

It is generally known that the Public Works Department does much engineering-work for other Departments, and the Mechanical Branch is entrusted with a considerable portion of the special work.

As has previously been the case, the Department has found it necessary to purchase labour-aiding machines for general purposes, and this year's schedule of new plant includes the following: Two air-compressors; three air-hoists; six concrete-mixers; seven electric motors; seventeen machine tools; five motor-trucks; one motor-velocipede; four oil-engines; four oil-locomotives; eight pumps; four road-graders; two steam boilers; one stone-screen; one tractor; one welding plant; while fourteen wagons and one van have been purchased from the Railways Department.

#### STAFF.

During the past year the Engineer-in-Chief and Under-Secretary, Mr. F. W. Furkert, travelled abroad, amongst other reasons in order to represent the Dominion at the World Power Conference, at Basle, and the Fifth International Road Congress, at Milan and Rome, and at the exhibition of road machinery, materials, and methods at Milan.

He visited the United States and Canada, and made himself familiar amongst other engineering matters with the latest developments of road-construction and traffic control. A notable work at which he spent some time was the Welland Ship Canal, now under construction between Lakes Erie and Ontario, by which ocean-going vessels of large size will be enabled to travel from the oceans of the world to places as far inland as Buffalo, Detroit, and Chicago.

He visited a great many of the principal engineering shops of the United States of America, England, and Scotland, in which work for the various Government Departments is produced, and was able to see material for New Zealand actually in course of manufacture, and to discuss with the manufacturers practical questions and many points, a good understanding of which leads to mutual advantage. He also investigated the methods and staff of the Department's Consulting Engineers in London.

Mr. Furkert also visited Sweden to examine in the course of manufacture the generators, transformers, &c., for the Arapuni hydro-electric installation. He visited also power-stations and electrified railways in Switzerland, Sweden, and Italy, being in the two latter cases given the fullest facilities by the respective Governments and the companies controlling the works. A very interesting installation visited, and one from which lessons for New Zealand may be learned, was that at Lardarello, where the steam from the hot springs and steam blow-holes is harnessed to generate electric power, which is delivered on to the main transmission-lines throughout the country, boric acid being also separated out from the steam and finally evaporated and concentrated by the waste steam.

While in the East he investigated methods in connection with the storage and handling of petrol, kerosene, and fuel oil, in bulk, being given the facilities to do so by all of the large oil companies to whom he applied. Throughout his travels he paid particular attention to harbour works. He visited eighty-seven large harbours, at all of which ships as large or larger than those which trade to New Zealand are handled, and eighty-two of minor importance, and also twenty-one river ports, some of very large size. These harbours were situated in thirty-six different countries and can be taken as a fair representation of the harbour-practice of most of the civilized world. At many places he had the advantage of being shown over the layout, dredges, and other plant and works by those in control, and discussing with them the pros and cons of the subject.

There is no doubt that the information and impressions retained by this officer, as the result of seeing the works and discussing their various features with foremost men of many other countries, must have a good result for New Zealand.

I regret very much that the Government lost the services by death during the past year of Messrs. P. S. Waldie, G. M. Polson, and J. E. Wright.

Mr. Waldie was a valued officer who had been connected with the Department for thirty-three years, and who, in addition to holding the position of Chief Clerk, was one of the Government representatives on the Main Highways Board, in connection with which he had been most enthusiastic and had rendered very valuable service to the State.