

second-order dioptric lens and incandescent oil-burner. This plant is now in stock, and the alterations will be put in hand shortly. The present apparatus, the only one of its kind in New Zealand, has been in continuous use since 1868.

*Chatham Islands.*—A fifth-order dioptric lens fitted with two incandescent electric lamps has been, with the permission of the Post and Telegraph Department, erected on the wireless mast at Waitangi. This light, which is lit from the batteries of the wireless station, has proved to be of great assistance to shipmasters trading to this port.

*Anglem Point.*—A small automatic acetylene-burning light has been erected at this point to replace the oil-burning light which has been established here for some time. This light is used principally by fishermen, but the difficulty and expense of getting any one to give it regular attention resulted in the alteration.

*Kahurangi Point.*—This lighthouse, which is isolated and a difficult one to tender, is now being converted to automatic operation. It is not proposed to leave the light wholly unattended, one keeper being retained in place of the three now required. It is anticipated that the alteration will show a considerable economy.

During the year the question of automatic control for a number of other lights has been investigated, and after careful consideration it has been decided to increase the gas-storage capacity at some of the more inaccessible automatic installations with a view to reducing the number of times per year that these lights must be tendered.

The s.s. "Tutanekai," which is the sole tender for all lighthouses, is at present hard-pushed to keep up to schedule, and with the increased number of lights it will be a considerable advantage if the interval between tendering can be increased.

#### HARBOUR-WORKS.

*Gisborne.*—Plans in detail in connection with this harbour have been the subject of very considerable discussion between myself and the Board's Engineer, and the whole question of Inner versus Outer Harbour has been threshed out between the Marine Department and the Board, as a result of which the Board quite recently decided by a very large majority to proceed with the works of an Outer Harbour in accordance with plans prepared by their Engineer some years ago, and which plans have been approved.

*Napier.*—The Marine Engineer reported fully on the question of harbour facilities at Napier, as the result of which report the Board ceased operations in connection with the Inner Harbour, and has made arrangements to obtain a further comprehensive report from the Engineers who reported on harbour questions at this port in 1913. To enable the Engineers to report more definitely, borings are being taken, both in the area which will be enclosed if the Outer Harbour is completed, and also in the channel leading to the Inner Harbour, and throughout the area of the Inner Harbour which would require to be dredged if that harbour were adopted.

*Westport.*—The most important work at this port is the maintenance of an adequate depth on the bar, and (except when weather conditions were unsuitable) the "Eileen Ward" has been constantly at work to this end. During the year she dredged and conveyed to sea 589,410 tons. A satisfactory depth has been maintained throughout to adequately serve all shipping wishing to use the port.

Last year repairs were carried out to the breakwater, additional stone being tipped at the ends. This work was well done and has given very satisfactory service, consequently no further maintenance has been necessary during the year.

*Waikokopu.*—During the year the new wharf has been practically completed. This wharf, including piled approaches, is 376 ft. long, and, together with the formation of stone-protected earth access bank, has been erected by the Public Works Department.

The traffic over this wharf, which is considerable and increasing, has been handled by the Public Works Department, but arrangements are being made to hand the control over to the Wairoa Harbour Board under agreement with the Minister of Public Works.

#### GENERAL.

A large number of applications were received from local bodies and private individuals for the approval of works involving marine interests. Each of these has been carefully investigated, and, where desirable, approved. Among these various applications were the following:—

*Wharves.*—Wharf and tram-line, Maori Beach, Port William, Stewart Island; Tolaga Bay; Port Ahuriri, Napier; Rattray Street Wharf, Dunedin; Whananaki, Whangarei; Sandy Bay; Bayswater, Auckland Harbour; Big Omaha; Te Kopuru; Rona Bay and Queen's Wharf, Wellington; King's Wharf, Auckland; Whangaroa, Chatham Islands; The Mount, Tauranga; Whangaparaoa; Tokatoka; Rawene, Hokianga; Maraetai; Paritu Bay, Coromandel; Tiritiri, Auckland Harbour; Island Bay, Wellington; Devonport, Auckland; Opotiki; Foxton.

*Wharf-sheds.*—Tokatoka; Rawene, Hokianga.

*Boatsheds and Landings.*—Matawhi Bay, Russell; Paremata Boating Club.

*Foreshore Licenses.*—Paremata; Mangawhare, Wairoa River; Murray's Bay, Hauraki Gulf; Rawene, Hokianga River; Half-moon Bay, Stewart Island; Opononi, Hokianga; Purakanui; Mercury Island cattle-race; Rawene, Hokianga; Wade River; Hauraki Gulf; Tangawahine; Bragg's Bay, Stewart Island; Pahi River, Kawhia; Kohimarama, Hauraki Gulf; Golden Bay; Whangaroa Harbour; Mapuna, Kaipara Harbour; Waiaro, Coromandel; Te Kopuru; Papuke River, Whangaroa.

*Harbour-works.*—Gisborne; Wanganui; Thames; Napier; Whangarei; Nelson; Tauranga; Opunake; Bluff.

*Electric-power Cables crossing Navigable Rivers.*—Thames Valley Power Board, Piako River; Wanganui Power Board, Wanganui River.