

that may be finally adopted, and may be constructed at a cost falling something below \$3,000,000. Acts of incorporation have been granted by the Legislatures of New Brunswick and Nova Scotia to the European and North American railway within those provinces, respectively, and grants of the public domain made, and other aid pledged, as will be seen by reference to the acts of legislation which accompany the memorial that has been presented to Congress, and which will secure, beyond doubt or contingency, the construction of the road from the eastern line of Maine to the city of Halifax, or the town of Whitehaven. What is now wanted, and all that is wanted, to accomplish this great work—than which none of larger importance to the nation can claim the public attention—is, the means to build that part of the European and North American railway which lies within the State of Maine—between Bangor and the line of New Brunswick. The road from Waterville, or Augusta, to Bangor will nearly absorb the capital that can be obtained for such investment in that part of the State. The means of Bangor and vicinity will be required to extend the road to that place from the west; and as the territory, north and east, through which the route of the European and North American road lies, is thinly settled—in truth, for half the distance an almost unbroken wilderness—it is easily perceived that the capital required for so considerable a work, involving an expenditure of nearly \$3,000,000, cannot be obtained in that section of country. As the road will be of no merely local advantage or character, it is not unreasonable that the funds necessary to build it should be drawn, to some extent, from other portions of the country than the immediate vicinity of its location—from the parties who will derive most certain and substantial benefits from its construction—the people of all the States in the Union.

I will now state, briefly and clearly as I may be able, some of the advantages which I think will be likely to result from the grant of the aid prayed for in this case. A continuous line of railway will be put in operation from the city of New York—nay, from all the considerable cities from New Orleans to Portland—to the easternmost available harbor on the continent; a daily line of steam-ships, of the greatest practicable speed and capacity, will be put upon the international ferry between the two hemispheres, and the passage between New York and London reduced to a period of six days' time.

The memorial states:

"Experience has now established, as a general rule, the fact, that the useful speed of railway trains may, under all possible circumstances, be three times as great as that of a steam-ship or sailing vessel. The advantage gained and the time saved in the passage of the mails between New York and London, by adopting the plan proposed, over the present international postal system, may be stated as follows:

From New York to London.

	Miles.	Days.	Hours.
Railway from New York to Halifax....	867	-	17
Steamer from Halifax to Galway....	2,130	5	5
Railway from Galway to Dublin....	136	-	2½
Steamer from Dublin to Holyhead....	63	-	3
Railway from Holyhead to London....	263	-	5
	3,469	6	5½

"In the foregoing estimate, a speed of railway transit is assumed such as is employed on the English express trains, and the speed of the steamer is taken at one third the time allowed for the passage of the railway train. Allowing three and a half hours for shifting the mails and baggage, and the time occupied in the transmission of the mails from New

York to London is six and one half days, employing the present rates of speed on the most approved and best conducted railways in England.

Applying the same rates of speed to the present route from New York to London, and the result is as follows:

	Miles.	Days.	Hours.
Steamer from New York to Liverpool....	3,100	7	14
Railway from Liverpool to London....	211	-	5
		7	19

"Difference in favor of the European and North American railway route, one day ten and a half hours.

"But this comparison by no means does justice to the relative advantages of the two routes. Steam-boats, like race-horses, go with increased speed as you reduce the unnecessary load, and by the shorter sea route, may undoubtedly be increased equal to two miles per hour for the entire voyage. Assuming the correctness of the foregoing statement, the following result is shown:

	Days.	Hours.
Steamer from New York to Liverpool....	8	14½
Railway from Liverpool to London....	-	5
	8	19½

"Difference in favor of the European and Galway route, two days, eleven hours—equal to fifty-nine hours saved.

"The chances would be in favor of the longest land route and the short sea-voyage. The certainty attainable in railway transit, the facilities for repairing accidents and supplying improved engines to make up for detentions, on the one side, and the risks of a long sea-voyage on the other—accumulating almost with geometric progression with the distance—significantly urge the adoption of the proposed plan.

"The greatest speed yet attained in an Atlantic sea-voyage, was by the American steam-ship Pacific (a shorter passage has been made since this petition was drawn up) during the past year, averaging a speed of thirty and one eighth miles per hour for the entire distance—having made the run from Liverpool to New York in nine days twenty hours and fifteen minutes.

"The speed of ocean steamers has increased very much in the ratio of their size, and it is not hazardous much to say, that within the next five years a uniform speed of seventeen miles an hour may be reached in ocean steam navigation by the adoption of the shortest passage across the Atlantic.

"We have assumed a speed of railway transit beyond any uniform attainment in the country; but those least informed in the practical working of railway machinery know that at present the question of speed is a mere question of cost, and has no reference to the absolute capacity or speed of the locomotive engine employed in railway transit. The only limit to the speed of a railway train is the strength of material, and increased attention to the construction of railway machinery will enable the locomotive engine, in due time, to measure speed with the wind."

Mr. Chairman, there can be no reasonable doubt that, whenever by means of improvements in the construction and working of steam-vessels, the passage between New York and Liverpool can be made by the present route in nine days, a degree of improvement will have been attained in steam-ship and railway performance, which will as certainly permit the transit, by Canoe and Galway, to be made in six days. Considering that nearly half the quantity of coal required for the long sea route will be dispensed with on the other, and the causes of detention in St. George's Channel and the Irish Sea, and on our own coast avoided, I hazard little in the prediction that the average time of transit between New York and London, by the proposed route, will not much exceed one half the time that will be required upon the present routes. Practical and scientific gentlemen of the first eminence in the country, who have carefully examined this plan, have expressed the conviction that it will effect a saving of at least one third of the time consumed by the routes now used. It is well known that the principal dangers, difficulties, and delays experienced, are in consequence of the fogs and storms encountered in the

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