

Of the vessels surveyed in New Zealand for the first time only two are seagoing vessels. They are the s.s. "Kakapo" and the s.s. "Simplon," and both these steamers have had considerable service elsewhere. A considerable number of the vessels surveyed have been extensively repaired, and particulars of the repairs made to some of the vessels are given below:—

*S.S. "Elsie."*—The following renewals were made to the hull of this vessel: The keel, two sister keelsons, 12 ft. of keelson under the boiler, garboard strakes, all worm-eaten planks, and the forward bulkhead. The bunkers were also renewed throughout. The boiler and engines were taken out of the vessel for overhaul. A sheathing-patch and compensating-ring were renewed, and several leaky joints caulked before the boiler was placed on board. The H.P. cylinder of the engine was bored out, and new piston-rings were fitted. A new door was fitted to the surface condenser.

*S.S. "Freerader."*—The hull of this vessel was practically renewed. Most of the iron frames were fitted with backing-pieces. The hull planking was renewed with kauri. About one-third of the iron decking was renewed. A new stem was fitted, and new ceilings in the hold. A new coaming and new hatches were fitted at the after hatchway, and the hold-pillars were renewed. The vessel has two rudders, and both of these were renewed. New accommodation and conveniences were fitted up for the crew. The engines received a general overhaul. The stern-wheel was reconstructed, and all the feathering gear and floats were renewed. The boiler was fitted with four new stay-tubes, and afterwards tested by hydraulic pressure.

*S.S. "John Townley."*—A new main boiler has been placed on board this vessel. A new boiler-casing, new funnel, new boiler-stool, and stokehold plates have been fitted. A new blow-down cock on the ship's side, two new bilge-pipes, and a new main steam-pipe were also fitted. The brass liners on the tail shafts, the lignum-vitæ bushes in both brackets, and the port propeller-boss were renewed.

*O.E.V. "Kohi."*—The hull of this vessel has been strengthened by fitting four 1 in. bolts through the keel to the deck, and also by fitting six pairs of braces of 5 in. by 5 in. kauri, about 10 ft. long, from the side of the vessel to the deck. Two liners were fitted to the starboard propeller-shaft. Both propelling-engines were stripped right down to the bed-plate and thoroughly overhauled.

*S.S. "Moana."*—This vessel was laid up for extensive repairs for two months. Numerous renewals were made to the structural parts of the hull, such as floor-plates, intercostals, reverse frames, stringers, and web frames. A great deal of plating was renewed in the bunkers, deck-plating, bulkheads, casings, &c. Hatchways and deck-beams were also repaired. The boilers received a thorough overhaul, and in five combustion-chambers some of the lower plates were renewed. The plain tubes were renewed in both ends of four furnaces, and thirty-eight plain tubes were renewed in another furnace; 162 stay-tubes, 226 screwed stays in the combustion-chambers, and 148 rivets were also renewed. Three patches were fitted on various plates. A new bottom was fitted in the starboard furnace of the donkey-boiler, and a small patch round the bottom stay. The whole of the crank-shaft was lifted out, bolted together, and trued up in the lathe. All shafting was lined up. All main bearings were lifted out and remetalled, and bored out with boring-bar in place. All eccentric sheaves were trued up in the lathe and the straps remetalled. A new chamber was fitted to the H.P. piston-valve casing, and new rings to the piston-valve.

*Dredge "Paritutu."*—The following repairs were made to the machinery. Both H.P. and M.P. piston-rods and both M.P. slide-valve spindles were cut, and new bodies were welded on. New rings were fitted in both H.P. piston-valves. A new valve was fitted in the port bilge-pump. The cylinder of the starboard circulating-pump was bored out and new piston-rings were fitted. A new bend was put in the auxiliary steam-pipes. The steering-gear chains were annealed and defective portions renewed. All dredging gear, winches, and windlass were thoroughly overhauled. On the hull two plates at the forward end of the bucket-well and several rivets were renewed. Two sheathing-plates, each 2 ft. 8 in. by 9 in. by  $\frac{5}{16}$  in., were fitted to the bottom of the hopper. The after cross-beam at the top of the hopper was renewed.

*S.S. "Pelican."*—The boiler of this vessel was repaired by renewing the bottom of the port combustion-chamber and a portion of the bottom plate in the back end at the same locality. The boiler was tested by hydraulic pressure to one and a half times the working-pressure and found quite tight. New stern-bushes were fitted to both tail-shafts. The lifeboat was refastened at the stern and at the gunwale, and a new fire-hose, long enough to reach any part of the vessel, was placed on board.

*S.S. "Pilot."*—This vessel received a good overhaul. The keelson under the boiler, extending from the engine-bed to the forward bulkhead, was renewed. On the starboard side eighteen frames, 15 ft. of deck stringer, and 18 ft. of covering-board were renewed; on the port side twelve frames, 15 ft. of deck stringer, 10 ft. of covering-board, and 14 ft. of bilge-stringer were renewed. New ceiling was fitted in the bunkers and under the boiler. In the hull amidships 56 ft. of planking was renewed; also two deck-beams, two wooden knees, and two iron knees. New carlings were fitted round the engine-room and stokehold, and ten ledge-pieces also fitted. The hull was refastened and caulked where necessary. A new deck-house was erected. The boiler was lifted out of the vessel, the landings on the bottom were caulked, and a patch was fitted at the mouth of the furnace. New timber was fitted under the boiler-seats, and the boiler was replaced with the firing end in the engine-room instead of forward as formerly. A new funnel was also installed.

*S.S. "Te Anau."*—No. 3 hatch coaming has been raised to a height of 3 ft. 6 in. to form a girder, and connected to the engine-casing. Continuous girders have been fitted from the after end of No. 3 hatch to the transom at a distance of 7 ft. on each side of the centre-line. Fourteen additional pillars have been fitted on the girders, and the old pillars, which were pre-