

during the past few months to give an authoritative pronouncement on the question. Having now intimated that they were taking a vote on the question, the arrangements I had made for the Department to take a ballot are being held in abeyance to enable the society to complete its undertaking and notify result.

During the past few months I have been approached on several occasions by representatives of the Locomotive Engine-drivers, Firemen, and Cleaners' Association, with a view to obtaining recognition of their society. I arranged to discuss the matter with delegates representing the Locomotive Engine-drivers, Firemen, and Cleaners' Association and Amalgamated Society of Railway Servants. The parties failed to come to any mutual understanding, and, subsequent negotiations having failed, the Locomotive Engine-drivers, Firemen, and Cleaners' Association has renewed the request for recognition. They are still endeavouring to arrange for a *modus vivendi* in the direction of providing for direct representation of the Locomotive Engine-drivers, Firemen, and Cleaners' Association on the Board of the Amalgamated Society of Railway Servants, and Parliament will, I anticipate, have an opportunity this session of dealing with the matter.

The visit of Lord Kitchener to the Dominion was the only event of an historical character that occurred during the year, and, in addition to conveying the ordinary passenger traffic, the Department carried 7,974 cadets and officers and 6,952 Volunteers, and a large number of horses, to and from the various encampments and manœuvring-grounds.

I have devoted considerable attention to the important question of the economies that could be effected in the working of our railways by a judicious expenditure incurred in reducing grades and flattening curves on the principal main lines, thus enabling full advantage to be taken of the great power of the locomotives running thereon.

A very large expenditure has been incurred during recent years in relaying track with heavy metals, respacing sleepers, and strengthening bridges, for the purpose of enabling heavy rolling-stock to be utilised; also in the construction of rolling-stock with increased carrying-capacity and locomotives of increased weight and tractive power. The maximum load of the largest locomotives being governed by the steepest grade the train has to traverse during any portion of the journey, a considerable loss of haulage-power over many miles of line not infrequently results from the existence of one severe grade, and a second engine or train has to be employed to overtake work that could otherwise be efficiently performed by the one engine. It will readily be understood that in such circumstances the full benefit is not being derived from the expenditure already incurred in improving the lines and rolling-stock, and that a considerable reduction could be made in the operating-expenses by reducing grades and curves, thus enabling the locomotives to haul heavier trains and so materially reduce the train-mileage and its attendant expenses for fuel, stores, staff, &c.

The restrictive effect exercised by grades on the loads of trains is clearly demonstrated in and will be readily understood by a perusal of the following figures, which give the hauling-capacity of a locomotive exerting a tractive force of 15,330 lb. on the grades specified:—

Grade.	Hauling-capacity in Tons at a Speed of 20 Miles per Hour.					
1 in 30	125
1 in 40	175
1 in 50	210
1 in 60	245
1 in 70	280
1 in 80	305
1 in 100	355

It will be seen that the engine-load is 68 per cent. greater on a grade of 1 in 50 than 1 in 30; 60 per cent. greater on a grade of 1 in 70 than on a grade of 1 in 40; 45 per cent. greater on a grade of 1 in 80 than on a grade of 1 in 50; and 69 per cent. greater on a grade of 1 in 100 than on a grade of 1 in 50.