

It is not pretended that the above estimate is perfectly correct and adapted to every case, as the amount and character of the traffic engaged in by any particular line, as well as the weight of rails used, would affect the calculations. The figures are sufficient, however, to give a comparison between the existing and the proposed system, and to show roughly the commercial value of the latter. Allowing, if need be, one half of the above estimate for unforeseen possible contingencies, we have still a saving of over \$180 per mile per annum; a sum which, if reckoned on the mileage of existing Canadian railways, would be equal to a yearly saving of \$320,000, sufficient to pay a dividend of 6 per cent. on \$5,400,000 of railway capital.

I need scarcely lengthen these observations in order to show that the suggested improvement appears to possess many important advantages, but as the economic test is after all the true financial standard by which such improvements should be measured, I may add, that as the rolling stock is greatly affected by the condition of the track, and the cost of its repairs is proportionate to the state in which the road is kept, we have in this circumstance another element of saving, inasmuch as the improved rail could doubtless be maintained from first to last in a much smoother state than we usually find existing rail tracks.

If still another illustration be needed to show the economic value of the improved rail, it will be seen in the comparative amount of capital required to re-lay the rails after the first set are worn out. For this comparison it matters not what the average life of a common rail may be considered, since we have already shown that the improved rail may be found serviceable for double the period. Let us assume that the life or serviceable duration of a common rail is 8 years, then that of the improved rail may be taken as 16 years,—before the expiration of 8 years the whole of the former has to be renewed, but the latter being reversible, and a worn out surface being equally good for the lower portion, one half of it only has to be replaced before 16 years expire. In the case of the common rail one-eighth of its first cost should annually be set aside out of the company's earnings to replace it in eight years, while only one thirty-second part of the first cost of the improved rail would be needed as an annual sinking fund to renew the wearing surface in sixteen years. As a more practical illustration, take a line of railway 200 miles long, and assume the life of a rail as above given, we find, after making ample allowance for the value of the worn out rails as old iron, that the Company would require to expend