

WORK FOR GOOD ROADS COMMISSION.

For years, in the Province of Ontario, each municipality has been endeavoring to handle its own roadway problem. The city, with its large population and its millions of assessment, pours out upon the county and township roads freight and merchandise and passengers, and contributes not a cent to the upkeep of the road, which is kept in a continual state of bad repair because of the city traffic.

A number have recognized the injustice of the few being required to maintain good roads for the pleasure and profit of the many. A number of years ago the Ontario Provincial Government set aside one million and then two million dollars to be distributed among municipalities who would undertake the construction of standard roads. This had the effect of stimulating a number of counties to construct a number of first-class leading highways.

The good road movement and the agitation of the Board of Trade and the Motor League of Toronto has resulted in a number of conferences being held between city and county councils, the Board of Trade and the Motor League, and, after having carefully considered the condition of the highways leading into the city of Toronto and the traffic they have to carry, it has been decided that well on to three-quarters of a million of dollars should be spent on the roads leading into the city of Toronto.

It is proposed that the city of Toronto pay one-third, that the county of York pay one-third and the Provincial Government one-third of the cost of the reconstruction of the 110 miles specified.

It is to be hoped that the county and the city will raise the necessary amounts for this work and for the proper laying out of the highways and the wise expenditure of the money granted.

It is to be hoped that a Highway Commission representing the interested parties will be appointed. A Commission appointed for a term of years would be able to outline a programme that would not recognize to too great an extent the local influences that frequently come into play in matters of this kind. The Board representing the different municipalities would be in a position to secure a staff and machinery for highway building that the separate municipalities would not be able to finance. Their continuance in office from year to year would mean the continuation of a settled policy and prevent waste from inaction, indecision and overlapping.

We think that this is a splendid opportunity for the trying out of Highways Commissions for the purpose of constructing leading highways in the Province where county and city finances are separately controlled, but where, in the matter of good roads, they have such a large common interest.

EDITORIAL NOTES.

The mineral production in the Province of Quebec during the year ending 31st December, 1909, amounted to \$5,552,062. This is a slight increase over the figures for the previous year, which were \$5,458,998. Thus in 1909 we had the highest mineral production recorded for Quebec so far.

ELEMENTARY ELECTRICAL ENGINEERING.

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CHAPTER VI.

ALTERNATING CURRENT APPARATUS AND SYSTEMS.

This series of articles will be continued for some months. They will be of particular interest to the student of electrical work and the civil engineer anxious to secure some knowledge of the simpler electrical problems.

Alternating Current Generators.—It has been shown that a simple harmonic e.m.f. may be generated in a coil of wire by rotating it between the poles of a magnet, and that the frequency of this e.m.f. is equal to the number of revolutions per second. In building commercial machines of large capacity the frequency thus

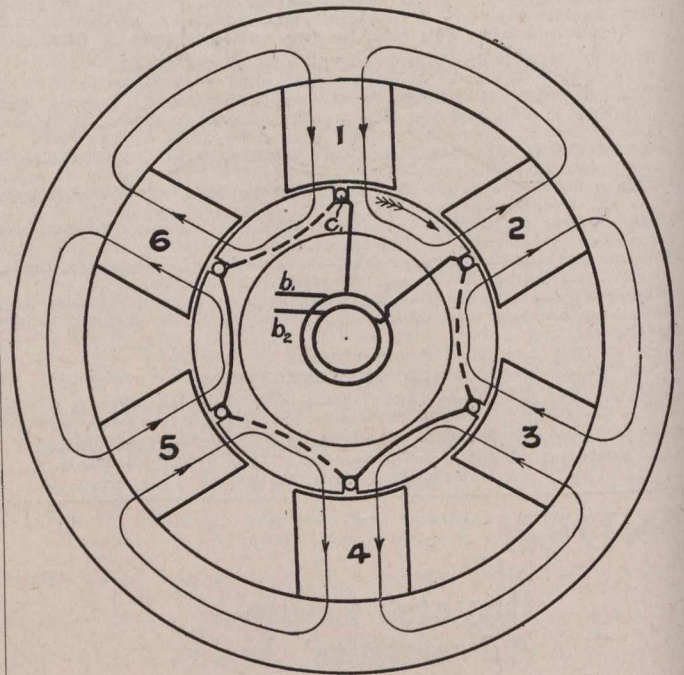


FIG. 63

obtained with the usual limits of speed is too low for most purposes. For example, a two-pole generator running at 600 r.p.m. would give a frequency of 10, which is altogether too low for practical purposes. Incandescent lamps will flicker if the frequency is below 25, and arc lamps will not operate satisfactorily at a frequency much below 50. It is necessary, therefore, to increase the number of poles for commercial work, except in cases where the generator is driven by a high-speed turbine.

A multipolar generator with six poles is shown in Fig. 63. On the armature is shown a single wire or conductor opposite each pole, and these conductors are connected to form a circuit, the ends of which are connected to two collector rings. The current passes from these rings, which revolve with the armature, to the brushes b_1 , b_2 , and thence to the external circuit. The poles are excited by passing direct current through ex-