

ment has increased enormously of late years, owing to so many more machinery prime movers being used. The police, on being notified by this Department that a machinery-owner has not taken up his certificate, do their best to secure the lifting of the certificate by the owner. In some cases the assistance of the police has been secured in connection with prosecutions for breaches of the Act.

EXAMINATION OF MARINE ENGINEERS.

Examinations for marine engineers were held at Auckland,* Alexandra,* Balclutha, Christchurch,* Cromwell,* Dunedin,* Eketahuna, Gisborne,* Greymouth,* Hamilton,* Havelock, Invercargill,* Karamea, Kawakawa, Napier,* Nelson,* Paeroa, Palmerston North,* Pongaroa, Timaru,* Waihi, Wanganui,* Wellington,* Westport, and Whangarei. When possible, candidates were examined at other times and places than those set out in the printed regulations, but it is almost impossible now to accede to the many requests made in this direction, as the staff cannot spare the time for the additional work. The candidates have ample time to make up their minds as to when and where to sit for examination, as the dates of examinations at the various centres are given in the regulations. At some of the centres more than a week in a month is taken up with the ordinary examination-work before all the candidates are put through. The number of candidates who sat this year total 245: of these, 53 failed. The different classes for which the candidates sat were as follows: First-class marine engineer, second-class marine engineer, third-class marine engineer, river engineer, first-class engineer of auxiliary sea-going powered vessels, second-class engineer of auxiliary sea-going powered vessels, and restricted-limits engineer of auxiliary-powered vessels. The fees for these examinations amounted to £214.

Return No. 16 gives the names of the successful candidates, the various grades for which they passed, the total number of applicants, fees payable, and the number of candidates who failed to pass such examinations.

EXPLOSIVES.

During the year, at the Port of Wellington, 264 permits were issued for the carriage of explosives on passenger and non-passenger ships.

ANNUAL SURVEY OF STEAMSHIPS AND AUXILIARY-POWERED VESSELS.

The work in connection with the annual survey of vessels has been well maintained during the year. As a ship gets older greater care has to be exercised in dealing with scantlings that may have become reduced through corrosion or decay. So far, the officers of the Department are to be congratulated on the judgment they have shown in dealing with ship-survey work, for during the year no ship has been detained through a faulty survey. Several new vessels have been built in New Zealand during the year, and these have been duly inspected throughout the whole period of construction. Plans and detailed specifications were submitted in each case, and were approved of before the construction of the vessels was authorized.

Forty-nine of the vessels surveyed were fitted with new propeller-shafts, seventeen had new propellers fitted, eight had new engines fitted, two had new cylinders fitted, and one had a new boiler installed. For some time past now propeller-shafts have been withdrawn every two years for examination, and the number which are found to be defective shows that this procedure is a very necessary one. No objection is now made to this being done by shipowners. It is much better to find the flaw in a shaft when the vessel is in dock than to have to search for a steamer that may have had the misfortune to break her propeller-shaft in mid-ocean.

The total number of surveys made during the year total 613. The fees for these surveys amounted to £2,091.

The usual special excursion trips were run during the year, and without any mishap. The intercolonial ships had to have additional accommodation provided to cope with the passenger traffic on many of the weekly trips run. The whole of the extra berthing, ventilation, lighting, and equipments were duly inspected, before the vessels were permitted to sail, by the Surveyors of the Department.

Return No. 17 gives the total number of steamers and of auxiliary-powered vessels surveyed by the Surveyors of the Department during the year. It also gives the names and registered tonnage of each vessel, the nominal horse-power and indicated horse-power of steam-vessels, the brake horse-power of auxiliary-powered vessels, and the nature of machinery and propeller.

The following is a brief description of the work involved in some of the most important surveys made during the year:—

S.s. "Admiral."—This vessel had the following repairs made to the hull: Two new deck-beams were fitted aft; two new horn timbers were fitted under the deck-beams aft, extending from inner stern-post right aft. These timbers were ironbark, 6 in. by 7 in. by 12 ft. long. Eleven new stanchions for the stern bulwarks were fitted, and the bulwarks and railings were renewed. 120 ft. of deck-planking, 4 in. by 2½ in., were renewed on the after-deck, and also 20 ft. of the covering-board, 12 in. by 3 in. About twenty sheets of Muntz-metal were put on the hull. To the engines a new mild-steel block was fitted to the h.p. link motion. To the boiler some caulking in the combustion-chambers and shell was necessary. Of the steering-gear chains, the defective portion was renewed and the remainder annealed.

S.s. "Aorangi."—This is a passenger-steamer engaged in the foreign-going trade, and was surveyed in New Zealand for the first time last year. She received a general overhaul. A new M.P. crank-pin and piece of shafting were fitted to the main engines. Several stays and their nuts were renewed in the main boilers. All auxiliary steam-pipes were tested by hydraulic pressure to double the working steam-pressure. The watertight doors were made workable, and new

* Places at which examinations have been held more than once during the year.