Editorial

THE TORONTO-OSHAWA ROAD.

The construction of roads and the relief for the unemployed are phrases that accompany each other in the minds of the general public to such an extent nowadays as to be safely ranked as synonymous. From all parts of the Dominion we learn that there is talk of certain highway improvements in order to provide employment for the out-of-works. No doubt as the severity of winter sets in many Canadian towns and cities will regret that their good intentions did not materialize more substantially. It is a fact, nevertheless, that a great deal of time has been spent in promoting such enterprises and in overcoming quibles of one kind and another, that have resulted. It is now over two months, for instance, since the Hamilton-Toronto highway was quoted as being an assured fact and that little remained but to place the laborers at work. No work has been provided, however, and the approach of November is a stern reminder that the season for such work is practically at an end. Insofar as the unemployed are concerned, the municipalities interested can depend but little upon the proposed highway as an immediate work-providing channel, and they must therefore look elsewhere, to remedy the condition of the dinner-pail.

The regrettable delay in the above instance is more or less typical of similar delays elsewhere. It appears that, in the majority of cases the cause for dalliance has been the same—the opposition which some town or city council puts in the way, owing to a small detail or two being apart from its liking. Thomas A. Edison, the inventor, speaking last week at Chatham, Ont., in commenting upon the large numbers of unemployed, strongly endorsed the suggestion of the governmental building of trunk roads through the country. Besides affording employment during the period of industrial paralysis, brought on by the war, the roads thus built would be of inestimable value to the communities through which they would pass. Mr. Edison's advice, we are afraid, has fallen upon already well-informed ears. What the country needs most is a practical working out of a system whereby a proposal of this kind, so undoubtedly of great need in more ways than one, may be got under way before the season for the undertaking is over.

While the Toronto-Hamilton highway scheme is still impaled on the barbs of opposition to technicalities, with evidence of little or no progress this fall, there is an abundance of interest associated with the proposal of a permanent highway east from Toronto to Oshawa. A municipal deputation has been to the government asking for an immediate survey, an estimate of the cost, with a suggested assessment on each municipality. A 16-ft. concrete road with 4-ft. gravel shoulders is mentioned, and an alternative estimate for a macadamized road is asked.

Although the Premier held out no immediate hope, as the present time is fraught by a number of difficulties in the way of raising money, he approved of the scheme on behalf of the government and stated that upon the realization of relief, which is expected early in the shape of a Federal grant for provincial highways, the matter would be proceeded with.

Further, the new Minister of Public Works assured the municipalities that the Department of Highways would make an immediate survey of the route and would shortly provide them with plans and estimates.

DEVELOPMENTS IN ELECTRIC TRACTION.

The entrance of electric power into the domain of the steam locomotive began in the early nineties with small trains in passenger service. Chicago, in 1893, where motor cars were used as electric locomotives, initiated in America the permanent invasion of the extensive steam service on elevated lines.

The earlier applications of electric power to regular steam railway service were in most cases for service in tunnels and railway terminals, with the object of eliminating the smoke and gases common to the use of steam locomotives. The Baltimore & Ohio Tunnel which commenced operation in 1895 was the first instance of electrification as applied to heavy traffic, and the first electric locomotives to successfully initiate the struggle for supremacy with steam locomotives under main line requirements.

"The electrification of main line service," states Mr. W. B. Potter, chief engineer, railway and traction department, General Electric Company, in the General Electric Review, "is no longer an experiment. The heaviest traffic can be successfully handled, and therefore there remains only the question of whether it will pay. As a rule, excepting the expense incident to the initial investment, the cost of operation with electric power will be less than with steam, and often this saving will show a handsome return on the investment. There are many instances, such as tunnels and terminals, where other considerations than the financial showing are of paramount importance. Even in such instances there are often local conditions where the value of property will be enhanced, or where territory necessary to steam service can be made available for other purposes and therefore remunerative.

"The possibility of handling heavier, or even equal trains at higher speeds is becoming better recognized as a means of increasing the tonnage over a given route, and so provide for an increasing traffic more economically than by the construction of additional lines under steam operation."

Electric locomotives for heavy traffic must be so constructed as to withstand the severe shocks and strains which occur in the handling of trains, and to facilitate inspection and maintenance the electrical and other equipment should be conveniently located. Much attention has been given to the development of different general types, and many varieties of electric locomotives differing both in mechanical design and electrical equipment have been built and tested.

Variations in the mechanical construction are influenced largely by different methods of transmitting the power from the electric motor to the driving wheels. The motor car and steam locomotive have both served as models, with innumerable variations in which their characteristics have been differently combined and in many cases with indifferent success. Geared or gearless motors mounted on the driving axle, or in special cases a combination of gearing and parallel rods, each with reference to its fitness for the particular purpose, are the most promising methods of drive. Guiding trucks will undoubtedly be used in high-speed service and doubtless at slower speeds with very heavy locomotives where the weight distribution on the track may be of importance.