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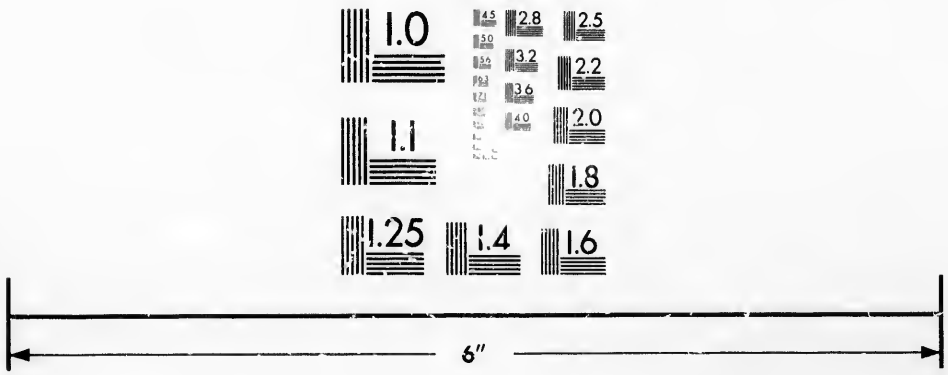


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# LETTERS

ON THE

# NECESSITY

OF

# CHEAPENING TRANSPORT

BETWEEN

# THE WEST AND THE OCEAN,

ADDRESSED TO THE

## MILWAUKEE SENTINEL

AND

## CHICAGO TRIBUNE,

BY

## "A WESTERN TRADER,"

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MILWAUKEE:
JERMAIN & BRIGHTMAN, BOOK AND JOB PRINTERS,
No. 94 Mason Street.

1868.

# LETTERS

ON

## The Necessity of Cheapening Transport from the West to the Ocean.

LETTER I.

SIR:—There is no subject which can engage the attention of the Western people, equal in importance to that of lessening the cost of transport of the products of the West to tide water. The consideration of this matter is not only of paramount necessity to the producers of the West, but it is rapidly gaining weight with the manufacturers of the East, who find it necessary to make some movement to reduce the cost of the necessaries of life, and thus cheapen skilled labor. I purpose, therefore, in one or more letters, to consider as briefly as possible, the present outlets from the West to the ocean,—how insufficient they are to reduce the cost of transport to a minimum rate, and what is necessary to be done to accomplish so desirable a result. It is, however, impossible, to adapt the means to this end, without taking into view, the vast extent of the western country, and its probable, if not certain future. Half a century ago, this great western region contained only straggling forts and trading points, and now it contains nearly one-third of the population north of the Gulf of Mexico. Emigration from the Eastern States and from the Old World, has poured into it living streams. Its future none can predict, but judging from the past, it will year by year assume increasing importance, and will warrant the largest expenditure to accommodate the vast trade which it will furnish to its outlet channels of commerce. For this trade, as it now exists, the most costly works have been constructed to secure its advantages to each of the great Northeastern Atlantic cities. Canada has improved the St. Lawrence by a series of magnificent canals around the rapids of that river; and by a canal which connects Lakes Ontario with Erie; New York has spanned the portage between the Hudson and Lake Ontario, by canals of great length; Pennsylvania has connected the Atlantic with the

Ohio River by a canal over the Alleghany Mountains; Maryland and Virginia have expended large sums in extending their canals projected across the same barrier, while individual enterprise has extended railways from the Atlantic, almost to the extremity of the Northwest, through Canada, New England, New York, Pennsylvania and Maryland.

The two natural outlet channels for the trade of the Northwest, are the Mississippi, and the St. Lawrence Rivers. The Mississippi, the upper portion of which runs along the western border of the territory, is navigable from the Falls of St. Anthony for more than two thousand miles to the Gulf of Mexico. The great chain of Lakes running through the northern portions of it, connecting with the River and Gulf of the St. Lawrence, give a continuous navigation of two thousand five hundred miles. Lake Superior is six hundred feet above the level of the sea, and is twenty-seven feet above Lakes Huron and Michigan. At the outlet of Lake Superior there is a canal of one mile in length, and it has two locks which will pass vessels of two thousand tons. The Niagara River between Lakes Erie and Ontario has a fall of two hundred and seventy feet. The Welland canal which connects the navigation between these lakes is twenty-eight miles long, with twenty-seven locks which which will pass vessels of three hundred and fifty tons. The St. Lawrence River, from the east end of Lake Ontario to Montreal, has a fall of two hundred and twenty feet, which is overcome by seven short canals of an aggregate length of forty-seven miles, with twenty-seven locks, which will pass vessels of eight hundred tons. The channel of the St. Lawrence has been deepened so that sea-going vessels drawing twenty feet, at the lowest stage of water, can come up the river as far as Montreal. All of these works, with the exception of the outlet at Lake Superior, have been constructed by the Canadian Government.

The State of New York has built a canal from Buffalo on Lake Erie, and from Oswego on Lake Ontario, to Albany on the Hudson River, a continued length of five hundred and sixty-nine miles, with locks which allow the passage of boats of two hundred and fifty tons. New York has also constructed a canal sixty-five miles long from the Hudson River to Lake Champlain, with locks which pass boats of eighty tons. Such is a brief sketch of the artificial works now existing and built for the

purpose of attracting the commerce of these Western States to the Atlantic. It is not necessary for my present object to allude to the efforts made by Pennsylvania, Maryland, Virginia, Ohio, Indiana, Illinois and Wisconsin, in the construction of canals, as the commerce of the West is more dependent for an outlet on the canals of Canada and the State of New York. Independent, however, of canals, as a means of transport between the West and East, there are the various lines of railway, constructed by individual enterprise, in some cases assisted by the Government. The first of these extends from a point one hundred and fifty miles below Quebec, and from Portland, in Maine, through both Eastern and Western Canada to the State of Michigan. The second extends from Boston to Montreal, and the Eastern end of Lake Ontario, and to Albany, where it connects with the central line through the State of New York. The third extends by two lines from the city of New York to Lake Erie, and from thence westward along the shore of Lake Erie to Chicago, Milwaukee, St. Louis and Cincinnati. The fourth extends from Philadelphia to the Ohio River, connecting with the third line at Cleveland, and the fifth line extends from Baltimore to the Ohio River. Chicago and Milwaukee, are connected with the Mississippi at Cairo, St. Louis, Alton, Quincy, Dubuque, Prairie du Chien, La Crosse, St. Paul, and from each of these lines others radiate in every direction. This territory then, of the Northwest, as thus described, has within itself an artificial water navigation of one thousand miles, and eight thousand miles of railway in operation, besides more in progress. It has two natural and two artificial water lines leading to the ocean, besides five great trunk lines of railway extending to the Atlantic seaboard.

The ocean ports at the termini of the two natural water lines, are Montreal and New Orleans, and those as the termini of the two artificial water lines are New York and Philadelphia. The ocean ports at the termini of the trunk railways, are Quebec, Portland, Boston, New York, Philadelphia, and Baltimore. I have thus presented to your readers, a brief, but I believe a true sketch of the means, natural and artificial, upon which the people of this great Northwest territory have to depend for the transport of their products to a market, and the question now comes up, are these means sufficient for the future, and is the cost of that transport now, as cheap as it may be made?

The further greatness of the trade of the Northwest, needs neither illustration nor argument. Its development in the last twenty-five years, from almost nothing, to an export of cereals equal to ninety millions bushels from Lake Michigan alone, is of itself a fact so astonishing, as to prepare us to accept the most startling speculations. Previous to the year 1825, the trade of the lakes was trifling. The Erie Canal was opened in that year, and the tide of emigration began to move with great force to the Lakes. Hitherto the trade of the West had mostly taken the route of the Mississippi River. For fifteen years the influx of emigration was such as to consume the greater part of the surplus productions. Emigration continued, and still continues with an increasing ratio, and the fixed population is rapidly gaining on its surplus production over all domestic demands. The Eastern bound tonnage of the Erie Canal derived from the Lakes in the year 1836, was 54,219 tons. In 1853, it was 2,213,690 tons, or twenty-two fold in seventeen years, and in 1861, it was not much less than 4,200,000 tons, and before 1870 it will probably exceed 5,500,000 tons as the surplus product of the West moving East, and were all this business done through the Erie Canal the total movement would exceed 9,000,000 tons. Why, look at the growth of Chicago alone, the chief collecting point of this western region. From a miserable village of log huts, with a handful of the usual hangers on of a military outpost, it has within a period of thirty years become a great city, with a population in 1868, of two hundred and fifty thousand inhabitants, when in 1838, it had only a population of seventy-eight, and where the arrivals and departures of vessels, and railway trains are exceeded by New York alone. Then, when it is considered how insignificant a part of the vast territory tributary to the commerce of the Lakes is yet occupied and cultivated, no one can for a moment doubt that great as the increase of the West has been in population and production, during the last thirty years, this increase will be still greater in the next thirty years. The State of Minnesota, for instance, contains an area of 52,000,000 acres. In 1859, she imported wheat and flour for consumption, and in 1865, 10,000,000 bushels wheat were harvested. In 1864, no railways existed there, and now there are upwards of six hundred miles, but I must defer further remarks on this important subject to my next letter. A WESTERN TRADER.

LETTER II.

SIR:—In concluding my last letter I alluded to the rapid growth of the North-Western States in population and production, and expressed the opinion that in the nature of things, that growth would be as great in the next thirty years as it had been in the past. I also pointed out the various canals now existing in Canada and the State of New York, by which the products of the West now reach tide-water, and the question I have now to investigate in this letter, is how the present cost of transportation can be cheapened. When DeWitt Clinton first projected the Erie Canal, about the year 1819, he was denounced as a visionary and a mad theorist, for expressing his opinion of the commerce which would flow through it. Yet it was not two years after the completion of the canal, in 1825, when it became evident that the canal was too small and that its enlargement was an imperative necessity. At that time it accommodated boats of seventy-eight tons average, and has since been enlarged for the use of boats of 250 tons. By this enlargement the cost of transport between Buffalo and Albany has been reduced about seventy-five per cent. In Canada the first canals were constructed with locks of nineteen feet, these were enlarged to twenty-four feet, and the canals in the St. Lawrence river, which were constructed to overcome the rapids between Lake Ontario and Montreal, have locks of forty-five and fifty-five feet, and 200 feet in length, with a depth of water of nine feet. The key of the whole St. Lawrence route, however, is the Welland Canal, which connects lakes Erie and Ontario. This work had originally locks of nineteen feet, which were unfortunately enlarged to only twenty-six feet, and while the other canals on the St. Lawrence can pass through vessels of 800 tons, the Welland Canal only admits vessels of 350 tons. The great mistake, therefore, which Canada and the State of New York originally made, was the inadequate view of the future trade of the West, for which their public works were designed, and not adapting them to that future. But while this state of things cannot now be altered, the same responsibility rests with us in providing cheaper transport and facilities for the present and future trade, as rested upon those who have preceded us. Every one engaged in the trade from Lake Michigan knows that the average cost of moving a bushel of

wheat from Chicago or Milwaukee to Buffalo is about ten cents, the charges there are about two and three-fourths cents, and with an average freight from Buffalo to New York of seventeen cents we have in round numbers thirty cents freight on every bushel of grain from Lake Michigan to New York, besides insurance. This is also about the rate of freight via. Oswego to New York. In the one case the largest class of sailing vessels and propellers take cargo to Buffalo and thence it is transferred into the Erie canal boats, varying from 100 up to 250 tons. In the other case, via. Oswego, shipments from this lake have to be made in sail vessels and propellers of about 350 tons, capable of passing through the Welland Canal, and at Oswego, as at Buffalo, the cargo is transferred to the boats of the Erie Canal. Taking the equivalent rates of freight from Lake Michigan to the ocean port of Montreal, the cost of transport would, in present currency, be about twenty-two cents per bushel. It would seem, therefore, that so far as the export trade to Europe is concerned, Montreal could now successfully compete with New York. This advantage, however, seems greater than it really is. The great bulk of the ships arriving from sea at Quebec, come in ballast,—as to New Orleans, hence the freight outward has to be relied on to pay for the voyage inward and outward, or for both voyages. New York is a larger market, the inward voyage is more remunerative, hence the outward rates of freight are generally from twenty-five to fifty per cent. less than ocean rates at Montreal. This difference is, however, gradually becoming less, for in the ten years, from 1846 up to 1854, the average rate of ocean freights were 100 per cent. higher than at New York. Insurance then, was also much higher from the St. Lawrence to Europe than at New York, but the erection of light-houses and other improvements, has resulted in the summer rates from the St. Lawrence being made nearly as low as from New York, and these ameliorations are being continued. I have gone into this detail of Canadian trade and transport to explain to your readers why it is there is not a larger export trade via. the St. Lawrence. Then again, although the export trade of cereals to Europe is a large one, yet it is a well ascertained fact, that about five-eighths of the whole shipments of cereals from the Western States are consumed in the Eastern non-producing wheat states, and only about three-eighths are exported. But whether exported to Europe or to other countries, or consumed

in the Eastern states, the great and important principle remains, that the price the Western producer, or farmer, gets for his wheat or other grain, is the price which it sells for in the consuming market, less the charges for transport, handling, etc.—, no matter whether that market be in Europe, Canada, or the Eastern States; and every cent which can be saved in that transport is so much added to the value of every bushel of grain now produced, or will ever be produced in these grain growing states of the Northwest. To illustrate this principle, let me suppose a farmer having 1,000 bushels of wheat for sale in Milwaukee, the price of the wheat in New York is, say two dollars, and the freight, commission, etc., say thirty cents—the merchant here, can of course, only give one dollar and seventy cents. But suppose the freight, commission, etc., arising from an improved transport to be only twenty cents, it follows that the merchant could in such event as easily give one dollar and eighty cents as one dollar and seventy cents. By this improvement in transport the farmer would either get ten cents more for his wheat, or he could sell his eastern neighbor for ten cents less and yet be as well off as he is now. There can, therefore, be no question about the fact, for it is too plain for argument, that the people of the whole country, not only West, but East, are interested in the highest degree in reducing the cost of transport to the lowest possible figure, and that it is the absolute duty not only of the governments of the several states to give their attention to this important matter, but also of the general government at Washington. The means of accomplishing the end in view, must, however, be deferred to another letter.

A Western Trader.

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LETTER III.

Sir:—In previous letters I alluded to the immense ratio in which the trade of the Western States has yearly continued to increase, and pointed out the insufficiency of the existing artificial outlets from the lakes to the ocean, to accommodate the ever increasing tide of produce which annually sets from the West to the East, and I now propose to point out the means by which an immense annual saving can be secured for all time to

come, benefitting not only the people of the Western, but also of the Eastern States and Canada.

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 that obstruction is now being removed. The short canal built by the United States Government, which gives access to Lake Superior, has locks 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 suggestion now made for cheapening transport, is that it is neeces sary that all the canals on the route from west to east should be adapted for propellers of 850 tons burthen, with a depth of twelve feet water. The Welland Canal, which connects lakes Erie and Ontario, is by far the most important artificial passage for western trade. This canal, as I before stated has now locks of 150 feet by twenty-six feet, and renders the larger sized locks on the St. Lawrence unavailable for western commerce. In the construction, therefore of new works, while it would be necessary to adapt the locks to the width of the St. Lawrence canals of forty-five feet, the length of the lock should be 300 feet. The expense of this new Welland Canal has been estimated at six million of dollars in gold, for a complete steamer navigation, and would leave the existing canal, in the undisturbed possession of sail craft, tantamount to doubling its capacity for trade. The next obstruction to navigation on the above scale, are the canals of the St. Lawrence, the locks on which are not less than forty-five feet in width, and two hundred feet in length, but these would require to be lengthened to three hundred feet to correspond with the proposed new Welland. The cost of this lengthening of the locks of these canals, has already been estimated by the Engineer-in-Chief in Canada, at $1,028,000, who stated that the rebuilding and alterations can be effected in the Winter and Spring without obstruction to navigation. Propellers would descend the rapids and not use the canals on the downward trip. At present vessels drawing nine feet descend the rapids, but a survey made some time ago shows that an unobstructed navigation of these rapids can be secured of thirteen feet depth at lowest water for $720,000. With these improvements, the propeller of 850 tons could load at the head of Lake Superior, or on Lake Michigan and sail direct to Montreal without breaking bulk. So far as the export

trade to Europe is concerned, this would be all that is needed, but, as already stated, the trade of the Eastern States with the Western States is of far greater importance and greatly exceeds all the export trade. The distance between Lake Champlain and the St. Lawrence, at or near Montreal, is twenty-eight miles, and the difference of level between the lake and river at Caughnawaga is only twenty-five feet, the lake being the highest, and the construction of a canal to connect these two waters has for a long time engaged the attention of the Canadian Government and has been reported on by several eminent engineers. Its cost is estimated at $2,250,000. With this canal constructed, the propeller from the upper lakes could then proceed from the St. Lawrence on to Burlington or Whitehall on Lake Champlain and thus could discharge her cargo from the West for distribution throughout the New England states, at a port fifteen miles nearer Boston than Albany, and she could take in a returning cargo for the West of the manufactures, etc, of New England and deliver them at the upper lake ports without breaking bulk. But, let me ask why should the canal which now connects Lake Champlain with the Hudson River not be enlarged, so as to enable the propeller of 850 tons, from the West, to proceed onward to New York. The great object I have in view of the utmost cheapening of transport cannot be fully realized without this improvement of the New York Champlain Canal. But will the State of New York provide such improvement? or will jealousy for the revenue of the Erie Canal induce her to refuse any co-operation that may benefit the Canada route? Would there not be, however, a vast influence created by the presence at Whitehall of an 850 ton propeller direct from these upper lakes without breaking bulk? I believe the influence would come with great power, and if my views are correct as to the future of western trade. the time has come when it has become an imperative necessity to provide for its increasing volume. I know there are many who may not have the same faith as I have in that future trade, but history so far has verified my view of it, and nothing can be more certain, than that the existing enlarged Erie Canal will soon be found wholly inadequate to accommodate the increasing trade of the West. If the route through Canada was opened as I now suggest and in complete order, the two routes would excite a salutary competition, and give a *vast impulse to the Western trade.* Both would be well supported and steadily grow together in the enjoyment of its increasing volume, and with these views there is no occasion for jealousy. It is out of the power of any state to prevent this increase of western trade;—nature has settled the question, and it is a matter, as I conceive, beyond all question, that it will reach a magnitude unparalleled in the history of internal commerce. The city of New York has a great interest in improving the New York Champlain Canal and adapting it for the 850 ton propeller, and if the state should decline to make it they may give the power to an incorporated company, and it would be no great affair for the

city to provide the amount of cost, about $5,000,000 Let this entire enterprise be properly completed and a merchant at Chicago or Milwaukee may draw his bill on New York or Montreal on a cargo of produce at fifteen days and depend with almost a certainty on the arrival of the vessel, and the sale and collection of proceeds in time to meet the draft. The idea of a vessel of 850 tons loading at an inland port and proceeding without breaking bulk two thousand miles to reach a port on the ocean, has no equal on the globe.

I must, however, defer further remarks on this subject to another letter. A WESTERN TRADER.

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LETTER IV.

SIR:—In following up the conclusions of my last letter, 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 | 1,028,000 |
| Improving the Rapids of the St. Lawrence to 13 feet | 720 000 |
| The Caughnawaga Canal | 2,500,000 |
| New York Champlain Canal | 5,000,000 |
| Improving the Hudson River | 1,000,000 |
| | $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 the 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. During the last twenty years, the demands of trade have caused a vast increase in the size of vessels everywhere. The New York packet ship has been enlarged from two hundred and fifty to fifteen hundred tons, and steamers of three thousand tons are now in common use upon the ocean. On the Lakes small vessels only were at first employed, and vessels four times the size of those 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 towards 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 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 million 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 $2\frac{3}{4}$ cents for transferring cargo and other charges at Buffalo. A deduction of 5 cents per bushel, on one 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 the improvements I have suggested, would not exceed seventeen million dollars in gold. But this is not the full extent of the saving. I have shown that by these improvements, the vessel could sail direct to Montreal, Lake Champlain or New York, without breaking bulk, and the $2\frac{3}{4}$ cents now paid at Buffolo for transhipment charges there, would also be saved, making seven and a half millions, instead of five millions, on the grain from Lake Michigan alone. I have not alluded to, 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 grain 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. Bear in mind also, that the saving in transport, on *Western imports from the East*, will also amount to a very large sum annually. Nor should it be forgotten, that in conjunction with the proposed improvements in navigation would be the creation of the greatest facilities in such ports as Quebec, Montreal and New York, for the rapid discharge of the interior vessel, and for lessening charges at these ports to the greatest possible extent.

Before closing this part of my letter, it is well I should allude to other projects than those I have been advocating, which have received considerable support, and have also for their object the cheapening of transportation between the West and East.

Efforts have been made and are now making to export western products via the Mississippi River and New Orleans. A barge system for grain has been introduced, and agents are preparing to grant through Bills of Lading from the Upper Mississippi, St. Louis, &c. The cost of transport by this route must be more expensive than the Eastern route. At New Orleans there is a limited demand for the agricultural productions of the upper portion of the rivers. The vessels from New Orleans, have large export cargoes of the productions of the lower country, and a very limited amount of return freight, and have an increased length of voyage to reach European ports, compared with those sailing from the Northeastern Atlantic ports. The climate of the lower country injuriously affects most of the products of the Northwest, and diminishes their value when shipped by that route. The expense of transferring cargoes at New Orleans, will, I think, be greater than at the Northeast. All these circumstances combine to the prejudice of this route, and will probably confine the exports by it to a narrow belt along the Ohio, and along the Upper Mississippi, between Cairo and Des Moines Rapids.

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. By cutting through an isthmus of about ninety miles a saving of four hundred miles in distance would be made from Chicago to Oswego. This project has again been revived, and sometime ago a convention of delegates from Oswego and Chicago met to deliberate upon it. This project looks very well on the map, but when a section of the land dividing Lake Ontario and Lake Huron, is examined, almost insuperable difficulties appear in its construction.

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 the deficiency of water to supply the summit level, and *must be cut through* and fed 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 eighty 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 Canal, 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 Macinac, 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 eight hundred and fifty 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. 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 ship master, who has not acknowledged that the propeller would sooner be in 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 nor Lake Champlain.

It may also be well to explain that I am adverse to the construction of a canal around the falls of Niagara on the American

side, for the simple reason that all engineers admit that the Canadian side of the river is best adapted for it. As a general rule harbors and canals on the north side, open sooner in spring than harbors or canals on the south side. The Welland Canal is frequently open ten or fifteen days earlier than the port of Buffalo. Such is also the fact as regards the Beauharnois Canal, on the St. Lawrence, and is supposed to result from the then prevalence of Northwest winds. In a work of such importance, involving such large interests, that place should be chosen for its location which would best promote the general welfare of the people of both the United States and Canada. Their interests are identical. Canada cannot make an improvement, the result of which is to lessen charges of transport, or of handling western produce in her harbors, that is not advantageous to the people of the West, nor can a light house be erected on the Upper Lakes, which is not a matter of advantage to the people of both countries.

It is true that most of the works herein referred to as necessary to lessen the cost of transport between the West and the East, must be constructed in Canadian territory, but the advantage of these works to the Canadian people, are as great to them as to the people of the Western and Eastern States. Nor can I doubt, that if the several Governments of these States, would bring the vast importance of this subject before the General Government at Washington, something might be done to carry it into effect. If the Government of the United States could be persuaded of its necessity, it seems to me that a Recipriocity Treaty with Canada, on a broad and enlarged basis might be made contingent upon the immediate construction of the works I have alluded to.

The best interests of both countries are involved in the prosecution of this great enterprise, and its consideration should be approached in an enlarged and liberal spirit, nor do I think that the Eastern and Western State Governments would be backward in assisting Canada, if the means necessary for its prosecution were required; but there can be no doubt that the promotion and completion of such a navigation would reflect the highest honor on the Canadian and United States Governments, and prove of vast benefit for all time to their peoples.

A Western Trader.