

many outstanding debts. Hugh C. Nickle, present superintendent, will be general manager of the road.

Among the improvements on the lines of the C.P.R. will be a course of instruction for train hands and all those engaged in train handling. The intention is to educate all train men to the highest possible point of efficiency so that great efficiency, speed and safety may be attained. Under the new regulations each man is supposed to be able to take charge of a train, and to be able to understand all signals or rules of the road under all conditions.

J. G. G. Kerry, of Montreal, is preparing a report on the cost of extending the Hamilton, Grimsby and Beamsville Electric Railway to St. Catharines, with an extension to the Niagara river. The line to St. Catharines will be the only proposition immediately considered. It is reported that a working arrangement will be made between this company and the Hamilton, Ancaster and Brantford electric line, which is now being financed by capitalists from the United States, and construction upon which will probably be commenced early in the spring.

The progressive railway manager of the present day seeks success in his motive power department by driving his engines to the limit, and permitting them to remain out of service for the least possible time. During the winter months the time required for melting snow and ice from the running gear and putting the engine in shape for another run has been very materially reduced by modern methods of heating and ventilating the round-house. A thoroughly up-to-date example is that of the Blair furnace round-house of the Pennsylvania railroad at Altoona, Pa. Here a large steam hot blast apparatus, constructed by the B. F. Sturtevant Co., of Boston, Mass., is employed to distribute heated air throughout the building, and also to force it in large quantities into the pits beneath the locomotives. The time required for cleaning and repairs is thereby reduced by 60 or 70 per cent.



#### CANADIAN MINING INSTITUTE.

The annual general meeting of the Canadian Mining Institute opened at the Windsor Hotel, Montreal, March 1st, with a diminished attendance, compared with recent years. Eugene Coste, of Toronto, president, occupied the chair.

The following is a synopsis of the programme of papers and addresses:

##### Wednesday.

Presidential Address. By Eugene Coste, E.M., Toronto, Ont.

The Goldfield District, Nevada. By E. P. Jennings, M.E., Salt Lake City, Utah.

Wrought Pipe-threading and Relative Durability of Steel and Iron. By Frank N. Speller, B. Sc., Pittsburg, Pa.

The Advantages of Combining Topographical and Geological Surveying in New Regions. By Dr. Robt. Bell, Ottawa, Ont.

Crude Oil Fuel. By J. N. S. Williams, C. and M.E., Puunene, Maui, T.H.

On the Bodos Silver Mines, near Copiapo, Chili. By George Fergie, M.E., Copiapo, Chili.

On the Need of a Provincial Museum in Ontario. By Dr. W. A. Parks, Toronto, Ont.

On the Carboniferous of New Brunswick. By Dr. Henry M. Ami, Ottawa, Ont.

On Canadian Mica Mines. By E. T. Corkill, Toronto, Ont.

The Artesian and Other Deep Wells on the Island of Montreal. By Dr. F. D. Adams, Montreal, Quebec.

On Concrete. By R. W. Leonard, C.E., St. Catharines, Ont.

On the Value of Undeveloped Mining Claims. By Prof. G. R. Mickle, Toronto, Ont.

The New Plant at Copper Cliff, Ontario. By A. P. Turner, Copper Cliff, Ont.

On Electric Furnace Construction. By F. T. Snyder, Oak Park, Ill.

On Electric Smelting. By Eugene Haanel, Ottawa, Ont.

The Possibilities of Steel Manufacture in British Columbia. By Wm. Blakemore, M.E., Nelson, B.C.

On Canadian Metallurgical Products for the Far East. By F. Hobart, M.E., New York, N.Y.

The forenoon of Thursday, 2nd, was devoted to students' essays, the principal of which were:

Prospecting in Western Canada. By D. D. Cairns, Queen's University, Kingston, Ont.

Mine Surveying Methods used in the Centre Star Mine, Rossland, B.C. By L. H. Cole, McGill University, Montreal, Que.

Notes on the Centre Star and War Eagle Mines, Rossland, B.C. By G. C. Bateman, Queen's University, Kingston, Ont.

Drilling for Oil in the Petrolia Field, Ont. By G. P. Stirrett, School of Practical Science, Toronto.

Properties of Nickel Chloride. By N. F. Rutherford, School of Practical Science, Toronto.

Notes on Graphite: Its Occurrence, Uses and Production. By G. C. Bateman, Queen's University, Kingston, Ont.

Notes on Recent Reverberatory Smelting Practice at Anaconda, Montana. By A. McL. Hamilton, McGill University, Montreal, Que.

Notes on Mining in the Slocan, B.C. By D. Sloan, Queen's University, Kingston, Ont.

Solubility of Cobalt and Nickel Arsenides in Ammonia. By G. S. Hanes, School of Practical Science, Toronto.

Thursday afternoon and evening were set apart for the following papers:

On Mining Statistics. By F. Hobart, M.E., New York, N.Y.

On Uniform Mining Statistics in Canada. By Eugene Coste, M.E., Toronto, Ont.

On Mining Laws. By J. M. Clarke, K.C., Toronto, Ont.

The Bornite Ores of the Pacific Coast, in British Columbia and the Yukon. By Wm. M. Brewer, M.E. Victoria, B.C.

A Correction in the Classification of our Gold-rock Formation. By F. Hille, M.E., Port Arthur, Ont.

On Bankhead Coal Mines. By C. M. Henretta, M.E., Fernie, B.C.

The Stratigraphy of the Cascade Coal Basin. By D. B. Dowling, Geologist, Ottawa, Ont.

Notes on the Life History of Coal Seams. By Prof. J. C. Gwillim, Kingston, Ont.

Cheap Production of Pigments Direct from Sulphide Ores. By C. B. Jackes, Toronto, Ont.

The Bed-rock of the Gilbert River Gold Fields, Quebec. By John A. Dresser, M.A., St. Henri de Montreal, Que.

A Note on Varieties of Serpentine in South-eastern Quebec. By John A. Dresser, M.A., St. Henri de Montreal, Que.

A New Mining District in the North of the Province of Quebec. By J. Obalski, M.E., Quebec, Que.

The Cobalt-Silver-Nickel-Arsenic Ores near Lake Temiskaming, Ont. By W. G. Miller, Provincial Geologist, Toronto, Ont.

Los Reyes Gold Mines, Mexico. By Alex. Smith, Oaxaca, Mexico.

On the Mining Possibilities of Arctic Canada, Illustrated by Lantern Slides. By A. P. Low, B.A., Sc., Ottawa, Ont.

On Meteorites. By Dr. Borgstrom, Kingston, Ont.

Notes on Some Hoisting Machinery. By F. Cirkel, M.E., Montreal, Que.

Methods of Time and Cost-keeping of Copper Cliff Mine, Ont. By E. A. Collins, Kingston, Ont.

Application of Electricity to Mining Operations. By Prof. L. W. Gill, Kingston, Ont.

On the Occurrence of Hematite North of Little Current, Georgian Bay. By S. Dillon Mills, Toronto, Ont.

Indicator Cards. By W. D. L. Hardie, M.E., Lethbridge, Alta.

A Canadian Dellwik-Fleischer Water Gas Plant. By E. A. Sjostedt, Sault Ste. Marie, Ont.

On Iron Pyrites in Eastern Ontario. By E. L. Fraleck, M. E., Belleville, Ont.

International and Interprovincial Boundaries of Canada. By James White, Geographer, Ottawa, Ont.

The annual dinner of the members was held at the Windsor Hotel on Friday evening, 3rd.