George S. Hodgins, for many years connected with the mechanical department of the C.P.R., the latter part of the time as locomotive inspector, and afterwards mechanical engineer for the Canadian Locomotive Co., Kingston, has been spending the Christmas holidays with his father, Dr. J. George Hodgins, librarian of the Ontario Education Department, Toronto. Mr. Hodgins is now associate editor of Railway and Locomotive Engineering, New York, in which vocation he has brought to bear an extensive practical experience of all questions relating to motive power.

F. T. Wilkes, sec.-treasurer of the Waterous Engine Works Company, Brantford, Ont., died suddenly from paralysis, on Dec. 17th. Deceased was in his 56th year. He was the son of Judge Wilkes. He went to Brantford thirty-five years ago, entering the employ of the Waterous Company. Here he gained in a large measure the practical business ability which in after years contributed so greatly to his success as controller of enormous industrial interests. In the local Board of Trade he was a prudent adviser and a regular attendant at all the meetings. He leaves a widow, and three sons.

T. C. Frenyear, sales manager of the new Canadian Westinghouse Co., died of typhoid fever at Fort William, Ont., on December 10th. Deceased was the son of the Rev. T. C. Frenyear, and was born at Middleton, Vt., on March 16th, 1865. He began business with the Boston Electric Company at the age of 15, serving subsequently with the Thompson-Houston and Brush Electric Companies. From 1892 to 1895 he was superintendent of the Cayadutta Electric Railway, resigning that position in 1895 to enter the service of the Westinghouse Electric & Mfg. Co., with whom he remained until Nov. 1st last, when he was placed in charge of the sales department of the Canadian Company. In conveying news of the death to the officials of the Westinghouse Company, Vice-President Taylor said: "The management desires to place on record its thorough appreciation of his able and loyal service and of the loss to the Westinghouse interests by the untimely removal of a young and zealous official, whose future seemed so full of promise." A widow and three children survive him.

RADIUM.

Sir Wm. Ramsay's recent lecture before the London Institution on "Radium and the Periodic Law" was perhaps chiefly remarkable for his declaration that the transmutation of elements as a theory was by no means absurd. The lecturer briefly sketched the outline of the periodic law, which is beginning to suggest some root identity between the various elements, and then told of some practical results that had followed the discovery of this law. Sir William traced the various steps which led to the discovery of radium. Mendelieff, the great Russian chemist, ranged the elements—hydrogen, oxygen, carbon, nitrogen, sodium, the metals, and the other substances of which all things were composed—in the order of their atomic weights. Thus arranged, he showed that substances which came in certain classes had certain properties in common, as, for example, flourine, chlorine, iodine, and bromine. But there were gaps in this scheme, and Mendelieff predicted that new elements would be discovered to fill the vacant spaces. The fulfilment of that prophecy was one of the greatest scientific achievements of recent years, and each new kind of atom had fallen into and fitted an empty place. In 1894, Lord Rayleigh and Sir W. Ramsay detected argon in the air. Next year Sir William discovered helium, which had been revealed in the sun by the spectroscope before it was found on earth. Two years later, 1897, when the British Association met in Canada, Sir William Ramsay ventured on the prophecy that other elements like argon and helium would be discovered. He and a scientific colleague justified the forecast. They searched high and low, and finally by means of liquid air they isolated three new elements in the atmosphere—krypton, neon, and xenon—belonging to the same class as helium and argon. and like them inert bodies with no discoverable affinity for others. The professor showed what gases of these substances were like by sending through them an electric current. Their spectra were thrown on the screen, that of xenon, or "the stranger," showing in its entirety the remarkable number of 2,000 distinctive lines. These, it had been said, were inert elements. Their discovery had been followed by the revelation of a class of elements that were remarkably energetic. In 1896 Rontgen discovered the X-rays, and Prof. Ramsay showed a radiograph, the first taken in London by the Rontgen rays. Simultaneously, Becquerel, in Paris, discovered that uranium would discharge the electroscope. Madame Curie, following up the investigation, revealed the existence of polonium in pitchblende, and in the same mineral Monsieur and Madame Curie made the momentous discovery of radium—now universally known as the most energetic of all radioactive bodies. But not the only one; there seemed to be six in all—uranium (found by Becquerel), polonium and radium (Monsieur and Madame Curie), thorium (Schmidt, of Breslau), tinium, and an unnamed element (by Gresel). As to what became of radium ultimately, Sir William gave it as his opinion that the infinitely small particles that it threw off eventually lost their radioactivity, and then gave the spectrum of helium. It seemed as if this intensely active element at last turned into helium—thus bearing out the theory of transmutation.—Electrical Engineer, London, England.

CALENDARS FOR THIS YEAR.

We have to acknowledge with thanks the receipt of serviceable calendars for 1904 from the following firms: B. Greening Wire Co., manufacturers of wire rope and wire cloth, Hamilton, Ont.; M. Beatty & Sons, manufacturers of dredges, hoisting machinery, and contractors' plant, Welland, Ont.; Kerr Engine Co., makers of power pumping machinery, hydrants, and valves, Walkerville, Ont.; Ashton Valve Co. valves and gauges, Boston, Mass.; Hale Bros. publishers Orillia Packet, Orillia, Ont.; Mutual Life Insurance Co., New York and Montreal; Daniel Kahnweiler's Sons, makers of life-saving apparatus, 437 Pearl St., New York; The Pittsburg Meter Co., East Pittsburg, Pa., makers of gas and water meters; The Royal Insurance Co.

The Robb Engineering Co., of Amherst, N.S., have installed a new boiler for the Fredericton municipal electric light system, recently purchased from the local company.

—Christmas fires were responsible for the following losses: J. Inglis & Co., Toronto, pattern shop and offices, $40,000. The National Table Factory, Owen Sound, $60,000. Aitchison's sash and door factory, Hamilton, $20,000. The Canada Cabinet Co., Gananoque, Ont., dry kiln, $10,000. The Moose Jaw Machine Works, N.W.T., $5,000.

Col. McMullen, of New York, president of the Ottawa River Railway Company, representing American capital, proposes to construct an electric railway from Ottawa to Montreal, through Argenteuil, Two Mountains, Terrebonne, Laval, and Jacques Cartier counties, with branches to St. Rose, St. Ann and St. Genevieve. They offer to sell ten tickets for twenty-five cents for local city service. The cost is estimated at from $10,000 to $13,000 a mile. The directorate is composed of F. D. Monk, M.P.; T. W. Raphael, Thos. Christie, M.P.; J. A. Ethier, M.P.; J. E. Leonard, M.P.; Thomas Gauthier, and Mr. Wells, of New York.

A new supplement to catalogue No. 77 has just been issued by Arthur Koppel, manufacturer of narrow gauge railway materials, 66-68 Broad Street, New York. The supplement gives further data concerning the firm's standard track materials, mainly switches and turntables. These data will assist in making up plans for tracks in large buildings, factories, boiler rooms, etc. A copy of this supplement will be sent to all interested parties mentioning this paper.