

The Scientific Publishing Co., New York, have just issued *The Mineral Industries, its Statistics, Technology and Trade from the earliest time to the close of 1893*, which, they say, is the only treatise on mining, metallurgy, markets and uses of the commercial minerals and metals that is absolutely up to date. Information regarding the latest and best methods in use for producing, extracting and refining the useful metals and minerals, and the amounts and values of each produced and consumed in all parts of the world can be found in the book. The publishers say that to the engineer, the chemist, the buyer, the seller of minerals and metals, the metallurgist, and to the legislator who should know the resources and conditions of production in every country to legislate wisely for his own, this work is absolutely indispensable.

A new book on Canada, by Dr. Bourinot, will shortly be issued by The Copp, Clark Company, (Limited), Toronto. It is entitled *How Canada is Governed*, and gives in plain, simple language a short account of the Executive, Legislative, Judicial and Municipal Institutions of the Country, together with a sketch of their origin and development. The book will be illustrated with numerous engravings and autographs, and being the work of so eminent an authority as Dr. Bourinot, will be indispensable to those who wish to be well informed about the affairs of the Dominion.

The Electric Railway as an Investment.

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(Continued from issue June 7)

The probable operating expenses of the entire road are somewhat difficult to arrive at, unless there be a particular case under consideration. They are made up of items of which some are quite closely calculable, and will apply to all average cases, while others are very appreciably modified by the local circumstances. Probably the most satisfactory way to state these total expenses is to arrive at the total cost of running one car for one mile, including all wages, salaries, fuel, depreciations, maintenance, everything that is a charge against gross income, before dividends come in. Taking an average road of about six miles of track and three or four cars, and giving a cautious figure, we find, that for all the above, it will cost about 15 cents to run a car a mile, this figure allowing not only of day to day maintenance and repair expenses, but also of the placing to depreciation account a reasonable credit to offset that general wear and tear that eventually necessitates the "scrapping" of track, &c. Hence we see that three ordinary paying passengers, as their equivalent in freight, must be carried for every car mile before the road will pay its expenses; beyond that number brings in dividends. It is usual to allow

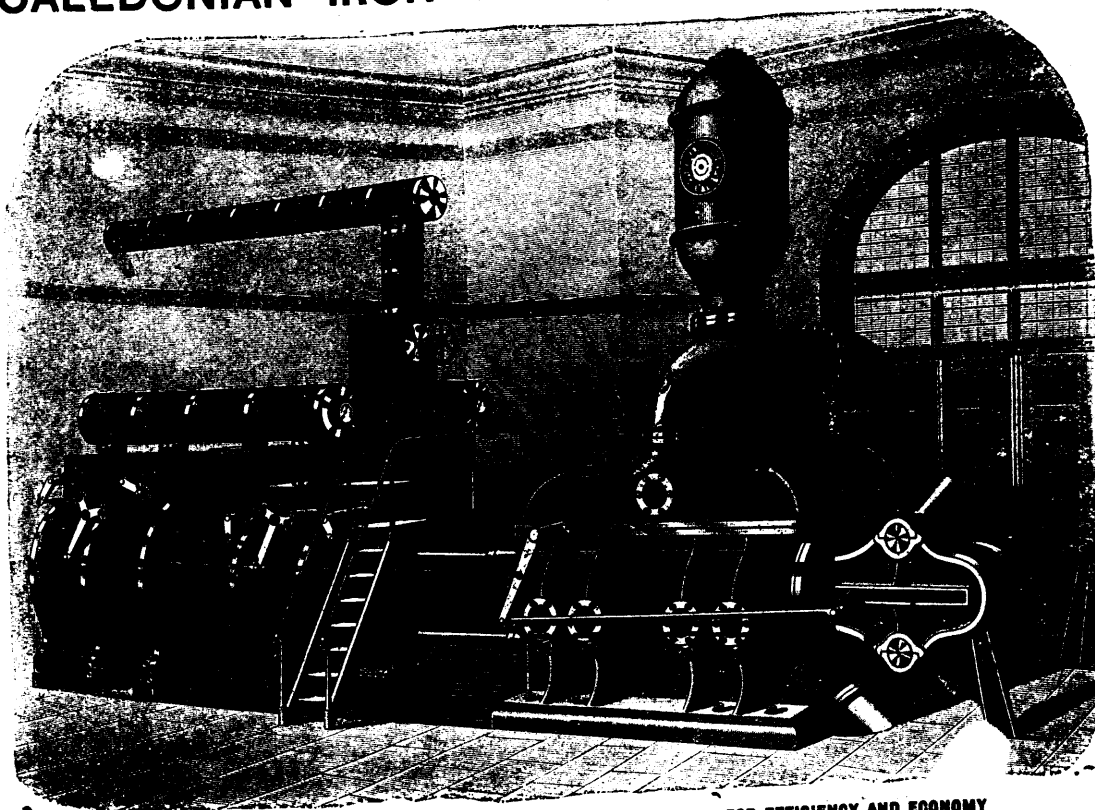
about 100 miles per day for each car, so that there must be 300 fares taken at least per car for equivalent freight to pay expenses. Where a road is intended for purely freighting work, these expenses will not be quite so high, for instead of there being a motorman and a conductor for each car there need be only one set for each train consisting of two or more cars. The above figures will show reasonably closely whether the estimated traffic is sufficient for the support of the enterprise. The utilization of a convenient waterpower will make the difference probably of two cents or so in the cost per mile, which is a saving worth considering. The means for using this cheap power, which may be situated quite a distance from the track, are discussed later.

The Legislative facilities afforded the electric railway investor, cannot be described as very comprehensive, or more than ordinarily valuable. Electric railways and steam railways are placed upon very different footings; so different, in fact, as to suggest, the conclusion that the legislature in its wisdom conceived the operation of an electric railway to be, not a transportation business using electricity as a detail, but an electric business with transportation as a comparatively unimportant side issue. It seems difficult to explain why a transportation business using electricity as a means of propulsion should be hedged around with restrictions as to the powers of its directors to let contracts, to rent power in case of necessity, and above all as to the maximum amount of profit which the company may make; while a similar business using steam as power may do nearly what it pleases, and make all the money it can. Are they not both public carriers? Are they not equally in the public interests? or is it that steam roads are philanthropic institutions, while electric roads are grasping monopolies?

The Ontario Electric Railway Act of '94, under the provision of which all future electric railway extension must be made seems to be the resultant of two factors—one of them a prejudice against electricity, largely based on ignorance that will not be enlightened, the other a grudging spirit of justice that cannot help but see the rights of the matter. In fact the act may be regarded as a sort of "Ticket-of-leave" to a well behaved convict; he may work if he can, but must be on his P's. and Q's, must report himself at frequent intervals to the authorities and remember that he is all the time under the strictest surveillance. Taking it up in detail we find that the "powers" given to the company are the same as those given to a steam railway Co., to survey, construct, condemn land along their route and purchase it at a valuation, and "to do all other things and matters necessary and convenient," including the laying out of "a park not to exceed 300 acres." This, however, is far too generous apparently, and must be qualified so that two provisions are inserted, the first limit-

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