

97. If another engineer said that you would not agree with him?—I do not want to dispute any one's opinion, but he wants to make it a better railway than is required for the settlement of this country.

98. You do not think it is necessary?—Oh, no.

99. *Mr. Buchanan.*] You have been over a good many of the railway systems in America?—Yes.

100. And you have a good idea of the labour-saving machinery used to cheapen construction?—Yes.

101. In extending this line of railway to Taupo, can you suggest any labour-saving machinery not already used in New Zealand railway-construction that could be used with advantage?—I could tell you of a good deal that may be used in New Zealand railway-construction; but I will say in regard to this line that if it is laid out with a view of saving money, and if you curved out all the points instead of cutting through them, it would not pay to have steam navvies and shovels. If you have to scrape along in 2 ft. of earthwork it would not pay, but for tunnelling and cutting and heavy work it certainly pays to have heavy machinery.

102. Are any of those heavy labour-saving machines used in New Zealand?—No, nothing worth talking about. In America there is not a house in the city that does not take a cellar out with one of those steam-shovels. When I went up the Columbia River I saw steam-shovels at every cutting.

103. Are there any public works at present going on within your knowledge to-day where these labour-saving machines could be used with advantage?—I do not altogether like criticizing the public works, but I would certainly say that in the matter of heavy excavating and filling ballast-pits steam-shovels could be used with advantage.

104. How many years ago did this labour-saving machinery come under your notice in the first instance?—I have had particulars of it for many years—some considerable time before I went to America, and I could produce plans and particulars.

105. Would you be surprised that I personally saw steam-shovels at work in Canada forty years ago?—I would not. There was a steam-shovel down in Dunedin many years ago which took a large portion of the reclamation away. There are one or two now in New Zealand, I think.

106. *Mr. MacDonald.*] Are you aware that at the present moment they are carrying out large works in Canada under the co-operative systems the same as they do in New Zealand?—No, I cannot say I am. There are certain places where they are constructing light lines where it does not pay to spend a lot of money on heavy machinery, but where the work is heavy it is necessary.

107. For instance, at the Otira Tunnel, where they have all the latest up-to-date machinery?—The Otira Tunnel is a unique line. There is no other like it in the world.

JAMES EDWARD FULTON further examined.

108. *The Chairman.*] You say that £7,500 in your estimation is ample to make this line fit for passenger traffic, with an average speed of fifteen or sixteen miles an hour?—Yes.

109. Supposing a larger sum were spent, say, up to £25,000, would that straighten out sufficient of the curves to put up the average rate of travelling?—Yes, it would.

110. Providing suitable rolling-stock was provided?—Yes. Where you spend more money you have to consider whether it was going to prove a commercial investment.

111. Have you been over the country from Mokai to Taupo?—Yes, I have been all over that country.

112. And the evidence is that it has, roughly, nineteen miles further to go?—Yes.

113. And £25,000, in your opinion, would be ample to make the line suitable to run a passenger traffic at an average rate of twenty miles an hour up to Taupo?—I am not speaking of the surveyed extension of the line.

114. You say, the present line from Putaruru to Mokai?—Yes, to near Mokai.

115. But the extension to Taupo would be made with curves of larger radius?—Yes, I believe so; but that extension was not surveyed by me.

GEORGE WARREN RUSSELL, M.P., examined. (No. 17.)

1. *The Chairman.*] I understand, Mr. Russell, that you desire to make a statement to the Committee?—I wish to say, in the first place, that I have come here solely in the interests of settlement. I have not been asked in any way by the Taupo Timber Company to give evidence. In listening to the evidence it occurred to me that nearly the whole burden of it was in connection with the country to be settled between Putaruru and Mokai—the land that is open at the present time. Now, there is a very large area of country stretching from Taupo right down towards Tarawera that is admirably adapted for settlement, and which cannot be settled unless railway access is given either from Taupo to Rotorua or from Taupo to Putaruru.

2. Is it the same class of country?—Very much better directly you cross the Rangitaiki River, which is, roughly, half-way between Taupo and Tarawera. About half-way between the Rangitaiki River and Tarawera you enter the hill country, and you have thence virtually seventy miles of hill country to pass through in order to reach Napier, which should be the port for that part of New Zealand; but, owing to the exceedingly high hills to be gone over, access to the country from Napier is absolutely impossible for the purposes of settlement. The cost of cartage from Napier to the Rangitaiki is £7 10s. per ton. This is caused by the high hills that lie between the Waipunga Stream and Te Pohue. Te Pohue is twenty-eight miles from Napier, and up to that point the roads are fairly good. A five-horse team can carry between Napier and Te Pohue 2 tons. At Te Pohue half a ton is taken off, and for the rest of the distance until the Waipunga is reached only 30 cwt. can be carted with a five-horse team. The result is that the