extending to 3000 feet in length, being common to both, more especially as these are now in an advanced state, may be stated as above at £200,000.

"The masonry of the Victoria Bridge piers ranges from 40 to 72 feet in height, averaging 56 feet, and these are twenty-four in number. The number required for a suspension bridge, admitting of spans of about 700 feet, would be *ten*, and these would extend to an average height of 125 feet. These ten piers, with the proportions due to their height and stability, would contain as much (probably more) masonry as is contained in the twenty-four piers designed for the Victoria Bridge; and the only item of saving which would arise between these, would be the *lesser* number of dams that would be required for the suspension piers; but this, I beg to say, is more than doubly balanced by the excess in masonry, and the additional cost entailed in the construction at so greatly increased a height. Next, as to the superstructure, which in the Victoria Bridge costs £57 per lineal foot, Mr. Roebling, in his Report, states the cost of his bridge to have been 400,000 dollars, which is equal to £80,000 sterling. Estimating his towers and anchor masonry at £20,000, which I believe is more than their due, we have £60,000 left for the superstructure, which, for a length of 800 feet, is equal to £75 per lineal foot, giving an excess of £18 per foot over the tubes, of which we have 7000 feet in length. By this data we show an excess of nearly 10 per cent. in the suspension, as compared with the tubular principle, for the particular locality with which we have to deal, besides having a structure perishable in itself, on account of the nature of the materials; and to construct them entirely of iron, would involve an increase in the cost which no circumstance connected with our local or any other consideration at Montreal would justify. We attain our ends by a much more economical structure, and what is of still greater consequence, a more permanent one; and as Mr. Roebling says—'No suspension bridge is safe without the appliances of stays from below.' No stays of the kind referred to could be used in the Victoria Bridge, both on account of the navigation and the ice, either of which coming in contact with them would instantly destroy them. No security would be left against the storms and hurricanes so frequently occurring in this part of the world.

"No one, however, capable of forming a judgment upon the subject, will doubt for one moment the propriety of adopting the suspended mode of structure for the particular place and object it is designed to serve at Niagara. A gorge, 800 feet in width and 240 feet in depth, with a foaming cataract racing at a speed of twenty to thirty miles an hour, underneath, points out at once that the design is most eligible; and Mr. Roebling has succeeded in perfecting a work capable of passing over ten or twelve trains an hour, if it should be required to do so. The end is attained by means the most applicable to the circumstances; these means, however, are only applicable where they can be used with economy, as in this instance."

My own sentiments are so fully conveyed in the above extract from Mr. Ross's letter, that I can add no further remark upon the subject, except, perhaps, that there appears to be a discrepancy in that part which relates to *cost*.

In dividing the £80,000 into items, Mr. Ross has deducted £20,000 for masonry, and left the residue, £60,000, for the 800 feet of roadway. Now it appears evident, that this amount should include the cost of the "Land-chains;" and assuming their value at about £15,000, there would be only £45,000