Capt. St. Pierre. The Dakotas have been driven from the northern lakes by the Chippewas, and Minnesota, by the treaty of Marseilles, has just passed from the dominion of France to the flag of England, when on one fine morning in November, 1766, a keen, practical Yankee, the forerunner of all the Yankees in this part of the world, stepped into St. Paul near where Hennepin had landed three generations before. It was Brother JONATHAN CARVER, fresh from Connecticut, come to trade—Carver, great progenitor of the land speculators of Minnesota, first and greatest of the race.

CARVER'S CAVE.—Jonathan's landing was at the foot of Dayton's Bluff, and his account of the discovery made there is the first memorial which links St. Paul with the traditions of the Dakotas:—

"About thirteen miles below the Falls of St. Anthony * * is a remarkable cave, of amazing depth. The Indians term it Wakan teebe, that is, *the dwelling of the Gods*.

"The arch within is near fifteen feet high and about thirty broad; the bottom consists of clear sand. About thirty feet from the entrance begins a lake, the water of which is transparent, and extends to an unsearchable distance, for the darkness of the cave prevents all attempts to acquire a knowledge of it. * * * I found in this cave many Indian hieroglyphics, which appeared very ancient, for they were so covered with moss that it was with difficulty I could trace them. They were cut in a rude manner upon the inside of the wall, which was composed of a stone so extremely soft that it might be easily penetrated with a knife. * * * At a little distance from this dreary cavern is the burying-place of several bands of Naudowessie [Dakota] Indians. Though these people have no fixed residence, being in tents, and seldom but a few months in one spot, yet they always bring the bones of their dead to this place, which they take the opportunity of doing when the *chiefs meet to hold their councils and to settle public affairs for the ensuing summer.*"

These ancient burial mounds still exist on Dayton's Bluff, and, a few years ago, Mr. Neill had one of them opened. In this, which was 218 feet in circumference and 18 feet high, he found the remains of skulls and teeth at the depth of three or four feet.

In 1807, Major Long was obliged to creep through the sandstone *débris* at its mouth on all fours. In 1837, Nicollet worked for two days to effect an entrance, and confirmed the accuracy of Carver's description.

"A Chippewa warrior made a long

harangue on the occasion, threw his knife into the lake as an offering to Wakan tibi." Indian pictographs still remain, gray with age, upon portions of the wall still standing.

After a voyage to what is now Anoka, and up the Minnesota river for 200 miles, Carver, on the 1st of May, 1767, returned to the "Great Cave," where he officiated as the first representative of the whites in the great Annual Legislative Session of the Dakota bands, and made the first speech ever delivered by a Yankee in St. Paul.

"At this season," says Carver, "these bands go annually to the Great Cave before mentioned to hold a grand council with all the other bands, wherein they settle all their operations for the ensuing summer." Thus early was St. Paul the Capital of Minnesota.

Nothing could be more significant of the geographical centrality of St. Paul than this fact, that from immemorial time it had, at that date, been the political centre of the scattered bands of the Dakota nation.

THE FIRST LAND SPECULATOR IN ST. PAUL.—It was here, too, at this "Great Cave," that the first conveyance of land was made and the first deed signed in Minnesota. This was the instrument by which the heirs of Carver founded their title to Carver's tract, which contained St. Anthony, St. Paul, and a large part of Wisconsin. The document is curious, and runs in this wise:

"To Jonathan Carver, a chief under the most mighty and potent George the Third, King of the English and other nations, the fame of whose warriors has reached our ears, has been now fully told us by our good brother Jonathan, aforesaid, whom we rejoice to have come among us and bring us good news from his country.

"We, the chiefs of the Naudowessies, who have hereunto set our seals, do, by these presents for ourselves and our heirs forever, in return for the aid and other good services done by the said Jonathan to ourselves and our allies, give, grant, and convey to him, the said Jonathan, and to his heirs and assigns forever, the whole of a certain tract of territory or land, bounded as follows, viz.: From the Falls of St. Anthony, running on the east side of the Mississippi, nearly south-east, as far as Lake Pepin where the Chippewa joins the Mississippi, and from thence eastward five days' travel, accounting twenty English miles per day, and from thence again to the Falls of St. Anthony. We do, for ourselves, heirs, and assigns forever give unto the said Jonathan, his heirs and assigns, with all the trees, rocks, and rivers therein, reserving the sole liberty of hunting and fishing on land not planted or improved by the said Jonathan, his heirs and assigns, to which we have affixed our respective seals, at the Great Cave, May 1st, 1767.

"[Signed]

"HAW-NO-PAW-A-TON.

"O-TOH-TON-GOOM-LISH-RAW."

It was here, too, nearly a century ago, that Carver anticipated that splendid scheme of commercial intercommunication whose realization in our day is to make St. Paul the focus of the internal commerce of the continent. With the Delphic *numen* of the cave upon him, he foresaw that in the fat soil and laughing waters of Minnesota the elements were ripening for the sustenance of future populations, who, he says, will be "able to convey their produce to the seaports with great facility. * * This might also in time be facilitated by canals or

shorter cuts, and a *communication opened by water with New York, by way of the lakes.*"

Here, too, Carver conceived the project of a Northern Pacific route by the way of the Minnesota and Oregon rivers, which, he says, "would open a passage for conveying intelligence to China and the English settlements in the East Indies"—an idea which will doubtless be consummated in our day.

THE ORACLE OF THE CAVE DUMB.—After Carver robs the "Great Cave" of its mighty secret that has throbbled for ages at its heart, the "Dwelling of the gods" is henceforth shut to all the world.

Henceforth, for seventy years, the oracle is dumb, silent, stony, impenetrable as the Sphinx, its white face turned

in speechless prophecy toward the terraced slopes which lay there before its closed mouth.

History rolled over "White Rock" and past it; but took no notice of it. The brave Pike goes past it in 1805, and ignores it. Long besieges the unutterable oracle in vain in 1807. Fort Snelling is established in 1819. Mendota becomes the depot of the fur trade. Events are clustering around it, but all look past it, till 1837, when the Dakotas were persuaded to cede their lands on the east side of the river to the United States, on account of the valuable pine lands and water power thereon. The treaty was ratified at Washington in 1838, and *Imnijaska* ceased to be Indian territory

Drive from St. Paul to the Falls of St. Anthony, returning via Fort Snelling.

This excursion affords one of the most interesting drives in any part of the country. On leaving St. Paul, by private conveyance, you pass through Madison avenue to the open plains which skirt the city, and then follow the direct road to St. Anthony, 10 miles. One or two beautiful cascades are passed near the roadside, as you approach the great Falls.

The *State University*, another object of interest, situated east of the road, overlooking the Falls, is a flourishing institution of learning. The town of ST. ANTHONY, with its saw mills and factories, propelled by water power, extends for near a mile above and below the Falls. Here is a *Suspension Bridge* of fine proportions, spanning the stream above the cascade.

MINNEAPOLIS, a large and flourishing place, is situated on the west bank, sur-

rounding the Falls, where are very extensive saw mills, grist mills, paper mills, and other factories, all being propelled by water-power, and all well worthy of a visit. Here is a good hotel, where visitors usually stop for refreshments.

On returning, the road runs along the west bank of the Mississippi for four miles, when the *Falls of Minne-ha-ha* are reached. This beautiful fall of water, made famous by poetry and romantic scenery, is almost beyond description, as seen at different seasons. It has a perpendicular fall of about 40 feet, and can be viewed from the rear, as the rocks recede so as to allow a passage from side to side under the fall of water. About half a mile below, this pure stream enters into the Mississippi.

FORT SNELLING, two or three miles farther, and six miles above St. Paul, is

an old Government post, where are usually quartered more or less troops; at the present time (1865) there are two regiments. Standing at the junction of the Minnesota and Mississippi Rivers, on elevated ground, it has a very picturesque appearance. Here is a rope ferry across the river, leading toward St. Paul, it being reached by a circuitous road running under the bluffs, affording highly romantic views. Here the *Minnesota Central Railroad* crosses the Minnesota River.

The next object of interest is a Cave, 2 miles above St. Paul, which will well repay a visit to its subterranean caverns, from whence issues a lovely sheet of pure water.

MENDOTA, Minn., is situated on the right bank of the Mississippi River, at the mouth of the Minnesota, 5 miles above St. Paul. This is one of the earliest settled places in the State, being formerly the head-quarters of the American Fur Company. Here are two churches, an hotel, and several stores. Population, 600. The *Minnesota Central Railroad* and the *Minnesota Valley Railroad* form a junction at Mendota, both rivers being crossed by a drawbridge.

FORT SNELLING, 6 miles above St. Paul, is an important United States post and rendezvous, situated on a commanding eminence at the junction of the Minnesota and Mississippi Rivers, 6 miles below the Falls of St. Anthony.

PLACES AND OBJECTS OF INTEREST

TWENTY-FOUR MILES AROUND ST. PAUL.

<i>West Side Mississippi River.</i>		<i>East Side Mississippi River.</i>	
	Miles.		Miles.
MENDOTA.....	5	Carver's Cave.....	1
<i>Fort Snelling</i> and Ferry.....	6	Fountain Cave.....	2
Falls of Minnehaha.....	8	Lake Como.....	3
Diamond Lake.....	9	Phalon's Lake.....	3
Rice Lake.....	10	<i>Little Canada</i>	6
Lake Amelia.....	10	Gervais Lake.....	6
Mother Lake.....	10	Mazaska Falls.....	6
Wood Lake.....	11	Bass Lake.....	6
Grass Lake.....	11	Vadnois Lake.....	7
MINNEAPOLIS.....	11	Black-Bass Lake.....	9
Cedar Lake.....	13	Fawn's Leap and Silver Cascade....	9
Crystal Lake.....	14	ST. ANTHONY'S FALLS.....	10
Lake Calhoun.....	14	White-Bear Lake.....	12
Lake Harriet.....	14	Bald-Eagle Lake.....	14
Medicine Lake.....	16	<i>Stillwater</i> (St. Croix River).....	18
<i>Shakopee</i>	22	<i>Hudson, Wis.</i>	20
Lake Minnetonka.....	24	Forest Lake.....	24

Remarks.

At LAKE COMO, 3 miles from St. Paul, there is good fishing and two well-kept public-houses.

At WHITE-BEAR LAKE, 12 miles, there is good boating and fishing, and two well-kept public-houses.

At LAKE HARRIET, 14 miles, there is a well-kept hotel, boating, and fishing.

LAKE MINNETONKA, 24 miles from St. Paul, by railroad route, is one of the largest sheets of water in the State. Its shores are indented with beautiful bays, fertile lands, and sloping bluffs, crowned with forest trees, coming down to the water's edge. Islands, covered with the gorgeous green of Minnesota's foliage, are scattered liberally over its surface of pure sparkling waters, abounding with the finest of fish, affording great sport to the angler. Sail and row boats can be procured at the hotels for pleasure parties, and those desiring to see the extended beauties of land and water scenery can do so by taking a trip on the miniature steamer, "Lady of the Lake." This is a charming place of resort for invalids and seekers of pleasure.

The fish which are mostly taken in these lakes are bass, pike, and pickerel of a fine quality.

MINNEHAHA RIVER, the outlet of some of the small lakes in this vicinity, is a shallow, sparkling stream, dashing over its pebbly bed and around its little islands in the most gleeful manner. Without a warning, without even any preliminary rapids, it makes the leap which is called the *Falls of Minnehaha*. A graceful leap it is. The stream springs over in one sheet of sparkling foam, landing in a basin which for centuries it has been busily hollowing out for itself—a basin much like that into which the Kaaterskill Fall leaps, and like that, too, in presenting behind the sheet of water a smooth concave recess, around which it is possible for a man to pass, coming out at the opposite side of the cataract. The foliage in the vicinity is as gracefully disposed by nature as the artist could wish, and in itself and all its surroundings Minnehaha is a type of perfection of its class—a

model for all ambitious young waterfalls who may wish to win the poet's as well as the public's regard, and be ever associated with the fate of some dear maiden, as beautiful as itself, who in her delirium would rave about it, as did the old arrow-maker's daughter:

"Hark! she said, I hear a rushing,
Hear a roaring and a rushing,
Hear the Falls of Minnehaha
Calling to me from the distance.
No, my child, said old Nokomis,
'Tis the wind among the pine-trees."

At CHISAGO CITY, near the line of the Lake Superior Railroad, there is a well-kept hotel and accommodations for parties visiting the several beautiful lakes in this vicinity. Here is afforded good fishing, boating, and hunting.

In addition to the lakes which surround St. Paul, a visit to the *Dalles* on the St. Croix River and *Taylor's Falls*, 40 miles distant by stage, is recommended to all travelers fond of sublime river scenery. Farther up the St. Croix good trout fishing can be found—many of the small streams flowing into the river on the Wisconsin side being almost alive with speckled trout.

The **Falls of St. Anthony**, once the *Ultima Thule* of the northwestern traveler, are not so striking or grand as one might expect from the description given by the early explorers of Minnesota. "There is no prodigious height for the water to leap from, as at Niagara, but the rapids are grander and quite as extensive, while their power is shown by the large slabs of stone which lie in distorted piles along the shore, some standing up on end like giant tombstones, others piled irregularly as if trying to crowd away from the fearful force of the water. The retrogression of the falls has been very slow until this

spring (1867), when the great freshet, which proved so disastrous to log-owners and lumber-merchants, told to an unprecedented extent on the cataract itself.

"The reason of this is clearly understood. For a quarter of a mile above the main fall the bed of the river is composed of a thin stratum of limestone, supported by sandstone. This latter, being soft and crumbling, is worn away under the constant action of the water, thus forming a sort of cave, with the slab of limestone from which the water falls overhanging it. Of course, as this excavation grows deeper, the limestone having nothing to support it, and unable to bear the heavy mass of water, breaks away, and thus St. Anthony's Falls recede.

"As a mere spectacle, St. Anthony's Fall is grander by moonlight than at any other time, for then the unpoetical and unsightly buildings around it do not obtrude themselves, while the noise and dash of the rapids are heard and seen to perfection. At such a time St. Anthony's waters present an overpowering idea of furious strength, and one worthy to be remembered along with the recollections of Niagara itself. A greater contrast to the gentle beauty of Minnehaha it would be impossible to find; and yet these two cataracts are within a short walking distance of each other, and to tourists both will be, for ages to come, among the greatest attractions of the Northwest."

Minnesota, or St. Peter's River, one of the largest streams that rises in the State, is navigable for steamers, at most seasons of the year, from St. Paul to Mankato, 148 miles, passing St. Peter and other important towns on its banks. In good stages of water, small boats run

to the mouth of the Yellow Medicine, 233 miles from its mouth. Beyond this, at a slight expense, it might be rendered navigable to Big Stone Lake, where a portage of about three miles in length separates it from the equally navigable waters of the Sioux Wood, which empties into the Red river of the North. The Red river gives over 300 miles of navigable water on the western boundary of the State, before entering into British America, above Lake Winnipeg.

SHAKOPEE, capital of Scott co., Minn., is a handsomely situated village on the south bank of the Minnesota river, 22 miles from St. Paul by railroad. It was named in honor of an old Indian chief (a Sioux) by that name, and when translated into English is simply the short word "Six." At this point an important Indian town was located, known to the early settlers as "Shakopee's village." In 1865 it contained 1,250 inhabitants, five churches, one bank, two public houses, and several stores. The surrounding country is fertile and thickly settled.

CHASKA, Carver co., Minn., 38 miles above St. Paul, by Steamer, is situated on the North bank of the Minnesota river, which is always navigable to this point. Population, in 1865, 610.

CARVER, capital of Carver co., Minn., is situated on the left bank of the Minnesota river, 42 miles above St. Paul by Steamer. It lies at the head of navigation during the low water season, and is surrounded by a rich agricultural region. Population, 500.

BELLE PLAINE, Minn., 48 miles from St. Paul by railroad, and 69 miles by Steamer, is pleasantly situated on the south side of the Minnesota river. Here are three churches, three hotels, one flouring mill, one saw mill, and several stores. Population, about 1,000. The

Minnesota Valley Railroad will run through this place, when completed.

HENDERSON, capital of Sibley co., Minn., is situated on the Minnesota river, 80 miles above St. Paul. Population, in 1865, 1,000.

LE SUEUR, capital of Le Sueur co., Minn., 90 miles above St. Paul, is situated on the south bank of the Minnesota river, in the midst of the best agricultural section of the State. Steamboats land at this place daily, from which are shipped large quantities of produce. The Minnesota Valley Railroad will run through this place. Population, in 1865, 500.

ST PETER, the county seat of Nicollet co., Minn., is advantageously situated on the Minnesota river, 85 miles from St. Paul, and 150 miles from Winona by railroad route. Here are five churches, three hotels, two banks, and a number of stores. Population, 1,500. The Winona and St. Peter Railway, when completed, will terminate at this place.

MANKATO, the county seat of Blue Earth co., Minn., is situated at the great bend of the Minnesota river, about 140 miles from its mouth. It is the head of navigation during the greater part of the season, and is one of the best commercial points in the State. This is the proposed center of several railroads, which, when completed, will be of great advantage to this whole region of country, which for a great part is extremely fertile, and rapidly filling up with an industrious and intelligent population. Besides the county buildings, here are four churches, four hotels, two flouring mills, two saw mills, and several stores and storehouses. Population, in 1865, 2,654.

NEW ULM, the county seat of Brown co., Minn., is a flourishing village on the Minnesota river, about 60 miles above Mankato. The town was laid out in

1856, and improved steadily until the Indian outbreak of 1862. On August 19th of that year it was attacked, and partly burned, many of the inhabitants being butchered by the savages. Since that period, the place has improved rapidly, and now contains a population of about 1,000, mostly Germans.

Buffalo Hunt in Minnesota.

Extract from a letter, dated, St. PETER, MINN., Aug. 1, 1865:

"I have just returned from the Redwood Falls, seventy-nine miles west of this town, and can assure you the trip has given me a good knowledge of the western portion of Minnesota. At REDWOOD a young town is starting into existence, already containing two hundred and sixty inhabitants, most all from Massachusetts and New York. The falls are thirty feet perpendicular over a solid ledge of granite, and already a saw mill is cutting the logs into building materials. In a distance of five hundred and sixty yards, there is a fall of one hundred and two feet. The river is narrow, but the scenery is wild and romantic in the extreme. In the rear of the village, the broad prairies extend west, I know not how far, but am told a hundred miles or more.

"Within eighteen miles, straggling buffalo are seen, and forty miles brings the traveler to the herds; sometimes they come in droves below the village. It may be of interest to your sporting men and those who may wish to see Minnesota in all its glory, and have a good time generally, to tell you that a hunting party, to capture buffalo, is to leave St. Peter on the eleventh of September. All the camp equipage, ponies, and all things necessary, can be obtained here.



FALLS OF ST. ANTHONY.



MINNE-HA-HA.

"Here the Falls of Minne-ha-ha
Flash and gleam among the oak trees,
Laugh and leap into the valley."

The City of **St. Anthony**, situated 10 miles north of St. Paul, by railroad, is one of the most favored localities in the State. It was incorporated in 1855, and in 1865 contained 3,500 inhabitants. Here are nine churches, two banks, three hotels, several stores, and numerous manufacturing establishments, propelled by water power. The "St. Anthony Falls Water Power Company" is capable of sawing 40,000,000 feet of lumber an-

nually. There are also three flouring mills, a paper mill, foundry and machine shop, two breweries, and other extensive manufacturing establishments. The University of the State of Minnesota is located here, on an eminence overlooking the falls and the two towns. An elegant suspension bridge, erected in 1855, 620 feet long, spanning the main branch of the river above the Falls, connects the city with Minneapolis. The *St. Paul and Pacific Railroad*, completed to a point 50 miles northward, now extends from St. Paul to Big Lake.

Minneapolis, Minn., the capital of Hennepin county, is delightfully situated on the west side of the Mississippi, at the Falls of St. Anthony, where is afforded one of the most magnificent water powers on the continent. Here are four extensive flouring mills, a woolen factory, a sash, door, and blind factory. The capacity of its sawmills is 50,000,000 feet; there are nine gangs of saws with rotaries, and the usual proportion of lath and shingle mills. In addition to these are manufactured ploughs, wagons, furniture, churns, barrels, &c.; two foundries, and the immense machine shops and car factory of the Minnesota Central Railway Company.

The Minneapolis Water Power Company, and the St. Anthony Company, have combined properties of quantity and availability unsurpassed in the United States. The lineal frontage along which the power can be carried and applied at a trifling cost, so as to supply a mill with power in every hundred feet of its course, is over 15,000 feet. The value of such a power, as well as the amount of machinery it is destined to propel, as the vast and fertile region north and west of it becomes settled, can hardly be estimated

Here is a perpendicular fall of about 18 feet, and a rapid descent of 46 feet, with in a distance of one mile.

Besides the county buildings, Minneapolis contains three national banks, eight churches, four hotels, numerous stores and store-houses, together with many fine private residences. Population, in 1865, 4,600.

The picturesque scenery in and around these two cities at the Falls, their topographical beauty, the fine hard roads leading in all directions, the charming lakes in the vicinity, the celebrated *Minne-ha-ha Falls*, being a few miles below Minneapolis on the Fort Snelling road, taken together with the dry, bracing atmosphere that distinguishes Minnesota from all other Western States, have contributed to draw crowds of pleasure-seekers, travelers, and invalids to this locality.

Two beautiful lakes, Harriet and Calhoun, lying within a half hour's drive, and Lake Minnetonka, 12 miles westward, are places of constant resort in summer. These lakes, and about thirty others in the country, abound with sunfish, bass, and pickerel, as also the woods and prairies with the usual varieties of game. The old *Fort Snelling*, and its reservation of 10,000 acres, is situated in this county, at the confluence of the Minnesota and Mississippi rivers. The Fort is now used as a rendezvous for troops and recruits. Although once abandoned by the Government, the prospect now is that it will be permanently retained for military purposes.

The railroads terminating at Minneapolis, and passing through St. Anthony, are the *Minnesota Central*, running south and connecting with all the roads west of the Mississippi as far as Clinton, in Iowa; the *Minnesota Valley road*, running towards Sioux City; the *St. Paul and Pacific Railroad*, running west and east.

ST. PAUL AND PACIFIC RAILROAD ROUTE.

MANOMIN, the capital of Manomin county, is a small village on the east bank of the Mississippi river, 17 miles north of St. Paul by railroad route.

ANOKA, Minn., 25 miles north of St. Paul, by railroad, is the county-seat of Anoka county, being handsomely situated on the east bank of the Mississippi river, at the mouth of Mille Lac, Rum river lying on both sides of the latter stream. The surface of the country is here diversified, and the climate highly salubrious; the soil being well adapted to agriculture. The natural meadows are an important feature, and, taken in connection with other facilities which the place affords, make it particularly adapted to the raising of cattle and sheep. Here are three church edifices, two hotels, several stores, and about 1,000 inhabitants.

ITASKA, Anoka County, Minn., is a small settlement on the east bank of the Mississippi river, 35 miles from St. Paul by railroad route.

ELK RIVER, Minn., is the name of a village situated on a stream of the same name, half a mile east of the Mississippi river, distant 40 miles from St. Paul, by railroad route.

BIG LAKE, Minn., the county-seat of Sherburne county, 50 miles north of St. Paul by railroad route, is situated about two miles east of the Mississippi river, containing a population of 200 or 300.

St. CLOUD, Minn., lying on the west side of the Mississippi river, at the foot of the Sauk Rapids, is the capital of Stearns county, 74 miles north of St. Paul by railroad route. This may be called the head of navigation for the river above the Falls of St. Anthony, being on the direct route from St. Paul to the

Red River settlement of the North. A railroad is also proposed to run from Sauk Rapids to Superior City, 120 miles, which, when finished, will be of great benefit to this whole section of country.

The village now contains about 2,000 inhabitants, and is fast increasing in wealth and importance. There are a fine court-house and jail, one bank, United States land-office, five churches, three hotels, twelve stores, and two printing-offices.

From St. Cloud to the Red River is about 200 miles, the distance being about 200 more miles to *Fort Gary*, British America. A large trade is carried on, by means of ox-carts passing over the prairie, including the furs and other articles belonging to the Hudson Bay Company.

SAUK RAPIDS, Minn., lying on the east side of the Mississippi River, at the head of the rapids, two miles above St. Cloud, is the capital of Benton County. It contains about 700 inhabitants, 2 churches, 2 hotels, 2 stores, and manufacturing establishments. The *St. Paul and Pacific Railroad* runs to this place along the east bank of the river. Here is an immense water-power, created by the *Sauk Rapids*, having a descent in half a mile of about 15 feet, where a dam is constructed.

The *Mississippi River*, above the Sauk Rapids, flows through a level country, interspersed with groves of timber of different kinds, having a width of about 100 yards, to Crow Wing, 40 miles above. North of the latter place, pine timber of a large growth is found in abundance, the lumbering business being the principal source of profit.

WATAB, Benton County, Minn., 80 miles above St. Paul, lying on the east side of the Mississippi River, is a small post settlement, containing about 150 inhabitants.

LITTLE FALLS, Minn., 100 miles north of St. Paul, is the capital of Morrison county, where are a fine water-power and saw-mills, it being in the region of a good lumbering section of country.

CROW WING, Minn., is the capital of Crow Wing county, situated on the east bank of the Mississippi, 120 miles north of St. Paul. This is an important post, where is located the Government agency for the Chippewa Indians, and commands a considerable Indian trade. It is on the line of the *St. Paul and Pacific Railroad*, which there crosses the river and will extend in a north-westerly direction to Pembina, on Red river of the North.

Northern Minnesota.

The distance from St. PAUL to CROW WING, Minn., is about 120 miles, the *Chippewa Agency* being seven miles above Crow Wing, on Crow Wing river, a stream larger than the Mississippi proper; it is the outlet of Otter Tail and other numerous lakes, some sixty miles westward. The Indian agent for the Chippewa, Pembina, and Pillager Indians resides at the above agency. The agent makes a yearly payment to the above Indians, usually leaving the agency about the first of October, travels west to Otter Tail Lake, thence north, over the old Red river trail, to Douglas, Polk county, Minn., situated on Red Lake river, emptying into the Red river of the North, about forty miles west. In this vicinity the payments are made.

OTTER TAIL LAKE and the surrounding chain of lakes are of the purest water, abounding in delicious fish of different kinds. The shores are pebbly, surrounded by hard-wood timber, the sugar maple tree here predominating, from which large quantities of maple sugar are annually manufactured. The soil is unusually rich, producing wild grass three or four feet

in height. The principal game left is wild fowl of different kinds, among which may be named the prairie chicken, grouse, partridges, ducks, and wild geese. Deer, elk, bear, foxes, badgers, and other furbearing animals, heretofore numerous, are now sparse, being nearly exterminated by the Indians, who are expert huntsmen. The healthy influence of this section of the country is unrivaled, it being a luxury to breathe the pure air of this region.

In September, 1865, a resident of Milwaukee, Wis., who had been suffering from ill health, tending to consumption, started for St. Paul and journeyed toward Crow Wing, along the east side of the Mississippi river, arriving about the time of the leaving of the United States agent and his party for the interior, the weather being then cool and delightful. Joining said party, and participating in their fare, he made the journey to Otter Tail Lake, and thence to Red Lake river, on horseback, returning with said party.

During this trip of some four weeks, his health was almost entirely restored, being able to bear almost any amount of fatigue; camping out in the open air, hunting, and fishing as circumstances would permit.

This is the happy experience of hundreds of invalids who have the resolution to visit this health-restoring section of country, where fevers and consumption are almost entirely unknown. Even the winter months are endurable and healthy in this region, extending north to the British settlement near Lake Winnipeg, 50° north latitude.

Buffalo and other large game may be found west of Red river, affording wholesome food, while wheat and vegetables are raised in great abundance wherever settlements have been made.

Interesting to Consumptives.

WHO SHOULD GO TO MINNESOTA AND WHO SHOULD NOT.

Extract from a letter, dated, ST. PAUL, Minn., Dec. 24, 1865:

"It is not the object of your correspondent to court any argument upon the relative merits of a northern or southern climate for the cure of that fell destroyer of human life and happiness, consumption, but merely to give his experience as an invalid during a sojourn of several months in a country which is fast becoming one of the most popular resorts for invalids from all parts of the Union. Neither do I wish to be understood as claiming for Minnesota entire immunity from disease, nor that the climate is a sovereign remedy for all cases of consumption; but, from careful observation, I believe I am justified in asserting that there is no locality on this continent so exempt from 'all the ills that flesh is heir to' as this. The dryness of the atmosphere, the peculiar character of the soil, the almost total absence of fogs and moist winds, all contribute to render the climate one of unrivaled salubrity.

In its first stages, consumption appears to yield readily to the peculiar influence of the climate; and, even in the more advanced stages of the disease, the patient, by a continued residence in this country, finds permanent relief and comparative good health. I find that three classes of cases arrive in this country in search of relief: 1. Those slightly affected, who take time by the forelock, get well in a few months, and return to their homes perfectly cured. 2. Those more seriously affected, who never fully recover the use of their lungs, but by a permanent residence in Minnesota enjoy comparative

good health. 3. Those who wait until it is too late, and arrive here only to linger a few weeks and die among strangers.

"It is to be regretted that the majority of the invalids who arrive here are not of the first class. Unfortunately, owing to the ignorance of physicians, the disease is seldom detected in its first stages; and it is not until a hemorrhage takes place, or tubercles commence to soften, that they see the necessity for the removal of the patient to a more salubrious climate.

"The second, or predominating class, are scattered all over the entire State, from the Iowa line to the shores of Lake Superior. Go where you will through Minnesota and you will meet persons, apparently in good health, who could not exist two years under the influence of the cold moist winds of the Atlantic States. Many of them arrive here quite low, but, with the help of a good constitution and the peculiar salubrity of the climate, they manage to rally and enjoy tolerably good health. In one or two instances which came under my observation, the patients had to be removed from the steamboat in a carriage, and several months elapsed before any visible improvement could be noted; but finally the patients commenced to mend, and the clear, bracing atmosphere of winter soon restored them to health. A few Sundays ago we buried one of the oldest residents of this city, who had been ill with consumption for fifteen years. He had been sick with the disease three years when he entered the State, and did not expect to live many months; but he rallied, and by a continued residence in the country managed to prolong his existence a dozen years. Some of the leading business men of this city, men noted for their enterprise and success in life, belong to the second class, and,

although to all appearance in the full possession of health, tell you that it would be impossible for them to exist East.

"Of the third class not much need be said. They never ought to come here, as the fatigue and excitement of the journey only tend to hasten death. Some die on their way up the river, some at the hotels and boarding-houses before they have been domiciled among us a fortnight, and others, feeling that death is inevitable, start for home before they have been a week in the country.

"A very intelligent gentleman from New York, whose acquaintance I made when I first arrived in St. Paul, estimated that about three out of every ten persons who came here afflicted with lung complaints recovered so as to be able to return to their homes, and that over fifty per cent. of the invalids were afforded permanent relief. My informant, who is an invalid himself, has spent three years in the State, and, although in the enjoyment of apparent good health, says he will never be able to live in his native place again. He has therefore sent East for his family, and intends going into business here.

"It would be a difficult task to arrive at anything like the approximate number of invalids in the State, for there are no statistics on the subject, but it is safe to estimate them by thousands. In the summer you find them scattered all over the State, amusing themselves by fishing and hunting. The attractions in this respect are superior to anything of the kind in the United States perhaps. The entire surface of the State is dotted with lakes, varying in circumference from one mile to one hundred, which abound in the largest and choicest kind of fish. Pickerel, weighing from twelve to fifteen

pounds, bass, wall-eyed pike and trout in proportion are caught in large quantities in all the lakes and rivulets. Trolling on the lakes is especially recommended by the physicians as the most fitting exercise for invalids who are too reduced to follow the more fatiguing sport of gunning. In the fall of the year, which is certainly a delightful season, the woods abound with deer, partridges and quail, while the stubble fields furnish the Nimrod with all the prairie chickens he can carry in an ordinary sized wagon. Geese and ducks of the finest flavor frequent the lakes in immense flocks, and afford splendid sport. Occasionally you stumble upon a bear, but invalids are not very partial to Bruin as a general thing, and usually allow him to follow the bent of his inclination unmolested.

"The cost of living in this far off Western country is by no means as expensive as some would imagine. Board at the best hotels in St. Paul can be procured cheaper than at the East, and in the country towns one can live very comfortably for about five or six dollars a

week. As winter sets in, the invalids all flock to the towns, where they can spend the season more agreeably than they can in the country. Such places as St. Paul, Minneapolis, St. Anthony, St. Cloud, Farrihault and Winona are crowded with them, and the citizens derive no little profit by the presence of such visitors. The pineries, which extend along the St. Croix river, and run as far north as Lake Superior, are much frequented by consumptives. A belief is prevalent here that the pine emits an odor which is peculiarly healing, and highly beneficial for invalids; hence it is no uncommon thing for small parties to take up their quarters in the wilderness, and spend the winter there with the numerous gangs of lumbermen engaged in felling trees and hauling logs to the banks of the neighboring creeks, with the view of floating them down the St. Croix in the spring. Those who have the strength and courage to endure this wild mode of life generally experience the most beneficial effects, and in the spring are enabled to return fat and hearty."

Railroads of Minnesota, 1868.

The following Table, based upon information obtained from sources that are deemed reliable, presents the condition of Railroads now in process of construction:

NAME.	Miles	
	Completed.	
Winona and St. Peter Railroad.....	105
Minnesota Central Railway.....	213
1st Div. St. Paul and Pacific—Main Line.....	—
1st Div. St. Paul and Pacific—Upper Miss. Branch.....	75
St. Paul and Pacific—Winona Branch.....	—
Minnesota Valley Railroad.....	64
Southern Minnesota Railroad.....	30
Lake Superior and Mississippi Railroad.....	—
Total.....	476

Geological Survey.

The State Geologist, in his late researches has confirmed the hope that vast and rich beds of iron and copper ore would be found within the counties bor-

dering on the northern shore of Lake Superior; and in the vicinity of Lake Vermilion, in St. Louis County, he has discovered veins of gold and silver bearing quartz, that promise to be highly valuable and productive.

Northern Pacific Railroad—Northwestern Minnesota.

Extract from a Correspondent of the New York Evening Post, dated

ST. CLOUD, Minn., August 29, 1867.

"The Northern Pacific Railroad Company has now four surveying parties of fifteen men each at work in the field making surveys to enable the chief engineer to designate the most suitable route. One of these began operations at Bayfield, on Lake Superior, and is surveying westward toward this point. The other began at Superior City, and has got through to the Mississippi, a little above Crow Wing. The country through which these parties are passing is principally a forest, alternating with hard wood and pine; the surface somewhat broken but well watered. The soil is of middling quality, and in some places there is an abundance of stone.

"The Northern Pacific Railroad Company does not contemplate building any part of this road until it receives from Congress the same kind of aid that has been extended to the Central or Union route; namely, a loan of the national credit to the amount of sixteen thousand dollars per mile for the main part of the line, twice that amount as the line approaches the mountains, and treble that amount over the most difficult part of the mountains on its route to Puget Sound. The friends of this road claim that it is five hundred miles shorter than the Central route, and that it acquires peculiar advantages by its connection with great natural water channels.

"Mr. Johnson, the chief engineer, after visiting Bayfield and Superior, went down to St. Paul on the military stage road, and thence by rail to this point and Sauk Rapids, and by stage to Crow Wing. After examining that region, and going up as far as the French Rapids of the Mississippi in a canoe, he returned to St.

Cloud with a view of visiting the famous prairie and lake region lying between this point and the Red River of the North. Eight years ago that part of the country to the Red River had made some progress, but three years later the Indian outbreak gave it a severe blow, from which it only began to rally about two years ago. The fact that this tour to the Red River took in eleven respectable villages, besides the stations of Chippewa and Pomme de Terre, will show to what extent the settlements have grown. The names of those villages are as follows: St. Joseph, Cold Spring, Richmond, New Munich, Sauk Center, Osakis, Alexandria, McCaulayville, Battle Lake, Ottertail City, and Holmes City. Some of these are places supporting three or four good stores, while Sauk Center is a busy village of about eight hundred inhabitants, having mills, a printing-office, and a weekly journal.

"The famed Sauk Valley is a little more than sixty miles in extent, following the stage road along the bend of the river. For the first forty miles it is settled pretty thickly by Germans, and thence on chiefly by Americans. The abundant wheat, oat, and potato crop indicated the favorable condition of the soil and of the people. From St. Joseph to New Munich a road has been cut through the timber, shortening the distance fifteen miles to Sauk Center, but it has not been sufficiently worked to be traveled, except in winter. It may be remarked that the Germans in this valley are Roman Catholics, and from St. Joseph to New Munich have seven neat-looking churches.

"From Sauk Center to Pomme de Terre, on the stage route, the country is elevated and rolling prairie, but well supplied with timber and watered by numerous clear streams and beautiful lakes. The route passes close to the Osakis and Pelican Lakes, the view of and country round each being exceedingly charming. The succession of prairie, groves, and lakes in the vicinity of Alexandria also render that region most agreeable to the eye. Cultivated farms are now numerous in that locality. Handsome harvest fields are also to be seen at Chippewa, Evansville, and Pomme de Terre; but, as a general thing, after getting a few miles from Alexandria, the settlements are some distance off from the route, the first settlers having gone to timber or the lake shore to cull the most inviting tracts. At Chippewa and Pomme de Terre are ample log buildings, surrounded by desirable stockades, erected soon after the Indian outbreak.

"One mile west of the latter station the Pomme de Terre River is easily forded, and thence on the country soon becomes more level till the broad horizon bounded valley of the Red River is reached. The soil in that valley is remarkably rich, and the surface continues level to the Cheyenne and beyond. The Red River flows so stealthily in its narrow banks that the traveler comes upon it unexpectedly. Though its general course is direct, it has frequent abrupt bends, and its current, though strong and rapid, seems never to wear its tenacious banks, so as to give itself more room, but keeps on in its obscure and confined channel, thus rendering itself more liable to overflow. In its upper valley there is no appearance of rock, except occasional bowlders of granite and limestone.

"Going north from Chippewa the first five miles are through a splendid region

of country, which is just beginning to be settled. On a rise of ground one mile north of Chippewa the view takes in: an expanse of many miles of luxuriant prairie and meadow, skirted with timber, through which, toward the northwest, can be seen a silver gleam of lake. Many snug cabins and ample fields of ripened wheat were also visible, while further to the north the Leaf Hills, rising to a height of 250 feet, gave picturesqueness to the delightful prospect. In some places the prairie grass was five feet high, and was rapidly making into hay by the settlers. In that locality was noticed one of the handsomest homesteads that could well be imagined; the natural beauty of which could hardly be improved by the most skillful landscape artist. On one side is a lake just visible through the trees. The soil is of the best quality and covered with luxuriant grass, and for half a mile on each side of the road are clusters of tall and thrifty oaks, so that the traveler can almost fancy he is traversing the lawns and avenues of some old estate of an English nobleman.

"The *Otter-Tail Lake* is a large and beautiful sheet of water, having handsome prairie-sloping shores, fringed with forest. The soil for the most part, however, is only second-rate. From the village at the head of the lake to Leaf Lake is the portage of a mile and a half in extent, over which, in former years, many explorers have passed in going from the waters of the Mississippi and the Gulf of Mexico to those of Hudson Bay."

There are not less than 500,000 square miles of most productive soil, with a favorable climate, in Minnesota, Dakota, and the British Possessions, north of the 49th parallel of latitude, which will find its outlet to the eastern markets through

Lake Superior, as soon as a railroad is built from the Upper Mississippi and the Red River of the North to Superior City or Bayfield. That great region can have no other outlet that can compete with the Great Lakes, the River St. Lawrence, and the Erie Canal.

The *Northern Pacific Railroad*,* as soon as its eastern division is completed to the Red River of the North, in connection with the *Lake Superior and Mississippi Railroad*, running from St. Paul to the head of Lake Superior, 160 miles, will give such an impetus to the commerce of the upper lakes, or "Inland Seas," as to build up a city, or cities, that will vie with Chicago or St. Louis in magnitude.

LAKE SUPERIOR AND MISSISSIPPI RAILROAD.

This much needed connecting link between the navigable waters of the Upper Mississippi and the head of Lake Superior, 160 miles in length, is of the utmost importance to both Canada and the United States. It is now in the course of construction, and when completed will afford an uninterrupted route of travel from the Gulf of Mexico to the Gulf of St. Lawrence. The distance from St.

* The charter of the **NORTHERN PACIFIC RAILROAD**, approved July 2, 1864, reads as follows:

"AN ACT granting lands to aid in the construction of a Railroad and Telegraph Line from Lake Superior to Puget Sound, on the Pacific Coast, by the Northern Route."

Further, "Said Corporation is hereby authorized and empowered to lay out, locate, construct, furnish, maintain, and enjoy a continuous railroad and telegraph line, with the appurtenances, namely, beginning at a point on *Lake Superior*, in the State of Minnesota or Wisconsin, thence westerly, by the most eligible railroad route, as shall be determined by said Company, within the territory of the United States, on a line north of the forty-fifth degree of latitude, to some point on *Puget Sound*, with a branch, *via* the valley of the Columbia River, to a point at or near Portland, in the State of Oregon."

Paul to New Orleans by water is about 2,000 miles, and the distance from the head of Lake Superior to Quebec, *via* Toronto, passing through Georgian Bay, is about 1,400 miles—thus shortening the distance about 400 miles by avoiding Lakes Huron and Erie.

This international and inland route, passing through the most fertile region of the United States and portions of Canada, is destined to form the shortest and most desirable through line of transit from North America to Europe, carrying the mineral, agricultural, and other products of this wide extended region of country.

This great route, in connection with the Northern Pacific Railroad, for which a very liberal grant of land has been given by the United States Government, ought to encourage capitalists both in America and Europe to invest their surplus means so as to insure their early completion.

THE UPPER MISSISSIPPI VALLEY AND THE GREAT LAKES.

Extract from the United States Railroad and Mining Register, dated May, 1867.

"A glance at the map of North America—including in the view the continent from sea to sea—always draws attention to the river system of the Mississippi Valley which empties into the Gulf, and to the group of great lakes which empty down the St. Lawrence.

"The falls at the outlet of Lake Superior, the St. Clair Flats, below the outlet of Lake Huron, and the Falls of Niagara, between Lakes Erie and Ontario, interrupt navigation, and constrained the erection of artificial works around the two falls and through the flats named.

"The great present mart of trade on Lake Michigan is Chicago; the great future source of trade on Lake Superior

is *Superior City*. From Chicago and from Superior City there will be unbroken communication by iron rail, on direct routes, through to the Pacific Ocean.

"It is an object to shorten the water line from the points of termination of lake navigation to the Atlantic seaports, and to do this effectually it is only necessary to construct 60 miles of canal and improve 16 miles of river navigation.

"From Georgian Bay to Lake Ontario the distance is 100 miles. Between these two navigations is Lake Simcoe, navigable for 24 miles, and serving for an inexhaustible and abundant summit supply of water, leaving, to connect Lakes Michigan, Superior, and Huron, but 16 miles of river improvement and 60 miles of canal, to save 375 miles of distance over the route through the St. Clair Flats and the Welland Canal.

"What, then, in future time, will be

the productiveness of the *Huron and Ontario Ship Canal*, which will cut off 375 miles of distance between Chicago and New York and 428 miles between Chicago and Quebec?

"From Lake Ontario, the distributing basin of Western trade, the St. Lawrence is available for Canada, the New York State canals and the Hudson River are available for New York, and the New York State canals to Elmira and the Susquehanna Valley canals, with a gently descending lockage to tidewater in the Chesapeake, are available to Philadelphia and Baltimore."

This grand commercial project of the future makes Lake Ontario the distributing basin of the whole northwest region of the United States and Canada. The outlets of this immense trade will mostly flow through the St. Lawrence and the canals extending to the Hudson river and thence to the city of New York.

STAGE ROUTE,

Via MILITARY ROAD, running from the CITY OF SUPERIOR, Wis., to ST. PAUL, Minn.—DISTANCES, &c.

<i>Going South.</i>		Miles.	<i>Going North.</i>		Miles.
Superior City		0	St. Paul		0
Minnesota State Line		15	Little Canada, P. O.		6
Pine Grove		1—16	Centerville		12—18
Clear Creek		1—17	Wyoming		14—32
Twin Lakes, P. O.		5—22	Sunrise City, P. O.		19—51
Black Hoof		6—28	Rushseba		11—62
Moose Lake		12—40	Chengwatana, P. O.		11—73
Kettle River		17—57	Deer Creek		17—90
Deer Creek		13—70	Kettle River		13—103
Chengwatana, P. O.		17—87	Moose Lake		17—120
Rushseba		11—98	Black Hoof		12—132
Sunrise City, P. O.		11—109	Twin Lakes, P. O.		6—138
Wyoming		19—128	Clear Creek		5—143
Centerville		14—142	Pine Grove		1—144
Little Canada, P. O.		12—154	Wisconsin State Line		1—145
St. Paul		6—160	Superior City		15—160

Usual Time, 2½ days. Fare, \$16.

Superior City to St. Paul, Minn.

The *Military Road*, extending through the States of Wisconsin and Minnesota, runs nearly parallel to the line of the *Lake Superior and Mississippi Railroad*, now in progress of construction, being about 160 miles in length; the Stage route passing for most of the distance through an unbroken forest, with but few openings or settlements. A large growth of white pine is passed near the State line, 15 miles from Superior City; for the remainder of the distance there is a mixed forest, abounding in hard and soft wood, with occasional burnt districts, presenting a gloomy appearance.

The road for most of the distance of the first eighty miles is exceedingly rough and the soil of a second-rate character, while the public houses, or stopping places are of the rudest kind, affording a specimen of pioneer life in the wilderness. On reaching *Chengwatana*, the county seat of Pine County, Minn., the character of the country begins to improve, and occasional cultivated fields are passed, also several small lakes. During the months of July and August the traveler is most terribly annoyed by the mosquitoes, which are here encountered in immense numbers. Nothing but a mosquito-net, properly fastened over the head will afford relief from these tormentors.

The speedy completion of the railroad connecting the waters of the Upper Mississippi with those of Lake Superior is a work of pressing importance. As soon as finished it will afford a water and railroad communication from the Gulf of Mexico to the Gulf of St. Lawrence, a total distance of upward of 3,000 miles.

The section of country most to be benefited will be Minnesota, Northern Iowa, and Wisconsin and all the Lake Superior country, together with the cities of Detroit, Cleveland, Buffalo, Oswego, Toronto, and Montreal.

The lumber, together with the agricultural and the mineral productions, will all be floated eastward on reaching the head of Lake Superior, and manufactured products pass westward, thus enriching every branch of industry, East and West.

On arrival at St. Paul, during warm weather, the tourist is refreshed by the comforts and attractions centered at this point, where may usually be found pleasure-seeking travelers and invalids from every section of the country. A subject of complaint with many strangers is the limestone water which prevails in this section of the Mississippi Valley, added to which is the want of proper ventilation and cleanliness in the public houses. It is to these, by many considered small evils, that often health and enjoyment is seriously affected, while in the moral world erroneous and pernicious sentiments alike damage the community. So sensitive are our moral and physical faculties, that, when rightly tuned, we enjoy the breathing of the pure atmosphere, the gorgeous sunset, the falling of waters, the singing of birds, and the perfume of the wild rose and other flowers that adorn the wide-spread prairies, as well as good food, raiment, or elevating society. The true philosophy and the highest enjoyment of traveling has yet to be attained by the American public.



Farming Lands of Illinois.

PORTAGE ROUTE FROM LAKE SUPERIOR TO LAKE WINNIPEG.

STARTING FROM FORT WILLIAM, C. W.

KAMINISTAQUOIAH RIVER, emptying into Thunder Bay of Lake Superior, forms the west boundary of Canada proper; to the north and west lies the extensive region or country known as the *Hudson Bay Company's Territory*. Here commences the great *Portage Road* to Rainy Lake, Lake of the Woods, and the Red River settlement; also, to Lake Winnipeg, Norway House, and York Factory, situated on Hudson Bay. At the mouth of the Kaministaquoiah stands *Fort William*. "The banks of the river average in height from eight to twenty feet; the soil is alluvial and very rich. The vegetation all along its banks is remarkably thrifty and luxuriant in its appearance. The land is well timbered; there are found in great abundance, the fir-tree, birch, tamarack, poplar, elm, and the spruce. There is also white pine, but not in great plenty. Wild hops and peas are found in abundance, and some bushes and other flowering shrubs, in many places cover the banks down to the very margin of the river, adorning them with beauty, and often filling the air with fragrance. The land on this river up to the Mountain Portage (32 miles), and for a long way back, is unsurpassed in richness and beauty by any lands in British America."

The *Mountain Fall*, situated on this stream, is thus described: "We had great difficulty in finding it at first, but, guided by its thundering roar, through such a thicket of brush, thorns and briars, as I never before thought of, we reached the spot from whence it was visible. The whole river plunged in one broad white sheet, through a space not more than fifty feet wide, and over a precipice higher, by many feet, than the *Niagara Falls*. The concave sheet comes together about three-

fourths of the way to the bottom, from whence the spray springs high into the air, bedewing and whitening the precipitous and wild looking crags with which the fall is composed, and clothing with drapery of foam the gloomy pines, that hang about the clefts and fissures of the rocks. The falls and the whole surrounding scenery, for sublimity, wildness, and novel grandeur, exceeds any thing of the kind I ever saw."—*Rev. J. Ryerson's Tour*.

The danger of navigating these mountain streams, in a birch canoe, is greater than many would expect who had never witnessed the force of the current sometimes encountered. Mr. Ryerson remarks: "During the day we passed a large number of strong and some dangerous rapids. Several times the canoe, in spite of the most strenuous exertions of the men, was driven back, such was the violence of the currents. On one occasion such was the force of the stream, that though four strong men were holding the rope, it was wrenched out of their hands in an instant, and we were hurled down the rapids with violent speed, at the mercy of the foaming waves and irresistible torrent, until fortunately in safety we reached an eddy below." (*See Engraving.*)

DOG LAKE is an expansion of the river, distant by its winding course, 76 miles from its mouth. Other lakes and expansions of streams are passed on the route westward.

"The SAVAN, or PRAIRIE PORTAGE, 120 miles from Fort William, by portage route, forms the height of land between Lake Superior and the waters falling into Lake Winnipeg; it is between three and four miles long, and a continuous cedar swamp from one end to the other, and is therefore very properly named the *Savan* or *Swamp*

Portage. It lies seven or eight hundred feet above Lakes Superior and Winnipeg, and 1,483 feet above the sea."

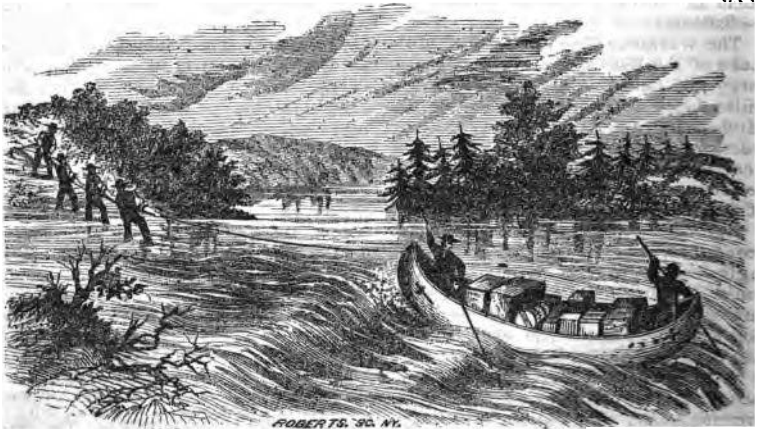
The **SAVAN RIVER**, which is first formed by the waters of the Swamp, enters into the *Lac Du Mille*, or the Lake of Thousands, so called because of the innumerable islands which are in it. This lake is comparatively narrow, being sixty or seventy miles in length.

The *River Du Mille*, the outlet of the Lake, is a precipitous stream, whereon are several portages, before entering into *Lac La Pluie*, distant 350 miles from Fort William.

RAINY LAKE, or *Lac la Pluie*, through which runs the boundary between the United States and Canada, is a most beautiful sheet of water; it is forty-eight miles long, and averages about ten miles in breadth. It receives the waters flowing westward from the dividing ridge separating the waters flowing into Lake Superior.

RAINY LAKE RIVER, the outlet of the lake of the same name, is a magnificent stream of water; it has a rapid current and averages about a quarter of a mile in width; its banks are covered with the richest foliage of every hue; the trees in the vicinity are large and varied, consisting of ash, cedar, poplar, oak, birch, and red and white pines; also an abundance of flowers of gaudy and variegated colors. The climate is also very fine, with a rich soil, and well calculated to sustain a dense population as any part of Canada.

The **LAKE OF THE WOODS**, or *Lac Du Bois*, 68 miles in length, and from fifteen to twenty-five miles wide, is a splendid sheet of water, dotted all over with hundreds of beautiful islands, many of which are covered with a heavy and luxuriant foliage. Warm and frequent showers occur here in May and June bringing forth vegetation at a rapid rate, although situated on the 49th degree of north latitude, from whence extends westward to the Pacific



PULLING A CANOE UP THE RAPIDS.

Ocean, the boundary line between the United States and Canada.

"There is nothing, I think, better calculated to awaken the more solemn feelings of our nature, than these noble lakes studded with innumerable islets, suddenly bursting on the traveller's view as he emerges from the sombre forest rivers of the American wilderness. The clear, unruffled water, stretching out on the horizon; here intersecting the heavy and luxuriant foliage of an hundred woody isles, or reflecting the wood-clad mountains on its margin, clothed in all the variegated hues of autumn; and there glittering with dazzling brilliancy in the bright rays of the evening sun, or rippling among the reeds and rushes of some shallow bay, where hundreds of wild fowl chatter as they feed with varied cry, rendering more apparent, rather than disturbing the solemn stillness of the scene: all tend to raise the soul from nature up to nature's God, and remind one of the beautiful passage of Scripture, 'O Lord, how marvellous are thy works, in wisdom hast thou made them all; the earth is full of thy riches.'"

—*Ballantyne.*

The WINNIPEG RIVER, the outlet of the Lake of the Woods, is a rapid stream, of large size, falling into Winnipeg Lake, 3 miles below *Fort Alexander*, one of the Hudson Bay Company's Posts. A great number of Indians resort to the Fort every year, besides a number of families who are residents in the vicinity, here being one of their favorite haunts.

Rev. Mr. Ryerson remarks:—"The scenery for many miles around is strikingly beautiful. The climate for Hudson's Bay Territory is here remarkably fine and salubrious, the land amazingly rich and productive. The water in Lakes Lac La Pluie, Lac Du Bois, Winnipeg, &c., is not deep, and because of their wide surface and great shallowness, during the summer season, they become exceedingly warm; this has a wonderful effect on the

temperature of the atmosphere in the adjacent neighborhoods, and no doubt makes the great difference in the climate (or at least is one of the principal causes of it), in these parts, to the climate and vegetable productions in the neighborhood of Lake Superior, near Fort William. They grow spring wheat here to perfection, and vegetation is rapid, luxuriant, and comes to maturity before frosts occur."

The whole region of country surrounding Lake Winnipeg, the Red River country, as well as the Assiniboine and Saskatchewan country, are all sooner or later destined to sustain a vigorous and dense population.

LAKE WINNIPEG,

Situated between 50° and 55° north latitude, is about 300 miles long, and in several parts more than 50 miles broad; having an estimated area of 8,500 square miles.* Lake Winnipeg receives the waters of numerous rivers, which, in the aggregate, drain an area of about 400,000 square miles. The *Saskatchewan* (the river that runs fast) is its most important tributary. The Assiniboine, the Red River of the North, and Winnipeg River are its other largest tributaries, altogether discharging an immense amount of water into this great inland lake. It is elevated about 700 feet above Hudson Bay, and discharges its surplus waters through *Nelson River*, a large and magnificent stream, which like the St. Lawrence is filled with islands and numerous rapids,

* LAKE BAIKAL, the most extensive body of fresh water on the Eastern Continent, situated in Southern Siberia, between lat. 51° and 56° north, is about 370 miles in length, 45 miles average width, and about 900 miles in circuit; being somewhat larger than Lake Winnipeg in area. Its depth in some places is very great, being in part surrounded by high mountains. The lake, set, its outlet, flows north into the Arctic Ocean.

preventing navigation entirely below Cross Lake.

Lakes *Manitobah* and *Winnipegosis*, united, are nearly of the same length as *Winnipeg*, lying 40 or 50 miles westward. Nearly the whole country between Lake *Winnipeg* and its western rivals is occupied by smaller lakes, so that between the valley of the *Assiniboine* and the eastern shore of *Winnipeg* fully one-third is under water. These lakes, both large and small, are shallow, and in the same water area show much uniformity in depth and coast line.

Lakes in the Valley of the Saskatchewan.

	Length in miles.	Breadth in miles.	Elevation in feet.	Area in m ² .
Winnipeg,	280	57	628	8,500
Manitobah,	122	24	670	2,000
Winnipegosis,	120	27	692	2,000
St. Martin,	30	16	655	350
Cedar,	30	25	688	350
Dauphin,	21	12	700	200

All the smaller lakes lie west of Lake *Winnipeg*, which receives their surplus waters; the whole volume, with the large streams, flowing into *Nelson River*, discharges into *Hudson Bay*, near *York Factory*, in 57° north latitude. The navigation of the latter stream is interrupted by falls and rapids, having a descent of 628 feet in its course of about 350 miles.

"The climate in the region of the above lakes and the *Red River Settlement* will compare not unfavorably with that of *Kingston* and *Toronto, Canada West*. The Spring generally opens somewhat earlier, but owing to the proximity of Lake *Winnipeg* which is late of breaking up, the weather is always variable until the middle of May. The slightest breeze from the north or northwest, blowing over the frozen surface of that inland sea, has an

immediate effect on the temperature during the Spring months. On the other hand, the Fall is generally open, with mild, dry, and pleasant weather."

Red River of the North.

This interesting section of country being closely connected with the Upper Lakes, and attracting much attention at the present time, we subjoin the following extract from "*MINNESOTA AND DACOTA*," by *C. C. Andrews*:

"It is common to say that settlements have not been extended beyond *Crow Wing, Minnesota*. This is only technically true. A few facts in regard to the people who live four or five hundred miles to the north will best illustrate the nature of the climate and its adaptedness to agriculture.

"There is a settlement at *Pembina*, near the 49th parallel of latitude, where the dividing line between *British America* and the *United States* crosses the *Red River of the North*. *Pembina* is said to have about 600 inhabitants. It is situated on the *Pembina River*. It is an *Indian-French* word meaning '*Cranberry*.' Men live there who were born there, and it is in fact an old settlement. It was founded by *British* subjects, who thought they had located on *British* soil. The greater part of its inhabitants are half-breeds, who earn a comfortable livelihood in fur-hunting and farming. It is 460 miles northwest of *St. Paul*, and 330 miles distant from *Crow Wing*. Notwithstanding the distance, there is considerable communication between the two places. West of *Pembina*, about thirty miles, is a settlement called *St. Joseph*, situated near a large mythological body of water called *Minuwakin*, or *Devil's Lake*.

"Now let me say something about this *RED RIVER of the North*, for it is begin-

ning to be a great feature in this upper country. It runs north and empties into Lake Winnipeg, which connects with Hudson Bay by Nelson River. It is a muddy and sluggish stream, navigable to the mouth of the Sioux Wood River for vessels of three feet draught for four months in the year, so that the extent of its navigation within Minnesota alone (between Pembina and the mouth of Sioux Wood River) is 400 miles. Buffaloes still feed on its western banks. Its tributaries are numerous and copious, abounding with the choicest kind of game, and skirted with a various and beautiful foliage. It cannot be many years before this magnificent valley (together with the Saskatchewan) shall pour its products into our markets, and be the theatre of a busy and genial life.

"Red River Settlement is seventy miles north of Pembina, and lies on both sides of the river. Its population is estimated at 10,000 souls. It owes its origin and growth to the enterprise and success of the Hudson Bay Company. Many of the settlers came from Scotland, but the most were from Canada. They speak English and Canadian French. The English style of society is well kept up, whether we regard the Church with its bishop, the trader with his wine-cellar, the scholar with his library, the officer with his sinecure, or their paper currency. The great business of the settlement, of course, is the fur traffic.

"A immense amount of Buffalo skins is taken in summer and autumn, while in

the winter smaller but more valuable furs are procured. The Indians also enlist in the hunts; and it is estimated that upward of \$200,000 worth of furs are annually taken from our territory and sold to the Hudson Bay Company. It is high time indeed that a military post should be established somewhere on Red River by our government.

"The Hudson Bay Company is now a powerful monopoly. Not so magnificent and potent as the East India Company, it is still a powerful combination, showering opulence on its members, and reflecting a peculiar feature in the strength and grandeur of the British empire—a power which, to use the eloquent language of Daniel Webster, 'has dotted over the whole surface of the globe with her possessions and military posts, whose morning drum-beat following the sun, and keeping company with the hours, circles the earth daily with one continuous and unbroken strain of martial music.' The company is growing richer every year, and its jurisdiction and its lands will soon find an availability never dreamed of by its founders, unless, as may possibly happen, *popular sovereignty steps in to grasp the fruits* of its long apprenticeship."

The Charter of the Hudson Bay Company expired, by its own limitation, in 1860, and the question of annexing this vast domain to Canada, or forming a separate province, is now deeply agitating the British public, both in Canada and in the mother country.

TABLE OF DISTANCES,

From Fort William, situated at the Mouth of the Kamistaguolan River, to Fort Alexander, at the Head of Lake Winnipeg.

	Miles.
FORT WILLIAM.....	0
Paraplue Portage.....	25
(8 Portages)	
Dog Portage.....	51 76
(5 Portages)	
Savan or Swamp Portage*.....	54 130
Thousand Islands Lake.....	57 187
(2 Portages)	
Sturgeon Lake.....	71 258
(4 Portages)	
Lac La Croix....	25 283
(5 Portages)	
Rainy Lake.....	40 323
Rainy Lake River.....	38 361
Lake of the Woods.....	83 444
Rat Portage.....	68 512
FORT ALEXANDER.....	125 637

From Fort Alexander to Fort Garry

OR RED RIVER SETTLEMENT, BY WATER.

	Miles.
To Pointe de Grand Marais.....	24
" Red River Beacon.....	25 49
" Lower Fort.....	23 72
" FORT GARRY.....	24 96

From FORT ALEXANDER to NORWAY HOUSE, passing through Lake Winnipeg, 300 miles.

From NORWAY HOUSE to YORK FACTORY, passing through Oxford Lake and Hayes River, 400 miles.

* Summit, elevated 840 feet above Lake Superior.

Central R. R. of New Jersey.

ALLENTOWN LINE.

3 EXPRESS TRAINS DAILY

FOR THE WEST,

From foot of Liberty Street, North River,

At 9 A. M., and 5 and 8 P. M.,

EXCEPT SUNDAYS.

ON SUNDAY, AT 8 P. M. ONLY.

BUT ONE CHANGE OF CARS

Between New York and Cincinnati or Chicago,

And but two Changes to St. Louis.

No Change of Cars

BETWEEN NEW YORK AND PITTSBURGH.

Silver Palace Sleeping Cars From New York to Chicago
Without Change, on Day Trains.

Sleeping Cars on NIGHT TRAINS through between
NEW YORK and PITTSBURGH, Without Change.

Fare Same as by all Other Routes.

TICKET OFFICES IN NEW YORK:

No. 254 BROADWAY, opposite City Hall, No. 1 ASTOR HOUSE,
271 BROADWAY, 526 BROADWAY, 10 GREENWICH ST.,
And at the Station of CENTRAL R. R. OF NEW JERSEY,

Foot of Liberty Street North River.

R. E. RICKER, Superintendent.

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CHICAGO TO PITTSBURGH, NEW YORK, & C.

The 10 P. M. Train from Chicago arrives in

NEW YORK

At 11.50 A. M., the Second Day,

4 HOURS IN ADVANCE OF ANY OTHER ROUTE!

WITH CORRESPONDING REDUCTION TO

Boston, Philadelphia, Baltimore, and Washington.

The 4.30 P. M. Train from CHICAGO arrives in NEW YORK at 5.10 the
Second Morning,

2 HOURS IN ADVANCE OF ANY OTHER LINE!

Mondays and Thursdays this Train has an Elegant Drawing-Room Car through from
Chicago to New York, Without Change.

The 7 A. M. Train from CHICAGO arrives in NEW YORK at 9.30 the
Second Evening, with

SILVER PALACE CARS ATTACHED.

Through from Chicago to New York Without Change.

NO OTHER LINE OFFERS THIS ADVANTAGE!

DISTANCES.

CHICAGO to FORT WAYNE, Ind.....	145	Miles.
FORT WAYNE to PITTSBURGH, Penn.....	320.	468 "
PITTSBURGH to HARRISBURG "	249.	717 "
HARRISBURG to PHILADELPHIA, "	106.	828 "
HARRISBURG to NEW YORK.....	183.	990 "
HARRISBURG to BALTIMORE, Md.....	85.	803 "

Through Tickets for sale at the Company's Office, Northwest corner of Randolph and La Salle Streets; **TICKET OFFICE UNDER BRIGGS HOUSE**, Chicago; and at principal Ticket Offices in the West.

V. M. CAME, Passenger Agent, Chicago.

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Great Central Route.

BLUE LINE.



Great Western Railway of Canada,

BETWEEN

NIAGARA FALLS, SUSPENSION BRIDGE, AND DETROIT, WITH
BRANCH LINES; HAMILTON TO TORONTO, HARRIS-
BURG TO GUELPH, KOMOKA TO SARNIA,
AND WYOMING TO PETROLIA,

Forming, with its connections,

THE SHORTEST AND MOST PLEASANT ROUTE

TO ALL POINTS IN THE EAST, WEST, NORTHWEST, SOUTH, AND SOUTHWEST.

Three Through Express Trains Each Way Daily,

(SUNDAYS EXCEPTED.)

Elegant and Comfortable Day Cars.

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Accompany all Night Trains.

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FOR MADOC and the GOLD FIELDS OF CANADA.

BAGGAGE CHECKED THROUGH.

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Offices, in the United States and Canada

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facilities. Freight being now carried between New York and Boston, and Chicago,
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Between the East and West

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Detroit and Milwaukee

RAILROAD.

Two Express Trains leave Detroit Daily with Passengers for

PONTIAC, HOLLY, FENTONVILLE, FLINT, SAGINAW, OWOSSO,

Lansing, Grand Rapids, Grand Haven,

MUSKEGON CHICAGO MILWAUKEE, ST. PAUL, ST. ANTHONY,

And all Points on the Mississippi River.

FIRST CLASS STAUNCH STEAMSHIPS.

Built expressly for this Line, ply on the Lakes to and from each Train.

THROUGH FARE \$3 00 LESS THAN BY ANY OTHER ROUTE.

CLOSE CONNECTION MADE AT DETROIT WITH THE

GREAT WESTERN RAILWAY

OF CANADA,

For Buffalo, Rochester, Boston, New York, Philadelphia, Toronto, and with Grand Trunk Railway for Montreal, Quebec, and with Cleveland and Lake Superior Lines of Steamers.

For Emigrants this Line offers Cheap and Comfortable Transit.

For Particulars see Company's Time Table, to be had at any of the Stations on application.

DEPOT IN DETROIT, FOOT OF BRUSH STREET.

THOS. BELL, Gen'l Supt.

D. & M. R. R. OFFICE, Detroit, 1868.

CHICAGO AND NORTHWESTERN RAILWAY.



Connections are made with Splendid Packets at DUNLEITH, PRAIRIE
DU CHIEN, and LA CROSSE, for points on the

UPPER MISSISSIPPI RIVER.

First Class Tickets include Meals and State Rooms on the Steamers.

Connections are made at Green Bay, with fine steamers for Escanaba on Little Bay de Noc, thence by the Peninsular Railroad to Marquette, and the Iron and Copper Mines. For LAKE SUPERIOR this is the shortest and most direct route. The Iowa Division of this Company is completed to Council Bluffs and Omaha, 494 miles west of Chicago. Trains running through without change of Cars at the Mississippi River. SUPERIOR ARRANGED

SLEEPING CARS,

on Night Trains, are run to Cedar Rapids, Dunleith, Prairie du Chien, Fond du Lac, and Green Bay.

Passengers for any point West or Northwest of Chicago, to avail themselves of the many advantages offered by this Company, should be particular and ask for Tickets *via* "CHICAGO & NORTHWESTERN RAILWAY."

B. F. PATRICK, Gen'l Passenger Agent, Chicago.

GEORGE L. DUNLAP, Gen'l Superintendent.

CHICAGO AND NORTHWESTERN RAILWAY,



GRAND CONSOLIDATED LINE.

Comprising all principal Railroads from Chicago directly

WEST & NORTHWEST.

Chicago and Northwestern Railway....	Wisconsin Division,	Chicago to Green Bay.
Galena and Chicago Union Railway....	Galena	do. Chicago to Freeport.
Dixon Air-Line Railroad	Galena	do. Chicago to Fulton.
Council Bluffs and Omaha	Iowa	do. Chicago to Omaha.
Kenosha, Rockford, and Rock Island Railroad		Kenosha to Rockford.
Fox River Valley Railroad and Beloit and Madison Branch.		
Peninsula Division, Escanaba to Negaunee and Marquette, L. S.		

EIGHTEEN EXPRESS TRAINS LEAVE CHICAGO DAILY

On the different branches of the

Chicago & Northwestern Railway,

In Connection with Trains from the East and South, for Dixon, Fulton, Clinton, Cedar Rapids, Nevada, Des Moines, Council Bluffs, and Omaha; Rockford, Beloit, Freeport, Mineral Point, Galena, Dunleith, Dubuque, Independence, and Cedar Falls; Janesville, Madison, Prairie du Chien, La Crosse, St. Paul, Watertown, Fond du Lac, Oshkosh, Ripon, Berlin, Green Bay, Escanaba, Marquette, and all points in

Northern Illinois, Iowa, Wisconsin, Minnesota,

and the

LAKE SUPERIOR COUNTRY.

ILLINOIS CENTRAL R. R

CHICAGO AND CAIRO.



The only Direct Route to **CAIRO, MEMPHIS, VICKSBURG, NEW ORLEANS, MOBILE**, and all Points **SOUTH**.

It also forms with its Connections a direct and expeditious route to **PEORIA, SPRINGFIELD, ALTON, ST. LOUIS, KANSAS CITY**, and all parts of the **SOUTH-WEST**.

TWO DAILY EXPRESS TRAINS

leave **CHICAGO** from the Great Central Depot, foot of Lake and South Water Streets.

AT GILMAN,

81 miles from Chicago, connections are made with Toledo, Peoria, and Warsaw Railroad, east for Logansport—west for Peoria. Connecting at

TOLONE,

137 miles from Chicago, with Toledo, Wabash, and Western R. R., east for Danville and Lafayette—west for Decatur, Springfield, Jacksonville, Quincy, and Keokuk. Connecting at

MATTOON,

172 miles from Chicago, with St. Louis, Alton, and Terre Haute R. R., east for Terre Haute, Indianapolis, and Cincinnati—west for Alton, St. Louis, Kansas City, Leavenworth, Lawrence, and Topeka. At

ODIN,

244 miles from Chicago, with Ohio and Mississippi R. R., east for Vincennes, Evansville, Louisville, and Cincinnati—west for St. Louis, Kansas City, Leavenworth, Lawrence, and Topeka. At

CAIRO,

365 miles from Chicago, connections are made with Mobile and Ohio R. R., for Jackson, Tenn., Memphis, Grand Junction, Holly Springs, Oxford, Canton, Grenada, Columbus, Meridian, Jackson, Miss., Vicksburg, Selma, Mobile, and New Orleans. Connections are also made at **CAIRO** with Steamboats for all points on the Lower Mississippi.

ELEGANT SLEEPING CARS

on all Night Trains. Saloon Cars with raised roofs and **RUTLAND PATENT DUSTERS AND VENTILATORS**. Also, **SMOKING CARS** on Day Trains.

☞ **Through Tickets and Baggage Checks** issued to all important points.

M. HUGHITT, General Supt. Chicago.

W. P. JOHNSON, General Passenger Agent.

ILLINOIS CENTRAL RAILROAD

DUNLEITH AND CAIRO.

The only Direct Route to **St. Louis, Cairo, Memphis, Vicksburg, New Orleans, Mobile**, and all parts of the **South and South-west**.

It is also the Direct Route from the West and North-west to Chicago and all Eastern Cities.

TWO DAILY EXPRESS TRAINS leave Dunleith (opposite Dubuque) morning and evening, on arrival of Steamers from St. Paul and Trains from the West.

Connecting at **Freeport**, 67 miles from Dunleith, with the Galena Divisions of Chicago and North-western R. R., for Rockford, Belvidere, Elgin, and Chicago. Also connecting at this point with the Western Union R. R., for Beloit, Racine, Sarana, and Milwaukee.

At **Dixon**, 103 miles from Dunleith, connections are made with the Iowa Division of Chicago and North western R. R., east for Chicago—west for Fulton, Clinton, Lyons, Cedar Rapids, and Des Moines.

At **Mendota**, 131 miles from Dunleith, connections are made with the Chicago, Burlington, and Quincy R. R., east for Chicago, west for Galesburg, Burlington, Quincy, Keokuk, and St. Joseph.

At **La Salle**, 147 miles from Dunleith, connections are made with the Chicago and Rock Island R. R., east for Joliet and Chicago, west for Peoria, Rock Island, Muscatine, Iowa City, and Des Moines.

At **El Paso**, 189 miles from Dunleith, connections are made with Toledo, Peoria, and Warsaw R. R., east for Logansport, west for Peoria.

At **Bloomington**, 207 miles from Dunleith, connections are made with Chicago and Alton R. R., for Springfield, Alton, and St. Louis.

At **Decatur**, 251 miles from Dunleith, connections are made with Toledo, Wabash, and Western R. R., east for Lafayette, Logansport, Fort Wayne, and Toledo, west for Springfield, Jacksonsville, Quincy, and Keokuk

At **Pana**, 283 miles from Dunleith, connections are made with St. Louis, Alton, and Terre Haute R. R., east for Terre Haute, Indianapolis, Louisville, Cincinnati, Wheeling, Pittsburgh, Baltimore, &c., west for Alton, St. Louis, Kansas City, Leavenworth, Lawrence, Topeka, &c.

At **Sandoval**, 337 miles from Dunleith, connections are made with Ohio and Mississippi R. R., east for Vincennes, Evansville, Louisville, and Cincinnati, west for St. Louis, Kansas City, Leavenworth, Lawrence, Topeka, &c.

At **Cairo**, 456 miles from Dunleith, connections are made with Mobile and Ohio R. R., going south for Jackson, Tenn., Memphis, Grand Junction, Holly Springs, Oxford, Grenada, Columbus, Canton, Meridian, Jackson, Miss., Vicksburg, Selma, Mobile, and New Orleans; connections are also made at Cairo with Steamboats for all points on the Lower Mississippi.

Elegant Sleeping Cars attached to Night Trains.

Through Tickets and Baggage Checks issued to all important points.

Passengers, to avail themselves of quick time, combined with comfort and safety, should see that their Tickets are via Illinois Central R. R.

W. P. JOHNSON,

Gen'l Passenger Agt., Chicago.

M. HUGHITT,

Gen'l Supt., Chicago.

EIGHT HUNDRED THOUSAND ACRES

OF

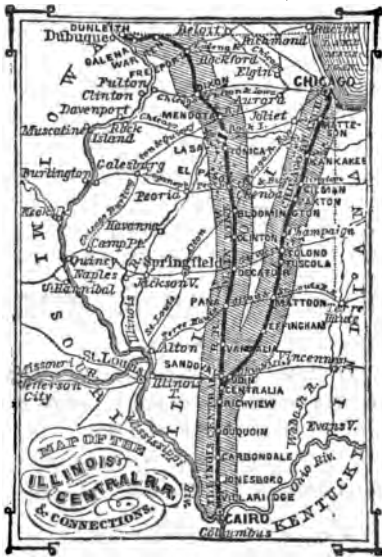
FARMING AND FRUIT LANDS,

FOR SALE BY THE

ILLINOIS CENTRAL RAILWAY,

All lying adjacent to this Railway, and none being farther from it than 15 miles.

It is a well-known fact, that while only about one-fourth of the tillable acres of Illinois are yet under cultivation, its agricultural products already exceed those of any other State. The wonderful fertility of the soil, yielding such bounteous returns to the husbandman for his labor; the machinery so extensively used in reducing the cost of production; and the small expense to the producer in the transportation of his products to market; all combine to make farming in Illinois a safe, sure, and profitable pursuit.



It is very profitable, patience and industry being the heaviest portions of the capital required. A crop here seldom if ever fails. The early ripening of fruit enables the grower to command the high prices of the first of the season in all the Northern country.

A SPECIAL FRUIT EXPRESS TRAIN of Refrigerator Cars runs to Chicago during the Fruit Season, and over 1,000,000 boxes of peaches, berries, large quantities of berries and other fruits, were shipped to the Northern markets from the gardens and orchards of Egyptian Illinois in 1867.

FRUIT-GROWING IN SOUTHERN ILLINOIS

For Grain of all kinds, and Stock-raising, these lands possess unsurpassed advantages. The cattle trade has become immense; out of 298,882 beeves received in 1867 into New York, 177,028 were fattened on the prairies of Illinois.

The receipts of hogs at Chicago in 1867 were 1,931,405. Sheep thrive well, requiring fodder but a short season, and cheese-factories are being successfully established along the entire line.

These lands are all adapted to the varied productions of the temperate zone, and from their rich, deep soil, yield with less labor, and in much greater abundance, all the crops common to New England and the Middle States. Machinery for planting, cultivating, and harvesting does the work of many hands. Grain is shipped in bulk from all stations, thus saving the expense and trouble of bagging. The climate is genial and healthy, the taxes are low, and churches and schools of all grades (the latter supported by a public fund) abound along the whole line.

The title to these Lands is clear, and in fee-simple from the State.

For full information on all points, address

JOHN B. CALHOUN, Land Commissioner,

Illinois Central R. R. Co., 58 Michigan Avenue, Chicago, Ill.

Milwaukee and St. Paul RAILWAY.

Passenger Trains Leave and Arrive at Milwaukee, as follows:

PRAIRIE DU CHIEN DIVISION.

	ARRIVE.	DEPART.
Day Express for St. Paul and Minneapolis.....	5:50 P. M.	11:00 A. M.
Through Express for Minneapolis and St. Paul...	7:10 A. M.	9:00 P. M.

LA CROSSE DIVISION.

	ARRIVE,	DEPART.
Day Express.....	3:05 P. M.	1:30 P. M.
Night Passenger.....	7:30 A. M.	9:10 P. M.

Connecting with Steamers on the Mississippi River.



GOING EAST AND WEST.

Milwaukee, St. Paul & Minneapolis RAILWAY.

TWO DAILY TRAINS EACH WAY,

Via MCGREGOR, PRAIRIE DU CHIEN, AND MILWAUKEE,

THE ONLY ALL RAIL LINE,

And the only Route by which Baggage is Checked THROUGH, to

MILWAUKEE, CHICAGO, NEW YORK, and all Eastern Points.

Passengers change cars only at terminal points, thus securing seats in clean Coaches and full nights' rest on night trains.

Passenger Trains Leave and Arrive at West St. Paul, as follows:

DAY EXPRESS.....	arrives 7:25 P. M., departs 7:50 A. M.
NIGHT EXPRESS, SLEEPING-CAR ATTACHED.....	arrives 11:15 A. M., departs 8:50 P. M.

TABLE OF DISTANCES.

Milwaukee to La Crosse, <i>Railroad</i>	195 miles.
La Crosse to St. Paul, <i>Steamboat</i>	210-405 miles.
Milwaukee to Prairie du Chien, <i>Railroad</i>	194 miles.
Prairie du Chien to St. Paul, <i>Railroad</i>	312-506 miles.

TICKETS for passage and sleeping-car berths sold by CHAS. THOMPSON, Ticket Agent, Union Office, corner of Third and Jackson Streets, and corner of Jackson Street and Lovee, St. Paul, Minn.

D. C. SHEPARD,

Supt.

S. S. MERRILL,

General Manager.

A. V. CARPENTER,

General Passenger Agent.

WINONA & ST. PETER RAILROAD.



THE MOST EXPEDITIOUS AND COMFORTABLE ROUTE TO
MILWAUKEE, CHICAGO,
AND POINTS EAST AND SOUTH,
VIA MILWAUKEE AND ST. PAUL RAILWAY,
And Northwestern Union Packet Company's Boats.

Summer Arrangements.

GOING EAST.

Trains from MINNEAPOLIS and ST. PAUL make sure connections at Owatonna.
Connect at Winona with Packet Company's Boats for La Crosse.
From La Crosse, via Milwaukee and La
Crosse Railroad.

Meals and berths furnished on boats between Winona and La Crosse without extra
charge. Fare as low as by other routes. Passengers taking the
morning train from Minneapolis and St. Paul
save (5) five hours' time by

THE WINONA & ST. PETER RAILROAD.

GOING WEST.

Passengers leaving WINONA by the 11:30 a. m. train make connections with Stage
Company at St. Charles for Chatfield and Preston. At Owatonna
with Milwaukee and St. Paul Railway, for Faribault,
Mendota, St. Paul, and Minneapolis.

At Waseca with stages for St. Peter and Mankato, and all points in the Minnesota
Valley. Connects at Mendota with Minnesota Valley Railway
for Belle Plaine, Shakopee, &c.

J. W. SPRAGUE,
Gen. Manager.

J. H. STEWART

Great
Route

THE FIRST DIVISION OF THE
St. Paul & Pacific Railroad.



BRANCH LINE.

STATIONS.		A. M.	P. M.	STATIONS.		A. M.	P. M.
Leave	Saint Paul	8.00	2.30	Leave	Sauk Rapids	7.80	2.00
	Junction (St. Anthony)....	8.40	3.10		Saint Cloud.....	7.40	2.10
	Manomn.....	9.00	3.80		Clear Lake.....	9.25	2.55
	Anoka.....	9.45	4.15		Big Lake.....	9.15	3.45
	Itasca.....	10.20	4.50		Elk River.....	9.55	4.25
	Elk River.....	10.45	5.15		Itasca.....	10.20	4.50
	Big Lake.....	11.25	5.55		Anoka.....	11.00	5.30
	Clear Lake.....	12.05	6.35		Manomn.....	11.35	6.05
	St. Cloud (75 miles).....	12.45	7.15		Junction (St. Anthony)...	12.00	6.30
Arrive	Sauk Rapids	1.00	7.30	Arrive	Saint Paul (77 miles).	12.35	7.05

St. Paul, St. Anthony, and Minneapolis Trains.

Leave	ST. PAUL.....	9.30 a. m.	Leave	MINNEAPOLIS.....	8.10 a. m.
	ST. PAUL.....	12.30 p. m.		MINNEAPOLIS.....	10.45 a. m.
	ST. PAUL.....	6.00 p. m.		MINNEAPOLIS.....	3.45 p. m.

**St. Paul, Minneapolis, Lake Minnetonka, Wayzata,
 Long Lake, Watertown, and Rockford.**

Leave	ST. PAUL for the LAKE MINNETONKA, (24 miles).....	12.30 p. m.
	MINNEAPOLIS for the Lake.....	1.30 p. m.
Returning,	will leave LAKE MINNETONKA.....	3.00 p. m.

J. H. RANDALL,

General Ticket Agent, St. Paul.

F. R. DELANO,

Superintendent.

NORTHWESTERN UNION



PACKET COMPANY.

REGULAR U. S. MAIL

AND

Railroad Passenger Line.

ONE OF THE SPLENDID FAST-RUNNING

SIDE-WHEEL STEAMERS

Of this line will

Leave Dubuque at 8 o'clock Every Morning (Sundays included)

For **SAINT PAUL** and **STILLWATER**, touching at all intermediate Landings, and making close connections with **ALL RAIL ROUTES**, touching the River North of Dubuque for

ALL POINTS EAST, NORTH AND WEST.

THROUGH TICKETS for Passengers, and **Through Bills of Lading** for Freight given to all points on the

Chippewa, St. Croix, Minnesota & Mississippi Rivers.

A TRI-WEEKLY LINE

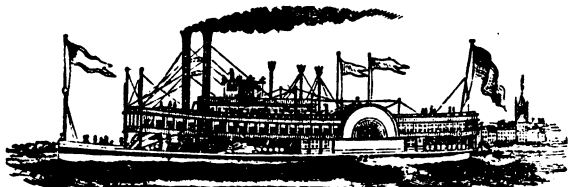
Will run between **ST. PAUL** and **TAYLORS' FALLS**, touching at all intermediate points. Leaves **ST. PAUL** every

MONDAY, TUESDAY & FRIDAY.

THE NORTHWESTERN UNION PACKET COMPANY

WILL ALSO RUN DURING THE SEASON A

TRI-WEEKLY



LINE

OF SIDE-WHEEL STEAMERS TO

St. Louis and Way Points,

LEAVING Dubuque EVERY

Monday, Wednesday, and Saturday Mornings,

AND LEAVING St. Louis EVERY

TUESDAY, THURSDAY, and SATURDAY Evenings.

These boats will connect at St. Louis with the Regular Packets for

**LOUISVILLE, CINCINNATI,
WHEELING, PITTSBURGH,
And all Points on the Ohio River,**

AND WITH THE MAGNIFICENT STEAMERS OF THE

ATLANTIC and MISSISSIPPI STEAMSHIP CO.,

For all points South to NEW ORLEANS.

Through Bills of Lading for Freight will be given to New Orleans and way points.

THE BOATS OF THIS LINE HAVE BEEN THOROUGHLY

Overhauled, Repaired, and Repainted,

And are in splendid condition for business, comfort, speed, safety, and reliability.

These Boats are manned by careful and experienced officers, who will use every exertion for the comfort and convenience of passengers, and see that freight is handled carefully and with dispatch.

Thankful to a generous public for their liberal patronage during the past fifteen years, we hope to receive and deserve a continuance of the same.

WM. F. DAVIDSON, President, St. Paul.

WM. RHODES, Sec. and Treas., St. Paul.

P. S. DAVIDSON, Supt., La Crosse.

W. E. WELLINGTON, Asst. Supt., Dubuque.

W. B. RUSSELL & CO., Agents, St. Louis.

B. K. JOHNSTON, Agent, St. Paul.

PIONEER LINE FOR LAKE SUPERIOR. 1868. 1868.

THE NEW, STAUNCH & ELEGANT STEAMER
METEOR,

THOMAS WILSON, Master,

WILL LEAVE CLEVELAND,

On the following days, at

8 O'CLOCK, P. M.

Wednesday, May 20.	Wednesday, Aug. 12.
Wednesday, June 8.	Wednesday, Aug. 26.
Wednesday, June 17.	Wednesday, Sept. 9.
Wednesday, July 1.	Wednesday, Sept. 23.
Wednesday, July 15.	Wednesday, Oct. 7.
Wednesday, July 29.	

WILL LEAVE DETROIT,

On the following days, at

10 O'CLOCK, P. M.

Thursday, May 21.	Thursday, Aug. 18.
Thursday, June 4.	Thursday, Aug. 27.
Thursday, June 18.	Thursday, Sept. 10.
Thursday, July 2.	Thursday, Sept. 24.
Thursday, July 16.	Thursday, Oct. 8.
Thursday, July 30.	

☛ Calling at Port Huron and Sarnia on the next morning after leaving Detroit.

HANNA & CO., Agents, Cleveland, O.

BUCKLEY & CO., Agents, Detroit, Mich.

Or to **J. T. WHITING, Manager, foot First Street, Detroit, Mich.**

1868.

1868.

STEAMER KEWEENAW

Capt. ALBERT STEWART.

For Superior City, and all other Lake Superior Ports.

LEAVES CLEVELAND.

LEAVES DETROIT.

Wednes'y Eve., May 13	Wednes'y Eve., Aug. 5	Thursd'y Eve., May 14	Thursd'y Eve., Aug. 6
27	19	28	20
" " June 10	" " Sept. 2	" " June 11	" " Sept. 3
" " " 24	" " " 16	" " " 25	" " " 17
" " July 8	" " " 30	" " July 9	" " Oct. 1
" " " 22	" " Oct. 14	" " " 23	" " " 15

The Keweenaw touches at Port Huron and Sarnia on the morning after leaving Detroit,

BRADY & CO., Detroit, }
HANNA & CO., Cleveland, } **AGENTS.**

EBER WARD, Detroit, Owner,

FOR LAKE SUPERIOR.

The New & Splendid



Side-wheel Steamer,

N O R T H W E S T ,

C. E. KIRTLAND, Commander,

Will leave BRADY & CO'S dock, foot of Woodward Ave., Detroit, **Every Tuesday**, for SAUT ST. MARIE, MARQUETTE, HOUGHTON, and HANCOCK, touching at Sarnia and Port Huron, every TUESDAY EVENING at 10 o'clock.

For Freight or Passage apply to

BRADY & CO., foot of Woodward Avenue, Detroit

CHARLES H. BALDWIN, Passenger Agent.

1868.

SEASON ARRANGEMENTS.

1868.

Detroit, Saginaw, and Lake Huron Shore STEAMBOAT LINE,

Will be composed during the Season of 1868 of the following well-known, first-class, new side wheel Steamers:

CITY OF SANDUSKY, Capt. Henry Fall,
will leave Fridays;

CITY OF TOLEDO, Capt. Selah Dustin,
will leave Wednesdays;

SUSAN WARD, - - - Capt. Wm. Comer,
will leave Tuesdays, Thursdays, and Saturdays,

For Saginaw, Bay City, East Tawas, Tawas City, Port Austin, Huron City, Port Hope, Sand Beach, Rock Falls, Forestville, Forester, Port Sanilac, Lexington, Port Huron, and all other Lake Shore ports.

All these Boats leave dock foot of Bates St. each day at 2 o'clock P. M.

FREIGHTS RECEIVED AT ALL TIMES.

For all further information apply to

CHAS. BEWICK, Agent, foot of Bates Street, Detroit.

MORGAN & METCALF,
Real Estate Brokers,
191 THIRD STREET,
ST. PAUL, MINNESOTA.

Having made "REAL ESTATE" a specialty during a residence of fourteen years in SAINT PAUL, we offer our services to those wishing to make profitable investments in a rapidly growing CITY and STATE, as well as to non-resident property owners who wish to

Make Quick Sales at Fair Prices.

We deal in Real Estate only on Commission, and attend also to PAYMENT OF TAXES, COLLECTION OF RENTS, LOANING and INVESTMENT of MONEY, and all business pertaining to a first-class

Real Estate Agency.

We offer for sale the largest list in the city of

Houses and Lots, Building Lots,
Suburban Property, Lake Residences,
Stores and Business Property,
Farms and Farming Lands,
"Broad Acres," Mill Sites,

Water-Powers, &c., &c.,

And invite attention to our Catalogues, to be had on application, by mail or otherwise.

CHAS. A. MORGAN.

TRACY M. METCALF.

MICHIGAN EXCHANGE, DETROIT, MICHIGAN.



EDWARD LYON, }
FARNHAM LYON, } Proprietors.

JEFFERSON AVENUE.

BAYFIELD HOTEL,

BAYFIELD, WIS.

P. W. SMITH, : : : : PROPRIETOR.

TILTON HOUSE,

ESCANABA, MICH.

H. H. HUNT, PROPRIETOR.

North-western Hotel,

MARQUETTE, Mich.

This House is delightfully situated near the shore of
LAKE SUPERIOR, overlooking the Harbor of Marquette.

A. J. BARKLEY, Proprietor.

Eagle Harbor Hotel,

EAGLE HARBOR, Mich.

SITUATED NEAR THE STEAMBOAT LANDING.

C. J. BEAUBIEN,

Proprietor.

BIGELOW HOUSE,

ONTONAGON MICH.

THIS POPULAR AND WELL-KEPT HOUSE IS

SITUATED NEAR THE STEAMBOAT LANDING.

L. JOHNSON & SON, Proprietors.

Superior House,

CITY OF SUPERIOR, WIS.

THIS HOUSE STANDS NEAR THE WATER'S EDGE

OVERLOOKING

The Magnificent Bay of Superior,

MINNESOTA POINT, &c.

JAS. STEPHENSON, Proprietor.

MISSION HOUSE,

MACKINAC, MICH.,

E. A. FRANKS, PROPRIETOR.

This old and favorite Hotel is most delightfully situated on the romantic Island of MACKINAC, within a short distance of the water's edge, and contiguous to the **Arched Rock, Sugar Loaf**, and other Natural Curiosities in which this famed Island abounds; being alike celebrated for its pure air, romantic scenery, and fishing grounds.

MACKINAC, *July*, 1867.

CHIPPEWA HOUSE,

SAUT STE MARIE,

MICHIGAN.

This favorite Hotel is pleasantly situated, near the Steamboat Landings, at the mouth of the **Ship Canal**, and in the immediate vicinity of Fort Brady.

No section of country exceeds the SAUT and its vicinity for

Fishing, Hunting, or Aquatic Sports.

The table of the Hotel is daily supplied with delightful White Fish, and other varieties of the season, no pains being spared to make this house a comfortable home for the pleasure-traveler or man of business.

H. P. SMITH, Proprietor.

ST. LAWRENCE HALL, GREAT ST. JAMES STREET, MONTREAL.

This splendid HOTEL, which is situated in the most beautiful part of the City of Montreal, near the Banks and Post-Office, is furnished throughout in the best style of the New York and Boston Hotels, and comprises a

DINING SALOON AND CONCERT ROOM,

unequaled by any Hotel in Canada.

The TABLE will receive special attention, with the view of rendering it equal, if not superior, to any in America.

HOT AND COLD BATHS

can be had at all hours; and an Omnibus will always be in attendance on the arrival or departure of Railway Cars and Steamboats.

H. HOGAN, & CO., Proprietors.

RUSSELL'S HOTEL, PALACE STREET, QUEBEC, (UPPER TOWN.)

This well-managed and most comfortable HOTEL, kept by Messrs. RUSSELL, of Quebec, has recently been newly painted and re-furnished throughout. The Ball-room, used in summer, when the house is full of strangers, as a dining-room, has been entirely re-decorated in the handsomest style. The room will comfortably dine 250 persons at a time.—*Toronto Globe.*