

work in the summer. So long as the cold is not intense it is really quite pleasant work. There are no flies or mosquitoes, and the good trails which the snow affords form a ready solution for the transportation problem.

After a long winter in camp the first signs of spring are welcomed with great rejoicing. The sun comes out bright and warm at noon, snowshoes begin to give out, and an occasional mosquito may be found, endeavoring to limber up its stiffened wings. From the first speculations rise as to the probable date of the coming of the first mail. Long hazards are made and wagers laid and a general air of expectancy seems to pervade the whole camp. Low land begins to assume the appearance of small lakes, creeks the proportions of rivers, and streams rush along, pouring forth many times their ordinary volume of water.

The foregoing few occurrences serve in giving a short resume of a winter in the bush. Our winter began, with the exception of two or three weeks of Indian summer, in October. The first winter mail then arrived a week before Christmas, and the last went out in April. We moved across Lake Nepigon on the 24th of May, the ice breaking up the 15th of June. We did not receive our first summer mail until July 2nd. Is it any wonder, then, that spring in the bush is long looked forward to by all?

Yours truly,

E. R. Gray.

Ombabika, 1908.

ENGINEERING SOCIETIES.

CANADIAN RAILWAY CLUB.—President, L. R. Johnson; Secretary, James Powell, P.O. Box 7, St. Lambert, near Montreal, P.Q.

CANADIAN STREET RAILWAY ASSOCIATION.—President, E. A. Evans, Quebec; secretary, Acton Burrows, 157 Bay Street, Toronto.

CANADIAN INDEPENDENT TELEPHONE ASSOCIATION.—President, J. F. Demers, M.D., Levis, Que.; secretary, F. Page Wilson, Toronto.

CANADIAN SOCIETY OF CIVIL ENGINEERS.—413 Dorchester Street West, Montreal. President, J. Galbraith; Secretary, Prof. C. H. McLeod. Meetings will be held at Society Rooms each Thursday until May 1st, 1908.

QUEBEC BRANCH OF THE CANADIAN SOCIETY OF CIVIL ENGINEERS.—Chairman, E. A. Hoare; Secretary, P. E. Parent, P.O. Box 115, Quebec. Meetings held twice a month at Room 40, City Hall.

TORONTO BRANCH OF THE CANADIAN SOCIETY OF CIVIL ENGINEERS.—96 King Street West, Toronto. Chairman, C. H. Mitchell; Secretary, T. C. Irving, Jr. Traders Bank Building.

MANITOBA BRANCH OF THE CANADIAN SOCIETY OF CIVIL ENGINEERS.—Chairman, H. N. Ruttan; Secretary, E. Brydone Jack. Meets first and third Friday of each month, October to April, in University of Manitoba.

ENGINEERS' CLUB OF TORONTO.—96 King Street West. President, J. G. Sing; secretary, R. B. Wolsey. Meeting every Thursday evening during the fall and winter months.

CANADIAN ELECTRICAL ASSOCIATION.—President, R. S. Kelsch, Montreal; secretary, T. S. Young, Canadian Electrical News, Toronto. The Eighteenth Annual Convention will be held in Toronto, June 17th to 19th, 1908.

CANADIAN MINING INSTITUTE.—413 Dorchester Street West, Montreal. President, W. G. Miller, Toronto; secretary, H. Mortimer-Lamb, Montreal.

NOVA SCOTIA SOCIETY OF ENGINEERS, HALIFAX.—President, R. McColl; Secretary, S. Fenn, Bedford Row, Halifax, N.S.

AMERICAN INSTITUTE OF ELECTRICAL ENGINEERS, TORONTO BRANCH.—W. G. Chace, Secretary, Confederation Life Building, Toronto.

AMERICAN SOCIETY OF MECHANICAL ENGINEERS.—29 West 39th Street, New York. President, H. L. Holman; secretary, Calvin W. Rice.

SOCIETY NOTES.

Institute of Electrical Engineers.

At a recent meeting of the Institute of Electrical Engineers of Great Britain Mr. Charles C. Garrard read a paper on "Switchgear Control Apparatus and Relays for Alternating Current Circuits." The author said that the installation of control relays on high-tension alternating current circuits had become standard practice, and was likely to continue so. The correct design and lay-out of such relays was of the highest importance, as on their proper action a large part of the success of the system depended. In view of this fact, it was somewhat remarkable that many systems in operation to-day were designed on wholly erroneous lines. This was probably due to two causes: one the attempt to achieve apparent economy; the other being the fact that the relay control apparatus had not been deemed worthy of great attention in comparison with the performance of generators and prime movers. Reference might be made to the Merz and Price's systems, which possessed the advantage of doing away with potential transformers. At the present time it was general practice to install time-element maximum circuit-breaking devices, in various positions, on all large systems. The necessary and desirable time elements of the circuit breakers on each system must be determined experimentally. When installing maximum relays, therefore, they should be such that their time elements might be varied within wide limits independently of the currents at which they operated. The time elements of all the circuit breakers on the system must be considered as a whole, and after the correct values had been found the settings need never be altered.

Iron and Steel Institute, England.

Before the annual meeting of the Society Dr. T. E. Stanton gave the results of a recent investigation into the properties of certain samples of steel rails carried out at the National Physical Laboratory for the Great Northern Railway Company. In the tests were included hardness, impact, and abrasion tests, the tensile and drop tests having been already made. Dr. Stanton felt strongly, however, that a test that would give a combination of rolling abrasion and alternate bending would be invaluable. Dr. Stanton described how this test could be carried out. A hollow ring of rectangular section would be cut from the rail to be tested, and placed between three hardened steel rollers, so arranged as to give a combination of rolling abrasion and bending. The results plotted showed that although, broadly speaking, a high value of the hardness number corresponded to long endurance to alternate stresses and abrasion, yet in several cases an increase in the hardness number was accompanied by a diminution of endurance. Another feature brought out by the tests was the greater endurance of those rail samples of least tensile resistance and greatest ductility, a result probably due to the spreading of the material at the outer surface of the soft steels. A similar effect to this had been observed in practice. The tests further demonstrated the marked superiority of the nickel steel rails both as regarded resistance to rolling abrasion and to alternate bending.

Canadian Society of Civil Engineers.

The result of the ballot which closed on May 14th, 1908, has been announced. The following have been elected:—

Members.

W. L. Mackenzie, Winnipeg, Man.; J. W. Shackleton, Chatham, Ont.; W. A. Pearson, Putnam.

Associate Members.

P. Blair-McCrea, Winnipeg; H. S. Deubelbeiss, Montreal; H. A. Dixon, Winnipeg; J. Drewson, Montreal; A. L. Ford, Eglinton, Ont.; W. J. Fuller, Toronto; F. D. Henderson, Ottawa; J. H. Hunter, Montreal; E. C. Kerrigan, Walkerville, Ont.; T. C. MacNabb, Winnipeg; R. Montgomerie, Montreal; E. O'Sullivan, Montreal; W. D. Pender, Kenora, Ont.; P. C. B. Schioler, Winnipeg; R. Sohler, Montreal; I. J. Steele, Ottawa; F. M. Young, Brandon, Man.; I. W. Watts, Montreal.