

Alexander Milloy, after fifty years of service in the Richelieu and Ontario Navigation Company, acting as traffic manager, has retired. G. A. Browne will be his successor.

Wallace Bell, the well known well sinker, Montreal, has gone to Newfoundland, where he has been asked to help in developing the newly discovered oil regions in the island.

D. J. McDonald, British Columbia inspector of mines, has resigned his position to enter the service of the British America Corporation, under W. A. Carlyle, late provincial mineralogist.

Wm. Bunney, who has been for the past six years in the employ of the Wm. Cane & Sons Mfg. Co., Newmarket, Ont., as foreman, has taken a situation with W. C. Edwards & Co., Ottawa.

Samuel Lyons, head engineer of the Stewiacke, N.S., foundry, was instantly killed a short time ago. He was working at the emery wheel, when it suddenly broke, a portion of it striking him violently over the heart.

O. H. Sheppard has accepted the position of cashier of the Toronto Ferry Company, made vacant by the resignation of Walter Garwood, who has been appointed to a more lucrative position with the Queen City Oil Company, Toronto.

D. A. Starr, president and manager of the Cornwall Electric Street Railway Co., was waited upon by a deputation of the employees and presented with a handsome gold headed cane, with many good wishes, on the occasion of his birthday a short time ago.

News reached Montreal last month from Liverpool, of the drowning of a well known Canadian Pacific official, T. F. B. Evans, who was agent at Liverpool for the company for the past ten years. Mr. Evans while boating off Bangor, Wales, where he was enjoying a short holiday, fell out of his boat and was drowned.

W. J. Carroll, St. Catharines, Ont., who has been engaged in engineering work upon the Crow's Nest Pass Railway since last September, has received an appointment as chief engineer of the Sindicato Industrial de Sud America, a company formed to build a railroad from Quito to Pailon, on the west coast of South America. The district about Pailon is famous for its rich gold deposits. The company receives from the Government a concession of about seven million acres of land.

W. Robert, cashier of the Richelieu and Ontario Navigation Company, received a handsome present and illuminated address a short time ago. The presentation was made by C. F. Gildersleeve, the general manager, representing the staff of officials, and the occasion was the severance of the connections between Mr. Robert and the company. Mr. Robert will shortly leave for Quebec, to fill the position of paying teller in the new branch of the Hochelaga Bank, about to be opened in that city.

Robert N. Stevens, mechanical superintendent of the I.C.R. at Truro, N.S., died at his home there May 18th. He was about 64 years of age, and was well and favorably known both in New Brunswick and Nova Scotia. He has been identified with the I.C.R. ever since it was opened and was engineer of the first train over the road, going as far as Coldbrook. He rose in the service, and was for years mechanical superintendent at Moncton. During the past three or four years he has been mechanical superintendent at Truro.

Milton L. Hersey, the well-known chemical expert and assayer, on whom the degree of Master of Applied Science has been conferred by McGill University, is the youngest son of Randolph Hersey, Montreal. His primary education was by private tuition, and he soon entered the Royal Arthur School, from which he was promoted in 1881 to the Montreal High School. From the latter he graduated in 1885, entering the Department of Applied Science of McGill University the same year. Mr. Hersey graduated from McGill nine years ago as Bachelor of Applied Science and has since then held some very important positions, during a portion of the time being connected with the teaching staff of the University. He spent most of the years 1889 and 1890 studying and traveling in Europe and the United States, and on his return to Canada in 1891, he was appointed chemist of the Canadian Pacific Railway. From this position he resigned in 1896 to take up the general commercial chemistry and assaying, but still remains the consulting chemist of the Canadian Pacific Railway.

F. C. ARMSTRONG.

The Canadian General Electric Company is about to lose an important member of its agency staff in the person of F. C. Armstrong, who has resigned his position of general agent for that company to take up similar work with Dick, Kerr & Co., Limited, London, Eng., well known as a large engineering and contracting firm throughout Europe and the British Empire. Mr. Armstrong is a Canadian by birth. He com-

menced his education at Peterboro, Ont., with Dr. Tassie, and afterwards graduated from Toronto University. After leaving the university, in 1889, he engaged in electrical work and spent three years of those pioneer days as an electrical and engineering contractor. Since 1892 he has been in the employ of the Canadian General Electric Company, as chief of the agency staff, and during this time not only has he become favorably known to the public, but has obtained a broad technical and commercial knowledge, which no doubt will be of immense benefit to him in his new and larger sphere. Mr. Armstrong has prepared at different times several papers for the meeting of the Electrical Association, and has also materially added to its success by his efforts as a member of the Executive Committee. While Mr. Armstrong's departure is to be regretted as being a loss to the country, yet he must be congratulated on the recognition of his marked ability and promotion to the important position which he will hold with Dick, Kerr & Co.

ELECTRICAL POWER TRANSMISSIONS.*

BY R. A. ROSS, E.E., M. CAN. SOC. C.E.

The subject of electric power transmissions over long distances has for the last few years been the field in which the most prominent electrical engineers have found a scope for their energies, and the advance in consequence has been most marked. So much so that, while four years ago there was not a power scheme of any magnitude, at the present they are numbered by the score, and are of such size as to utilize an immense amount of power formerly unavailable. A noteworthy point in modern plants is the similarity of the methods in use, especially in America, which is always more given to standardization than are European countries. The several types of alternating transmission have practically crystallized into two standard forms remarkably alike in detail and equally applicable to most cases. The controversies over the relative merits of direct and alternating current for transmission purposes have been settled, and the latter having come out victorious is now carrying the war into the hitherto undisputed territory of the former, namely, the application to general motor purposes, and the results are not doubtful. With the application of alternating current motors to traction purposes, which appears to be not far distant, the last territory held exclusively by the direct current will have been invaded. The reason for this state of things is not far to seek, as the alternating system which formerly was applicable only to incandescent light, has recently made such strides as to prove itself more generally useful for all purposes of transmission and for most cases of distribution than the other. This triumph of the alternating is due to the fact that with extremely simple and durable apparatus, the power is so readily transformed into that form which meets the requirements of most cases.

The efficiency and durability of the newer types of apparatus are such as to leave but scant room for improvement, and it appears probable that unless some fundamental discovery is made, which will render present types entirely obsolete, these forms will persist for some time to come. Accompanying this standardization of apparatus has come a remarkable decrease in first cost and maintenance charges affecting the interest and depreciation accounts correspondingly, and resulting in decreased cost of power to the consumer. In consequence we may expect to see the field of steam generation for many purposes invaded by the simpler, cheaper and more cleanly electric power. If we may judge by present indications, the next phase of the problem to be attacked will be the adaptation for railway purposes of power for large water falls. This only awaits the development of a satisfactory motor for alternating traction purposes, and, from the reports of several recent installations in Europe and the statements of prominent traction engineers in this country, the day of the alternating railway motor for use on the longer railways is not far distant.

To illustrate the methods adopted in transmission work, a few of the larger plants in operation or building are given below.

	System	Distance.	Voltage	Horse-power.
Brescia,	Direct cur.	12	15,000	700
Pomona,	Single phase.	29	10,000	800
Fresno,	Three phase	35	11,000	1,400

*From a paper read before the Canadian Society of Civil Engineers.