

SHIPBUILDING

A vigorous programme of requirements for New Zealand Navy and later the effort to fulfil the requirements of our Allies in small ships led to the necessity for the setting-up of a Shipbuilding Division within the Department with separate office accommodation in the north, where the major part of the programme will be prosecuted.

SURVEY OF SHIPS

Survey certificates were issued during the year for 11 foreign-going motor-ships, 17 foreign-going steamships, 1 foreign-going sailing-ship, 71 home-trade motor-ships, 36 home-trade steamships, 46 restricted-limits steamships, and 241 restricted-limits motor-ships and launches. The total certificates issued were 423, against 450 issued last year.

In addition to the annual surveys for certificates, 222 seaworthiness, efficiency, tonnage, radio-telegraphy, and other surveys were made during the year. Of these surveys, 24 were made to overseas ships not registered or normally surveyed in the Dominion.

During the year the Department has kept constantly under consideration the question of development of additional precautionary and life-saving measures and the provision of additional life-saving and other equipment to meet the conditions arising from enemy attacks on ships and seamen. Particular attention has, in the case of overseas ships, been given to watertight doors, protection of cast-iron fittings liable to damage from mine, bomb, or torpedo explosion, bilge pumping arrangements, emergency controls to main engines and to pumps which may discharge into boats during launching operations, warning to ships' crews that a ship is about to be abandoned, tunnel, engine-room, and crew space emergency escapes, emergency lighting, security of anchor cables, and additional fire-fighting appliances. All members of crews have been provided, in addition to the standard life-jacket, with a life-saving waistcoat which can be worn whilst on duty. The waistcoats are filled with kapok, which, in addition to great buoyancy, provides warmth for those who may be subjected to exposure in life-boats or on rafts. Each waistcoat is equipped with an electric light and a battery for the purpose of attracting attention in the water during the hours of darkness. Life-boats have been provided with bilge rails to enable persons to cling to upturned boats, and with canvas hoods over the fore part and side weather cloths for protection of the occupants from seas and weather. Additional equipment now carried in life-boats includes a first-aid outfit, blankets, an electric torch, a hand-pump, plugging and patching gear, and a bright-coloured flag and smoke signals for attracting attention. The sails of the boats have been coloured red for the same purpose. Additional fresh water is now carried, and biscuits, hitherto ordinary ships biscuits carried loose in fairly large containers, are of a new type of high nutritive value packed in sealed tins each containing 18 oz.

All ships, other than very small coastal ships, now carry emergency rafts. Where practicable the rafts are stowed in launching-ways on the sides of the ships, from where they can readily be put into the water. Rafts are equipped with a lifebuoy, paddles, food and water, and means for attracting attention in the shape of bunting material, red flares, and smoke signals. All life-boats are now being fitted with runners or skates on one side to provide means of launching the boat against an adverse list.

INSPECTION OF MACHINERY

Boilers

The following statement shows the number of inspections of fired boilers, unfired pressure-vessels, and air-receivers made during the year, with the corresponding figures for the previous year shown in parentheses :—

Fired boilers	..	..	..	..	..	..	4,363	(4,641)
Unfired pressure vessels	..	..	..	..	..	..	5,363	(4,705)
Air receivers	..	..	..	..	..	..	2,762	(3,025)
Total inspections	..	..	..	..	..	..	12,488	(12,371)

The inspections include 67 new power-boilers, aggregating 1,050 horse-power, manufactured in the Dominion, and 15 new power-boilers, aggregating 128 horse-power, imported from abroad. They also include 355 new steam-pressure vessels and 43 new air-receivers, of which numbers, 69 steam-pressure vessels and 7 air-receivers were imported.

Machinery

The following statement shows the number of machines, machinery plants, lifts, cranes, hoists, and tractors inspected during the year, with the corresponding figures for the previous year shown in parentheses :—

Machines not driven by steam-power in 10,392 (11,227) plants	77,752	(81,323)
Machines driven by steam-power in 1,777 (1,983) plants	9,322	(10,074)
Electric-supply stations	102	(138)
Lifts	3,364	(3,642)
Cranes	539	(525)
Hoists	1,675	(1,691)
Tractors	359	(389)
Total machinery inspections	93,113	(97,782)

Included in the inspections are 22 lifts and 17 power-cranes inspected for the first time.

The number of accidents reported during the year in connection with boilers, cranes, lifts, hoists, and general machinery inspected by the Department was 147, of which 9 were fatal and 138 non-fatal. These figures compare with 3 fatal and 119 non-fatal accidents reported during the previous year.

In every case the cause and the circumstances leading to an accident were fully investigated by an Inspector of Machinery as soon as possible after the accident occurred, and steps were taken, where practicable, to improve the conditions under which the machine was being worked and to introduce new safeguards or extend existing safeguards. The Inspector's report on each accident and the action taken to eliminate hazards were carefully checked in Head Office and the matter not closed until the Department was satisfied that everything reasonable had been done to prevent a recurrence of a similar accident.