

LITERARY NOTES.

The annual report of the Queen Victoria Niagara Falls Park Commissioners has just been issued. As it is now twenty years, since the organization of the commission, the report contains a summary of its history, which forms very interesting reading. It is twenty-six years since Lord Dufferin brought his influence to bear on the authorities of Canada and the United States to secure and hold for the benefit of the public lands about the Falls, so that the people of all nations might enjoy this natural wonder for all time. In 1880 the Ontario Government surrendered its rights to the Dominion Government, in order that the project might be carried out as an international undertaking, but as the Dominion Government did not take action in the matter, a provincial commission was appointed in 1885, the original members being Sir Casimir Gzowski, John W. Langmuir, and J. Grant McDonald, the second of whom is still a member of the Commission. By purchase of private lands and grants of Crown lands, the commission obtained a reservation in the park proper of 196 acres. Besides this there is the Chain Reserve along the river from the park to Queenston Heights, and from Chippawa to Fort Erie, which together with lands at Queenston and Fort Erie leased from the Dominion Government, make an aggregate area of 787 acres under the control of the commission. Improvements have been carried on, in the way of the installation of elevators down the face of the cliff, the construction of shelters, the removal of objectionable buildings, the placing of protections to prevent erosion at exposed points, and a great deal of work in draining, levelling, and decorating. Among the first franchises granted by the commission was that given the electric railway connecting Queenston and Chippawa. Right of way through the park and the use of water for power development is granted by the commission, for which \$10,000 per annum is received. Concessions for refreshment and photograph stands and the privilege of taking visitors behind the Falls produce a revenue almost as large. In 1892 the first franchise for commercial power development was granted to the Canadian Niagara Power Co. This franchise lapsed by reason of default in construction of works, and a new one was subsequently granted. The works have now been pushed vigorously so that 20,000 electrical horse-power is now ready for transmission. The northerly half of the power-house is completed, and the work of restoring the park grounds disturbed is well under way. The Ontario Power Company entered into agreement with the Commission in 1902 for the development of water-power by leading water from the Welland Canal through the park to the river. The company later changed their plans and obtained the right to take water from the river at Dufferin Islands. The intake at Dufferin Islands, the pipe line through the park, and the power-house at the foot of the cliff below the falls are now approaching completion. In 1903 a franchise was granted to the Electrical Development Co., of Ontario, for a power-house to be situated between the intake of the Ontario Power Co., and the power-house of The Canadian Niagara Power Co. The forebay, wheelpit and tailrace tunnel have been constructed in record time, and are being rapidly completed. From franchises granted the Commission has received \$620,000 up to the present, about \$365,000 being from the three power companies. When all these companies are developing power to the full extent of their rights, the yearly income to the province from these rentals will be about \$275,000.

The Popular Science Monthly for May has an article, entitled "Present Problems in Radioactivity," in which Prof. Rutherford, of McGill University, deals with the present status of investigations in this realm, where he is a recognized authority. He treats at length of alpha, beta and gamma rays as exhibited in the elements uranium, thorium, actinium and radium. As to the source of energy emitted by radioactive bodies, he combats the theory of borrowed or external energy, and supports the alternative theory that the energy is derived from the radio-atoms

themselves, and released in consequence of their disintegration. Alpha and beta rays consist of particles projected at great speed; it is calculated that in order for the alpha particle to acquire the velocity with which it is expelled it would be necessary for it to move freely between two points differing in potential by five million volts. It is supposed that these particles were originally in rapid motion in the atom, and for some reason escaped from the atomic system with the velocity they possessed at the instant of their release. The expulsion of these particles results in the disintegration of the radioactive substance and the formation of new substances; thus, radium produces an emanation, which on further disintegration results in a series of substances known as radium A, radium B, radium C, etc. In the case of uranium and thorium the disintegration proceeds at such a slow rate that about 1,000,000,000 years would be required before half the matter present is transformed. In the case of radium, however, the process takes place at over a million times this rate. In a gram of radium about half a milligram is transformed in a year. There is no evidence that the process is ever reversed, and in order to account for the presence of any radium on the earth to-day it is necessary to assume that radium is continuously produced from some other substance or substances. Investigations are now in progress, the results of which strongly support the view that radium is the product of the disintegration of uranium, or possibly of thorium. "The great problem at present in the study of radioactive minerals," says Prof. Rutherford, "is not the attempt to discover and isolate new radioactive substances, but to correlate those already discovered." As to the radioactivity of ordinary matter, experiments to date have shown that this exists, but it is possible that it may be accounted for by the presence of minute quantities of known radioactive substances.

MOTOR BOATS.

Editor Canadian Engineer:

Referring to paragraph in issue of the "Canadian Engineer" of February, 1905, stating that our firm were the sole builders of complete motor boats in Canada, and to letters from Georgian Bay Engineering Works, and from Hamilton Motor Works, Limited, appearing in the issues of March and April, 1905, I should like to clear what apparently is a misunderstanding. Our claim that we are the sole builders of complete motor boats in commercial quantities in Canada under one management is, I believe, entirely correct, no other firm, to my knowledge, going into the manufacture of motor boats to the same extent as ourselves. When we started four years ago, we manufactured only hulls and purchased our engines. This season we have put in a machine shop, and now manufacture engines. Our output of complete motor-boats this year will be in the neighborhood of seventy-five. Yours truly,

THE CANADA LAUNCH & ENGINE WORKS, LIMITED.

M. M. Whitaker, Manager.

Toronto, May 29th, 1905.

To General Contractors or Quarry Men.

The following plant can be seen at work in Canadian Niagara Power Co.'s wheelpit, Niagara Falls, Ont., till June 20th, and then will be for sale:

8 Sullivan Z Channeller Machines, with Tools, Fittings and Track.

6 Ingersol Sargent Gadders, No. E 39.

8 Ingersol Sargent Tripod Drills, No. E 24.

2 Little Giant 3 1-4-inch Rand Drills.

1 Niagara Drill.

1 Farrell Drill.

1 Old Style Sargent Drill.

A great deal of Drill, Gadder and Channeller Steel; also Derricks, Hoisting Engines, Boilers, Pumps, Air Compressors, etc., etc.

DAWSON & RILEY,

Contractors,

Niagara Falls, Ont.