

as mentioned, they all have cost so much that we will be obliged to build a machine shop next year, unless the local firm makes better time in this work. When the cost of turning is reduced to a reasonable basis, we believe that steel wheels will be cheaper than cast iron and more satisfactory. With iron wheels our millage never exceeded 6500. Wheels were not actually worn out, but were scrapped for flat spots, broken flanges and chipping. Of the steel wheels we have in service some have run 90,000 miles and are good for at least another 25,000 miles. This we consider satisfactory when the heavy grades and number of stops are considered.

PROVINCIAL TAXATION IN QUEBEC.—Street Railways in the Province of Quebec are taxed \$50 a mile per year. If a company conducts a power and lighting business then it is taxed 1-8 of 1 per cent. on the paid up capital in the business outside of the railway and \$20 for every additional place of business it may have. We feel that this scheme of taxation is unfair to the small companies, especially the \$50 a mile. When a small company makes extensions to its system they are not very remunerative for several years and in no case can it compare with a system serving 75,000 people or over. It appears to us that taxation based on earnings would be more equitable and would be in the interest of the investors and the public. The tax of 1-8 of 1 per cent. on the paid up capital on all commercial corporations is, I understand, to be reduced this year, which will be a step in the right direction.

OPERATION OF ONE MAN CARS.—Transportation wages is a very large item, hence the operation of one man cars must be of special interest to small companies. A few months ago we followed the example set by some small systems in the United States and put in operation three one man cars. These were not specially built. We used our ordinary single truck cars and closed permanently one door at each end, the other doors are opened and closed by a movable handle. Then changing ends the door is closed and handle removed thereby, preventing passengers boarding or alighting unknown to the motorman. The ordinary steps were removed and replaced with folding steps, one at each door. When the motorman changes the trolley at the terminus he folds up the step, which is held up with a catch. The cars are equipped with push buttons and stop at the near side of intersecting streets. With a car arranged as above it is impossible for passengers to board or alight without being in full view of the motorman. On practically all cars we use the prepayment plan in collecting fares. The business of the lines on which these cars are operated is limited, but we have found that the headway has been as usual and generally speaking the service has been satisfactory. Naturally we have had a few complaints from the public, but in making such radical changes, this was to be expected. The change, however, has enabled us to reduce car expenditure and has also enabled us to increase the pay of the men operating the cars. The necessity for a better margin of return on small properties is recognized and if the one man car system can be successfully worked out it will be a boon to the small companies.

ELECTRIC RAILWAY TRACK CONSTRUCTION.

By R. M. Hunnaford, acting Chief Engineer, Montreal Tramways Company.

In the spring of the year in Eastern Canada, and during some parts of the winter, the electric tramway companies are confronted with a serious problem in the handling of water which finds its way to the tracks. The tramway tracks, being in the centre of the street, should be the highest elevation of the roadway, but unfortunately this is not always the fact. Levels may be obtained from the city engineers, and although they are followed strictly, the city is liable to come along in a year or so and grade