

Provision is urgently necessary for the issuing of certificates to motor engineers that will be of equal value to those now issued by the Imperial Board of Trade. At present in New Zealand steam engineers may have charge of internal-combustion engines. The Board of Trade do not permit the holder of a steam certificate, referred to as an ordinary certificate, to take charge of motor-engines unless they have passed in the appropriate motor-engine examination and can show sea service in motor-engine-propelled vessels. The standard of our marine engineer examinations has been advanced to that set by the Board of Trade. Young engineers would be well advised to make a note of this. It is becoming increasingly difficult for a candidate who has been merely crammed with formulæ and answers to questions to pass the examinations. In any case knowledge acquired in such a fashion is often a bar to progress. At one time a marine engineer with academical training was looked upon rather suspiciously, but this prejudice has now largely disappeared. Owing to the complicated nature of the various modern marine engines engineers with technical training are eagerly sought for. Apprentices should be encouraged to take up study at a technical college simultaneously with their workshop training, so that by the time they have completed their apprenticeship they will have laid a foundation of sound knowledge of the first principles of the science of their profession.

*Government Shipping Offices.*—In the Government shipping offices the administration of the Shipping and Seamen Act has been efficiently carried out. Appended is a statement showing the number of seamen engaged and discharged at the various ports during the year, and the fees received for such transactions. The total number engaged and discharged was 18,009 and 17,817 respectively, as against 16,925 and 17,575 respectively during the previous financial year. The transactions at the four main ports were as follows (the figures in parenthesis being those of the previous year):—

				Engagements.		Discharges.		Fees.			
								£		s. d.	
Auckland	..	..	..	5,155	(5,139)	5,168	(5,451)	897	7	0	(923 2 0)
Wellington	..	..	..	5,937	(6,059)	6,147	(6,266)	1,068	5	0	(1,059 3 0)
Lyttelton	..	..	..	2,341	(2,111)	2,256	(2,156)	422	13	0	(395 0 0)
Dunedin	..	..	..	1,798	(1,565)	1,622	(1,705)	329	11	0	(297 18 0)

The total amount paid by shipowners to sick and injured seamen, under the provisions of section 6 of the Shipping and Seamen Amendment Act, 1911, was £13,443 18s. 10d., as against £15,228 10s. in the previous year.

*Inspection of Seamen.*—This service has been maintained. A record of men applying for work is kept for the purpose of filling vacancies as they occur.

*Registration of Shipping.*—On the 31st December last there were on the register of vessels in the Dominion 139 sailing-vessels, of 21,591 tons register, and 418 steamers, of 70,846 tons register, as compared with 161 sailing-vessels, of 20,301 tons register, and 401 steamers, of 68,705 tons register, at the end of the previous year. The number of seamen and boys employed on board was 3,393, as compared with 3,448 at the end of 1921.

*Surveys of Ships.*—Certificates have been granted to 282 steamers, 512 oil-engine vessels, and 34 sailing-vessels, as compared with 278, 532, and 51 respectively in the previous year. Attached are returns of seagoing vessels, included in the above, to which certificates were issued.

The regulations governing the inspection and safety of ships and waterside cargo-gear have been well carried out by the Inspectors specially appointed at the four main ports, and by the ordinary Surveyors of Ships at the other ports. A very large number of inspection visits have been made by the officers, and defects found and remedied.

The number of vessels surveyed for the first time was sixty, of which eight were seagoing vessels.

Eighty-six vessels were surveyed for seaworthiness during the year. There was nothing unusual in the nature of the accidents. Considerable progress has been made in the development of the internal-combustion engine, and this type of propelling machinery is increasing in popularity. Many different types of oil-engine are now on the market, and strong claims are being made by various manufacturers regarding the efficiency and suitability of the particular types made by them, resulting in much competition. The internal-combustion engine has formidable competitors in the steam turbine and oil-fired boilers, and some progress is also being made with electrically propelled vessels. However, it is quite evident that the oil-engine has become firmly established as a propelling-medium for ships, and in certain circumstances appears to be the most satisfactory one.

Sixteen Government vessels were surveyed during the year.

Particular attention has been given to spaces utilized for the carriage of petroleum, and to the testing of bulkheads in vessels utilized for this class of cargo. The bulkheads are tested for gas-tightness before certificates are granted.

With reference to cargo-gear, tables of safe working loads for chains and ropes have been prepared, and will be submitted shortly. These tables should be of great assistance to stevedores and waterside workers generally. Lifting-appliances are frequently overloaded because sufficient information as to their capacity has not been available. The workers themselves can greatly assist in the prevention of accidents by more careful handling of lifting-appliances. The catching of a hook on a hatch-coaming, any sudden increase or decrease of the speed when lifting, sudden application of the brake, slipping of slings, slipping of chain on barrel of crane, all increase the stresses in the gear, and should be avoided. It is generally assumed that a load suddenly applied will produce double the stress that the same load will produce when applied gradually, but in some cases the