

The Great Northern Company are experimenting with a petrol-engine, but so far without much success.

The Great Western are apparently satisfied with the results of their enterprise, and expect in time to have 100 cars working. When visiting Barry I saw two cars which had been in use, but had to be laid up because they were not capable of running at the same rate of speed at which the train they displaced ran. The public would not stand the slower service.

On some lines two classes are provided for, but for services of this kind there should be only one class, with provision, if possible, for smokers.

It may be desirable to try services of the kind described in New Zealand, but I cannot recommend the building of special automotor cars to work them.

A small locomotive such as are in use, say, Class D or F, and the ordinary cars slightly modified would meet all requirements. The Class F engine is exactly the same horse-power as the automotor in use on the Great Western Railway.

## 20. TRAFFIC CONVEYED BY AUTOMOBILES.

Organization of services by automotors and automobiles, where there is insufficient traffic for a railway.

*Reporters.*—All countries—Messrs. Kerounes, Lechelle, and E. Sarticeut, North Western Railway of France.

### *Conclusions of Congress.*

Experiments with automobile cars and with the automotors hauling trailers have been numerous during the last few years to an important extent both for use on lines with little traffic and for use on busy lines. It may be expected that from now on these cars will constitute a valuable means of transportation which on some lines will have a great future. It does not appear doubtful that, owing to the saving of an employee in the driving, to the material reduction in the cost of traction, to a better utilisation of the rolling-stock, to the smaller extent of station installations required, perhaps also owing to less wear of rails, automobile and automotor cars will make it possible materially to reduce the cost of working lines with little traffic, and will in the cases of other lines result in a material improvement in the working of some classes of service. Their use will certainly effect a change in the system of operation in the cases of a great number of lines, and appears to have a real future before it. The period of actual operation has, however, only just begun, and definite economic results cannot yet be clearly discerned in favour of a given type of motor or of a given system of working. It is desirable that railway managements should continue their experiments in this direction, and more especially investigate the classes of service to which this new motor is suitable, and the advantages it offers the public and the railway managements, particularly in the matter of cost. Finally it is important that any changes recognised, or which may be hereafter recognised, as likely to facilitate the advantageous use of automobile and automotor cars should be introduced into regulations in force.

### *Notes.*

This subject has to a great extent been dealt with in the preceding question—No. 19. Some additional information having been given, I have considered it advisable to refer to it even at the risk of a certain amount of repetition.

The Paris-Orleans Railway Company put an automotor-car in operation in 1903 as an experiment. The car was designed to replace an existing light train on a light railway with an automotor-car and two trailers capable of running at a speed of 20 kilometers (12 miles) per hour on a 1 in 50 grade, and 60 kilometres (36 miles) per hour on level sections. The car was 130-horse power. It was divided into sections for mails, luggage, and passengers. There was also a platform at the end; twenty-six passengers were carried, and it was capable of hauling two third-class cars as trailers, each capable of carrying thirty-two passengers, making a total for the train of ninety passengers. The results have been sufficiently satisfactory to induce the company to continue the trial on a larger scale. The Central South African railways are also experimenting in the same direction. The cost of cars in use is set down at from £3,000 to £3,500.

The President of the section ruled that "automobiles on roads" was not open to discussion, and could not be considered, but it was generally understood by members that it was the subject for consideration and not automotors for use on railways. The Great Western Railway, England, has a large number of petrol-buses in use, which run into parts of the country not served by railways. Both passengers and goods traffic are dealt with. These services are much appreciated by the public, and are a source of revenue to the company. The chief item in the expenditure is the wear of rubber tires, the cost of which is not less than 3d. for every mile run.