THE RELATION OF THE FOX AND WISCONSIN RIVER IMPROVEMENT TO THE INTERESTS OF THE NORTHWEST.

BY D. M. HYDE, OF APPLETON.

Mr. President, Gentlemen of the Association, and Ladies and Gentlemen:

As Agriculture is the base upon which the future prosperity of the country rests, it is clear that those men engaged in such pursuits, above all men, should have the crystalized thought of men of large experience. In view of this, I reluctantly consented to read a short essay before an agricultural society. But having decided, I trust you will not consider my appearance before you a trespass on your time, and, furthermore, accept what I have to offer with a good grace.

The rapid growth of the Northwest has increased rather than diminished the perplexing question of cheap transportation to the sea-board. Various plans have been devised and measures resorted to in the hope of remedying the abuses and evils arising from it, and not without some beneficial results, even if not in all respects strictly just. All along the ages, men have necessarily been obliged to locate near some navigable body of water, and it has not been till days of steam that nature's disadvantages have been successfully and generally overcome, making it practicable as well as profitable to inhabit lands remote from navigation, notwithstanding the serious difficulties attendant in the increased cost of transportation.

In settling this Western country, the same course was pursued, and for a period of about 200 years the Fox and Wisconsin Rivers constituted the great highway to the large territory lying west of us. Of late years, however, it has fallen into disuse, not because the demand has ceased, nor because freights can be shipped with less cost otherwise, but
due, principally, to a failure on the part of the Improvement Company to keep it in repair. The enterprise fell into the hands of men who had no interest in making it a success. Their chief object seemed to be to keep the work in a shape that would enable them to hold their land-grant and discourage the people from using the route, until such a time would come that they could dispose of the land and certain water privileges and then abandon it, returning no just compensation to the people for what they had received. This project, for it is evident such was the design, was partially frustrated by an act of Congress, approved July 7, 1870, authorizing the Secretary of War to appoint a Board of Arbitrators to ascertain how much ought to be paid the Improvement Company for its improvements and claims, and to deduct from this amount the money realized on the sale of the lands granted to it. The work, in this manner, became public property again, and is now under control of the General Government.

But the question of putting the work into a proper shape for navigation is still before the public. It is true some money has been expended, and some very fair work has been done, but has the outlay been liberal and has it been expended in a manner to insure a completion of the work within a reasonable length of time? Others may advocate a snail's pace if they choose, but a work that is of such vital importance to the whole Northwest, seems to me to demand a completion at the very earliest.

That the work will not be in a navigable condition for several years, if the present course is pursued, is without question. The report of Capt. G. J. Lydecker, made at Appleton, August 12, 1874, contains the following: "Working under these small sums requires more or less suspension of navigation every year, which, under the present course, will be continued for several years to come, creating thereby much dissatisfaction along the route. Besides, much of the money in small sums is necessarily frittered away in temporary repairs which, with large appropriations, could be increased and applied to permanent work." It is a trite saying that "the
United States never goes by halves," but the course pursued on this work is a most palpable exception. We have here the evidence of one of the engineers employed on the work that navigation is more or less suspended, which means substantially as has been the case during the last two years, a complete cessation of navigation "for several years to come."

Capt. Edwards, in his report of 1873, says: "It is to be hoped that within that time" (ten or twelve years) "the progress of the improvement and the importance of the traffic of the route will justify a call upon the Government for funds to replace with cut-stone locks."

His recommendations were to repair the old dams and locks to ascertain the amount of freights that would pass over the route, and if they were of sufficient magnitude, then call upon the Government for aid to replace the old works with new ones. However plausible such a course may seem at first, it is evident upon further consideration that the work would be, if this plan was adopted, materially injured, and possibly defeat the design of the entire project. Such a plan of operation would necessarily prolong the work a number of years beyond the time stated above, and every move in this direction cannot do otherwise than bring the enterprise into disrepute, not only along the line but especially at a distance.

But there is a more serious objection than the above. To determine what "the importance of the traffic of the route will justify," sufficient inducements must be held out to boatmen to make it an object to construct boats and establish regular lines. It is folly to suppose that men will invest in an undertaking when the probabilities are that they will be obliged to tie up their boats half of the season, waiting for some old lock or dam to be repaired, or be compelled to suspend operations two or three years while cut-stone locks and dams are being built.

Before any definite results can be determined, the work must be put in a shape to guarantee to capitalists an unobstructed and permanent navigation the entire season. Any-
thing short of this will detract from the beneficial results of the route in a corresponding ratio.

Having referred to the reports of the engineers to show you that the work will not be of any great practical use for several years, it is no more than justice to allude to other sources for the same purpose.

The following is from the report of Major General G. K. Warren, which was made in October, 1868:

“To secure five feet navigation at low water, all to be canal, 118 miles. Canal seventy feet at bottom, eighty feet at top. Locks 160X35. Total lock lift 175 feet. Sides of canals in cuts paved to allow the use of steamboats—$4,164,270. In order to finish in third year, will require $2,082,130 the first year, the remainder the second year, and $60,000 annually thereafter.”

Five years have already passed away and nothing comparatively has been done on the work towards putting it in a navigable shape. It is now estimated that it will cost not less than $3,000,000. The present Congress has made an appropriation of $500,000 to be expended on the improvement the following year.

Suppose the same amount to be appropriated each year until the work is finished, and it will take six years from next fall to complete it. In making this estimate, an assumption has been made not warranted by past experience. Then, too, an allowance must be made for useless expenditures, such as repairing old locks and dams. Placing this amount at 16½ per cent., which is a reasonable one, and the work will unavoidably be prolonged another year, making at least seven years from next fall.

It is an unmistakable fact, that, under these small appropriations and the plan pursued, the work will drag its slow pace along at least eight years, and during that time be of no practical use to the public.

To say the least, this encouraging to those, which includes the millions of the northwest, who are directly interested in
having the route put in a navigable shape at the present time. In comparing this work with others, it will be found that in permanency and the time of construction, it is not in keeping with them, although in capacity it compares favorably.

There is in process of construction in an adjoining state a work similar to our own, not near as feasible as regards cost and natural advantages. I allude to the Illinois and Michigan canal, on the Illinois river. The route is 220 miles in length, and is being enlarged to a width of 160 feet, and a depth of 7 feet. One lock on this work at Henry, which is a fair sample of what is being done, was completed in the spring of 1872, and is 350 feet in length, 75 feet in width, and will admit the passage of twelve canal boats at one time. The walls are built of magnesian limestone laid in hydraulic cement, and the remaining parts of the lock are built in a corresponding permanent manner. To give you a better idea of what the lock is, I will include the gates which are 43 feet wide and 24 feet high, containing over 20,000 feet of White Oak timber and 27,000 pounds of wrought and cast iron.

The locks on the Fox and Wisconsin Improvement are 160 feet in length, 36 feet wide and a depth of 5 feet.

The work as proposed on the latter, we must acknowledge is not on as comprehensive a scale as the former, though there is every demand for it.

The Erie canal was commenced in 1817 and completed for navigation in 1825, being constructed in eight years at a cost of $7,602,000 or nearly $21,000 per mile. The route of the canal was a difficult one for such an undertaking, the canal being carried over several large streams by stone aqueducts and at one place, over a ridge of slate rock to the height of 188½ feet.

On our own work, a natural channel extends nearly the whole distance, and at an average cost per mile of a little less than $15,000 the proposed improvement can be made, yet the time of construction will be equal to, if not greater than that of the former.
At the time the Erie canal was built, it was the greatest undertaking in the United States, and the demand for it hardly justified the outlay, passing as it did through a large uninhabited territory. But it proved to be a very important institution in developing the resources, and increasing the revenues of the State which it is in.

On the contrary, the Fox and Wisconsin route lies in a thickly settled farming district, and the demand for it is far more urgent than for the former when first built, yet the prospects now before us are such as to justify the belief that it will not be in a navigable condition for several years to come.

The demands are urgent that a more decided action should be taken on this question. The present plan of construction, when compared with the works alluded to above, and as suggested by the engineers, is not in keeping with the amount of traffic to be done. Money is being wasted in making temporary repairs, which can be of no practical benefit and only delay the work. This work ought not to be an ephemeral one, but permanent and durable, and anything short of this ought not to be tolerated by those who pay for it, and who are the ones to be directly benefitted.

Of all taxes, that of transportation is the most oppressive, and the advancement of agriculture increases in ratio corresponding with the amount to be paid; hence the economy of having the producer and consumer near at hand.

With the Northwest, the question of lessening the distance between them, depends wholly, at present, on cheapening transportation. It was for this purpose that the railroads were compelled by law to lessen their rates.

The railroad problem, however, is a difficult one to solve. It is evident that they must be placed under certain restrictions, but to what extent is not so clear.

The law of this state fixes the maximum rates, although civil liberty teaches that it is oppressive and unjust. All laws having a tendency to regulate prices, must work a great in-
justice to the business so regulated, and in the end defeat the purpose for which they were made.

If the State would guarantee a certain rate per cent. of earnings on the capital invested to the railroad companies, there would be justice in such a law. But the state will enter into no such agreement, neither ought it to do so, for of the two, the latter would work the greatest injustice. It should, however, provide means for a healthy competition, not for the purpose of waging war on monopolies, but as a matter of economy. With the great natural thoroughfare passing through it, such a plan is not only feasible, but of practicable utility as a common sense business undertaking, and as a direct means in developing its natural resources.

It is estimated that not less than 50,000,000 bushels of wheat are shipped yearly from points west of Lake Michigan eastward. The average distance by rail from the Mississippi river to Lake Michigan, is not less than one hundred and seventy miles, and by the Wisconsin and Fox rivers, two hundred and seventy-one miles. The cost of transporting a ton the whole distance by rail, at thirty mills per ton per mile, is five dollars and ten cents, and with the cost of transshipment at the Mississippi, sixty-six cents. And the average distance of one hundred and fifty miles of lake at three mills per ton per mile added, amounts to six dollars and twenty-one cents per ton; while the charges over two hundred and seventy-one miles by the improvement, at seven mills per ton per mile, are one dollar and ninety cents per ton. The saving on a ton would be four dollars and thirty-one cents, and upon the whole quantity for shipment, $6,465,000, a sum which would pay the cost of the proposed improvement and leave a surplus of $3,465,000, to be distributed between the producer and consumer annually. This you will please bear in mind is the estimate on wheat alone. The estimated quantity of other cereals, including wheat, amounts to 2,500,000 tons, making a saving of $10,775,000, by the water route over that by rail.

But let us suppose that it would not cost over twenty mill
per ton per mile, and we have over one hundred and seventy miles of railroad, sixty-six cents per ton for transshipment at the Mississippi, and three mills per ton per mile over one hundred and fifty miles of lake, three dollars and nineteen cents per ton, amounting to $7,975,000, on 2,500,000 tons.

Even if this estimate is too large, which is by no means probable, the country would be the richer by $4,975,000, over and above the cost of the improvement in one year.

When it is remembered that the Erie Canal has saved the public $17,850,000 annually, some idea may be formed of the results to be derived from this work.

As a competitive route, it would regulate the rates on railroads, reducing them sufficiently to compare favorably with those by water.

The objection that is frequently raised, that all the grain would not be shipped over the water route is of little consequence; for it is not the design nor is it desirable that it should go by one; but it must be admitted that shippers would in ordinary cases, avail themselves of the advantages of the cheapest route, and that the tendency would be to reduce rates by rail to the same as those by water, thereby securing the desired end.

This is not only true of grain but of all other freights, whether imported or exported.

Competition is the only natural solution of this question. If a free and perfect competition is afforded, the monopoly of transportation will soon cease to exist. When the conditions are once favorable, the present state of affairs will soon change for the better.

This work, then, is not one of time and convenience, but one of dollars and cents, and at any cost its early accomplishment is dictated by true economy.

No question in the West equals it in importance. It lies at the bottom of cheap transportation, and is the only plan now practicable, to solve this perplexing question. The increasing growth of business in the large territory west of the great
lakes, depends upon a favorable solution of this problem for its prosperity in the future, and so long as this cloud hangs over the Northwest, it cannot rise to a position its mineral wealth, productiveness of soil and position geographically entitles it to.

The delay in the completion of this work is a direct hindrance to our manufacturing interests. It is an acknowledged fact that the Fox river affords the finest water powers in the country, and to the uninitiated, it is surprising that they are not utilized to a larger extent. That this river is destined to be lined with manufacturing establishments is evident. Nature has done her part in furnishing an inexhaustible supply of raw material, and the means of converting it into a proper condition for man's use; but man has failed to provide for himself cheap transportation, and until he does this, every attempt made in extensive manufacturing will be attended with only partial results. The manufacturer is now obliged to rely upon railroads.

There is no other alternative, and so long as this state of affairs exists, he cannot compete successfully with others located at a less distance from the market. The cost of manufacturing at points near a market may be considerably greater than on the Fox, but the cost of transportation being so much greater, the saving of the former over that of the latter would be a sufficient inducement for capitalists to locate at those places.

In this manner capital is prevented from being invested along the river.

Capitalists hearing of the great advantages come here, but when they find the water route of no practical benefit for shipping, and that it is not likely to be under eight or ten years, will not invest, but seek more inviting fields where the prospects are more favorable.

There is no satisfactory reason but this one, for our manufacturing interests being in a primitive state compared with the development of agriculture. The two ought to go hand in hand. The consumer and producer are in this manner brought
near each other, enabling each to derive the greatest benefit from his labor.

With this work in a navigable condition, every inducement would be at once offered to capitalists, who are seeking opportunities for productive investment to locate on this route. The cotton producing region of the South would be brought into closer proximity to us, and with a market at home, Wisconsin's advantages over Eastern States would be so eminent that beneficial results must of necessity immediately follow.

The following gives approximately the saving on the transportation of a ton of cotton, and one of the advantages to be derived in manufacturing the same in the Fox River Valley, over that manufactured at Lowell, Massachusetts. Taking New Orleans as a point so obtain cotton, and Appleton, which is about the center of the manufacturing facilities of the Fox, as a manufacturing center with Chicago as distributing point, we have the following results:

<table>
<thead>
<tr>
<th>Route Description</th>
<th>Distance</th>
<th>Transportation Method</th>
<th>Rate per Ton per Mile</th>
<th>Total Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>From New Orleans to Boston 2000 miles, Ocean, at $.0025 per ton per mile</td>
<td></td>
<td></td>
<td></td>
<td>$5.00</td>
</tr>
<tr>
<td>Boston to Lowell 26 miles, rail, at $0.080 per ton per mile</td>
<td></td>
<td></td>
<td></td>
<td>$0.78</td>
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<tr>
<td>Lowell to Boston</td>
<td></td>
<td></td>
<td></td>
<td>$0.78</td>
</tr>
<tr>
<td>Boston to New York 390 miles, Ocean, at $.0025 per ton per mile</td>
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<td></td>
<td></td>
<td>$0.975</td>
</tr>
<tr>
<td>New York to Buffalo 350 miles, canal, at $.006 per ton per mile</td>
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<td></td>
<td></td>
<td>$2.100</td>
</tr>
<tr>
<td>Buffalo to Chicago, 1,070 miles, lake, at $.004 per ton per mile</td>
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<td></td>
<td></td>
<td>$4.280</td>
</tr>
<tr>
<td><strong>Total to Chicago</strong></td>
<td></td>
<td></td>
<td></td>
<td><strong>$13,915</strong></td>
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<table>
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<tr>
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<th>Transportation Method</th>
<th>Rate per Ton per Mile</th>
<th>Total Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>From New Orleans to Prairie du Chien by Mississippi River, 1,786 miles, at $.0029 per ton per mile</td>
<td></td>
<td></td>
<td></td>
<td>$5.1794</td>
</tr>
<tr>
<td>Prairie du Chien to Milton Junction 190 miles rail at $.025 per ton per mile</td>
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<td></td>
<td></td>
<td>$3.2500</td>
</tr>
<tr>
<td>Milton Junction to Appleton 115 miles, rail, at $.025 per ton per mile</td>
<td></td>
<td></td>
<td></td>
<td>$2.8750</td>
</tr>
<tr>
<td>Appleton to Chicago 214 miles, rail, at $.025 per ton per mile</td>
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<td></td>
<td></td>
<td>$5.3500</td>
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<tr>
<td><strong>Total to Chicago</strong></td>
<td></td>
<td></td>
<td></td>
<td><strong>$16,6544</strong></td>
</tr>
<tr>
<td><strong>Amount per ton in favor of Lowell</strong></td>
<td></td>
<td></td>
<td></td>
<td><strong>$2,6894</strong></td>
</tr>
</tbody>
</table>

With the improvement in a navigable condition the cost of transportation from New Orleans to Chicago will be substantially as follows:
<table>
<thead>
<tr>
<th>Distance</th>
<th>Description</th>
<th>Rate per Ton per Mile</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>1,738</td>
<td>New Orleans to Prairie du Chien</td>
<td>$.0029</td>
<td>$5.1794</td>
</tr>
<tr>
<td>240</td>
<td>Prairie du Chien to Appleton</td>
<td>$.007</td>
<td>$1.6800</td>
</tr>
<tr>
<td>35</td>
<td>Appleton to Green Bay</td>
<td>$.007</td>
<td>$0.2450</td>
</tr>
<tr>
<td>310</td>
<td>Green Bay to Chicago</td>
<td>$.004</td>
<td>$1.2400</td>
</tr>
<tr>
<td></td>
<td>Total to Chicago</td>
<td></td>
<td>$8.3440</td>
</tr>
</tbody>
</table>

Amount per ton in favor of Appleton: $5.571

This saving would in itself be a sufficient inducement to secure the erection of Cotton Factories along the line of the Improvement. But when the home market is taken into consideration, we find that the saving per ton will be much larger than the above. Again the number of transfers by the way of Lowell are three more than those by this route, increasing still more the advantages of the Improvement as a manufacturing locality of this article over eastern towns. And then, too, other manufacturing interests would receive an impetus that would in a few years place this State among the foremost, in every respect, of the Nation.

But manufacturing would not alone be benefited on this line. Such interests throughout the northwest would be advanced. Minnesota and Iowa could not fail to receive marked improvements in this direction.

This one work alone, if properly constructed, would be a more powerful incentive in inducing farmers to improve their farms, in influencing capitalists to utilize the vast manufacturing facilities, and in settling the large tracts of land now unoccupied, than all other interests in the northwest combined. Such rewards are in store for the future, but every day’s delay lengthens the time when they are to be realities.

There is no doubt but what the press has been unwittingly instrumental in retarding this work, by constantly alluding to it in praiseworthy terms, conveying the general impression that it was progressing as rapidly as the demand would justify. The following is taken from a recent issue of the Milwaukee Commercial Times, which in speaking of the advantages of the State, said:
"With a navigable water course running through the State and closely wedding the towns to the cotton producing regions of the south, Wisconsin's advantages over eastern States are so apparent that they should attract the immediate attention of capitalists who are seeking opportunities for productive investment."

I think that you cannot but agree with me that transporting cotton by the way of the Fox and Wisconsin rivers is a slight stretch of the imagination beyond the capacity of ordinary men, and, furthermore, that such a sentiment cannot be productive of good results. The above is quoted for the purpose of giving you an idea of the general impression prevailing throughout the states, which would be directly benefited, in regard to the work. If the press had kindly criticised and taken a little pains to show up the work in its true light there is not a shadow of doubt but what it would be from one to two years in advance of what it is.

True the work is advancing, but is it of a character and rapidity to meet the present demands? No, it is not. The State ought to have the advantages of it now, and not be compelled to wait six, eight or ten years for it.

The farmers of the northwest will need it next fall to transport the crops of another season to the seashore, where they find their greatest market, they need it at present to avoid paying the enormous rates monopolies impose upon them. They need it to secure the largest returns from the products of their farms. Farmers, look at the subject from any stand point you may choose and you will be forced to the inevitable conclusion that you cannot afford to be without it, nor wait for it much longer.

If Gen. Warren's plan had been adopted, the work would have been completed two years ago, but as it is it will take at least three and possibly ten years more. The former should be, without fail, the limit, and such action taken immediately as will insure a permanent navigation at the expiration of that time.
Since 1854 the Government has expended $40,000,000 for the improvement of the rivers and harbors, but three-fourths of this amount has been expended east of the Alleghany Mountains. Since the adoption of the Constitution the public buildings have cost $62,000,000, while on 20,000 miles of the rivers of the West only the small sum of $11,438,300 has been expended.

No one will question the propriety of erecting public buildings "upon a scale of liberality and style to correspond with the present and future wants of the country," for which purpose these expenditures have been made.

The amount estimated for the Improvement is a large sum to be expended on one work, but "England invested $40,-000,000 to develop the culture of cotton in India, and little Holland pays annually $4,000,000 to keep her 12,000 windmills revolving," and has expended the enormous sum of $2,000,000,000 in the construction of dykes to keep out the great sea waves. Our own Government, though liberal in many things, has been parsimonious in appropriations to improve her internal natural channels of commerce. She appropriates "nearly $300,000,000 annually for various governmental purposes, and yet doubts and hesitates "about completing improvements which will return a tenfold profit upon the investment and stimulate industrial interests and enterprises all over the country."

The improvement under consideration is one of the few of a national importance which demands large appropriations at present and immediate action on the part of the Government.

This is a national work and belongs to the entire Government. It is not, however, within the province of Wisconsin to undertake it, neither of Minnesota or Iowa. It does not belong to two or three States combined, though, for the present, three or four States would be principally benefitted; but the large territory west of these States will, in a few years, have as much interest and as much at stake in it as the State
through which it passes has at present. But it does lie within the province of this State and the whole Northwest to use such means as will put an end to this unwise delay.

To complete the work at the very earliest, we must have more of a concentrated action on the part of the people who will be directly benefitted. It is eminently a work of the present, and we, citizens of the Northwest, should enter into it with a oneness of purpose and a determination to bring it to a speedy completion, condemning any policy having a tendency to prolong its construction.

D. M. Hyde,

Of the Appleton Times.