tionnaires will show many lines along which the council may assist in the development of Canadian industries.

The council will recommend the establishment of twenty or more studentships and fellowships in our universities and technical schools, which will be given to men who have completed their regular course of study and have displayed a special aptitude for scientific research. These will enable such men to pursue a course of advanced work at college for a further period. Arrangements will also be made by which men after graduation will be placed in one or other of the great manufacturing establishments of the Dominion, where they will continue their training under the conditions of actual commercial practice.

In order to furnish direct assistance to the manufacturing industries of Canada at once the council is recommending the establishment at certain of the great industrial centres of the Dominion, such as Toronto, Montreal and Winnipeg, in co-operation with the Provincial Government or other bodies, of Industrial Research Bureaus, where a complete set of technical magazines and trade journals will be found, and where technical staffs, provided with suitable and properly equipped laboratories, will assist the manufacturers of the district in solving problems which present themselves in their factories or works.

In addition to these broad general movements for the advancement of the industries of the Dominion, the council has decided to examine carefully a number of specific projects which have been submitted to it, and which appear to give promise of yielding valuable results. Among these latter one may be mentioned.

This has for its object the provision of an adequate supply of good fuel for the western plains, more especially in the provinces of Saskatchewan and Manitoba. There are in the former province large supplies of lignite. This is an inferior fuel, possessing a relatively low heating power, and which, furthermore, will not stand shipment and storage. It is, therefore, of comparatively little value for domestic or manufacturing purposes. The council, however, believes that by a special treatment there may be produced from this lignite two grades of high-class briquetted fuel, one similar to anthracite or hard coal in character, and the other resembling soft coal in general character; and at the same time certain very valuable by-products may be secured. The Department of Mines and the Commission of Conservation have already carried out a good deal of investigation in connection with this problem, and the former department is now making some further studies for the council. If they give satisfactory results, the council will advise that an experimental plant to turn out this high-grade fuel on a commercial scale be erected, and the possibility of producing this fuel at a cost considerably lower than that at which coal from the United States is now laid down in Manitoba and Saskatchewan be demonstrated on a large scale and the coal actually placed on the market. With an abundant supply of good, cheap fuel, the conditions of life on the great plains in winter will be much improved.

A report has been circulated to the effect that the plant of the S. Morgan Smith Company, York, Pa., had been taken over by the Bethlehem Steel Corporation. We are informed that this report is incorrect, there being absolutely no foundation for it.

PERSONAL.

R. H. SPERLING, formerly general manager of the British Columbia Electric Railway Company, has been granted a commission in the British navy.

G. GORDON GALE, formerly general manager and chief engineer, Hull Electric Company, has been appointed vice-president and general manager.

EDWIN H. VERNER has been appointed municipal engineer for Langley, B.C. He formerly held a similar position for Port Coquitlam and Coquitlam Municipality.

F. E. FIELD, M.Can.Soc.C.E., the engineer who has represented the city during the construction of the Montreal filtration plant, has been appointed superintending engineer in anticipation of the early operation of the plant.

J. M. WOODMAN, formerly superintendent of the C.P.R. terminals at Winnipeg, has been transferred to Montreal. R. C. MORGAN, formerly divisional superintendent at Fort William, will succeed him, and A. F. HAWKINS, of Moose Jaw, will go to Fort William.

OBITUARY.

RICHARD BELL, for the last twenty-three years chief engineer of the Sarnia, Ont., pumping station, died on February 19th from injuries received on January 23rd at the George Street station. Mr. Bell was 43 years of age.

PATRICK TALBOT BOWLER, who for almost a quarter of a century was city electrician of New Westminster, B.C., died recently following an operation. He had been in failing health for several years and resigned his duties early in 1916.

ASSOCIATION OF ONTARIO LAND SURVEYORS.

At the twenty-fifth annual convention of the Association of Ontario Land Surveyors, held last week at the Engineers' Club, Toronto, the necessity of a more comprehensive plan of highway construction in Canada, in the interests of national prosperity, was pointed out by Vice-President James J. MacKay, of Hamilton, in a paper which he read on "Good Roads."

The proceedings were closed by a luncheon which was attended by veterans of the association, who had held certificates since before Confederation, after which many of the members availed themselves of an offer to inspect some munition factories.

Officers elected are: President, James J. MacKay, Hamilton; vice-president, H. J. Beattie, Pembroke; secretary-treasurer, L. V. Rorke, Toronto.

The first central station in Japan was opened in 1887 with a 75-lamp dynamo supplying Tokio. The Lake Inawashiro plant has now six 10,000 horse-power turbines and transmits power 140 miles to Tokio at 115,000 volts. At the end of 1914 there were 1,940 stations generating electricity, 390 being central stations, 24 railway plants, 47 combined railway and central station plants, 1,366 isolated plants, and the remainder official plants. Water power is used in 695, steam in 788, and gas in 457 of the stations. The total capacity in 1914 was 608,554 kilowatts, of which 341,809 kilowatts was in central station plants, and 140,022 kilowatts in isolated plants. Water-power equipment totalled 366,243 kilowatts; steam 217,967 kilowatts; and gas 24,344 kilowatts. There were 21,909 miles of aerial, and 751 miles of underground transmission lines.