

can be regularly maintained all the year round, which makes it all the more important that the proposed "metallic subway" should receive a full and, if feasible, favorable consideration on the part of the Government of the Dominion.

The establishment of constant and speedy communication by rail would be a great advantage both to the province and to the Dominion; and I should suppose that the development of the traffic on the island railroads, and of the capabilities of the province generally, would produce a large direct and indirect return on the expenditure.

It would reflect great credit on the Dominion Government if, after connecting British Columbia with the Eastern Provinces by the Canadian Pacific Railway, it should now be able to complete its system of railway communication by an extension to Prince Edward Island.

I have, &c.,

GRANVILLE.

That was the state in which the matter was when we were discussing the question last year. Since then, through the kindness of the Government, who sent a corps of engineers to examine the bottom across the Straits between Cape Traverse, Prince Edward Island, and Cape Tormentine, New Brunswick, a series of boring and surveys were made last year, and we were also favored, by the influence of Sir Charles Tupper, with a survey made by Her Majesty's survey steamer now engaged in the survey of the lower St. Lawrence. That survey and report showed distinctly that there was no rock in the way, and the borings which were made on the line surveyed by the steamer every 1500 feet, samples of which have been, during the session, upon the table of the smoking room of the Senate, and have no doubt been examined by several gentlemen, prove distinctly that the whole bottom of the Strait is one natural bed of brick clay, than which nothing better could be found for the purpose of building this submarine tunnel. After we had received those plans and the samples, I moved in the earlier part of the session for a copy of the report which was made by the engineers with regard to those borings, which report has been laid upon the table of the House and I may be permitted to read it for the benefit of hon. gentlemen who may not perhaps have seen it.

GOVERNMENT RAILWAYS IN OPERATION.

OFFICE OF THE CHIEF ENGINEER,
Ottawa, February, 9th, 1887.

Sir:—

As authorized by the Minister I had a series of soundings and borings taken across the Straits of Northumberland between Cape Traverse and the Main Land on the line of the proposed location of the proposed Subway between the Main Land and Prince Edward Island.

Mr. Jonah was placed in charge of the work, which, owing to the lateness of the season, was difficult to accomplish, he, however, organized a working party and by devoted attention to his duties, succeeded in making a boring at each quarter of a mile for the first three miles and at each half of a mile for the balance of five miles. On the first five and a half miles the borings passed through sand and gravel until brick clay was struck. From $5\frac{1}{2}$ to $6\frac{1}{2}$ through sand and hard grey sand to brick-clay; from $6\frac{1}{2}$ to 8 miles, the shore side of the main land through mud, sand and red clay to rock. The deepest water is 96 feet at $4\frac{1}{2}$ miles from the Cape Traverse wharf; at $6\frac{1}{2}$ miles a rocky reef occurs covered by 9 feet of water and about 10 feet of sand, with this exception the bottom is very uniform and satisfactory.

A plan and profile of the line of soundings and borings accompanies this report

I have the honor to be, sir,

Your obedient servant,

COLLINGWOOD SCHREIBER.

*C. E. and Gen. Manager
Government Railways.*

A. P. BRADLEY,

Secretary.

This is the report which accompanied the plans which have been laid upon the table of the House and the specimens also. When we obtained those plans and specimens we laid them before several engineers. One in particular, Mr. Hayden H. Hall, who is the patentee of the caisson, which is being used for the purposes of laying those submarine tunnels or subways, thus gives his views on the matter.

He says:—

"I am very pleased with the survey. It shows that the work to be done is not very difficult, and there is nothing to prevent the tunnel from being bored. If the borings and soundings are equal on the $6\frac{1}{2}$ miles line, I would choose that in preference to our first location; it would be more practicable to start the tunnel from, and end it at the shore line, instead of running into a wharf."