H.—15A. 6

S.s. "Himitangi."—At the annual survey of this vessel the following repairs to the hull, boilers, machinery, and equipments were carried out: Hull-A patch was fitted on the top end of the hawsepipe, a new end was welded on the rudder-shank, new plates and pintles were fitted to rudder, the stern-post was straightened and welded where cracked by the oxy-acetylene process; two straps were fitted over the after end of the garboard-plates where they are riveted to the stern-post; one new shoe was fitted under the keel aft; 510 new rivets were put in the bottom of the hull, and the stern-bush Main boilers—All the plain tubes and one stay-tube were renewed. was relined with lignum-vitæ. A small patch was fitted round the stay-hole in the back of the starboard combustion-chamber, and one new screwed stay was fitted. The donkey-boiler shell was patched under the safety-valve with a  $\frac{3}{8}$  in. plate 2 ft. 4 in. by 2 ft. 6 in. Machinery—New M.P. piston-rings were fitted. The M.P. slide-valve was planed up and fitted to the cylinder-face. The thrust-shaft bearings and couplings were trued up, and new feed and bilge-pump plungers and new circulating-pump rod were fitted. The steering-gear was overhauled, and the quadrant was straightened, rebored, and a new angle-iron fitted. The propeller-shaft was examined. The windlass was repaired, and new blocks were put in cable-compressors. Two new bower anchors, one kedge-anchor, and 105 fathoms of new cable-chain were placed on board. Equipments-New fore and main rigging and back stays, new main topmast, and main stays were fitted. New davits for the surf-boat and a new lifeboat and boat-falls were supplied.

S.s. "Kestrel."—Between the tops of the forward and after deckhouses on the upper deck of this

vessel a new shelter-deck has been fitted. Both tail-shafts were drawn for survey, and one new sternbush at stern end was fitted. One of the propeller-blades was renewed. A new crank-pin was shrunk in H.P. crank, and the crank-shaft was turned up. The main steam-pipes were annealed and tested by hydraulic pressure. Several rivets were renewed in the combustion-chamber of the main boiler.

S.s. "Kanieri."—Extensive repairs were made to the hull of this vessel. On the starboard side

one new plate, 11 ft. 9 in. by 3 ft. 3 in. by  $\frac{1}{4}$  in., was put in, and a 3 ft. 3 in. by 1 ft. by  $\frac{1}{4}$  in. patch put on the bow just under the water-line. On the port side new plates of the following dimensions were fitted: two each 6 ft. by 3 ft. 3 in., one 4 ft. by 2 ft. 9 in., one strake 19 ft. 4 in. by 3 ft. 3 in., all  $\frac{1}{4}$  in. thick. To the keel 18 ft. of new plate was fitted. Some ordinary frames and reverse frames in the holds and the top half of the collision bulkhead were renewed. The thickness of the hull-plates was tested by drilling holes in them. The tail-shaft was drawn for inspection during the year, and a new

stern-bush was fitted.

S.s. "Karamu."—This is a steel, screw, cargo-steamer, surveyed in New Zealand for the first time during the year. The registered particulars are: Length, 205 ft.; breadth, 32·1 ft.; depth, 15·7 ft.; gross tonnage, 934; register tonnage, 452. The vessel has a raised quarter-deck, bridge-deck, long well forward, and topgallant forecastle. Accommodation for officers is amidships, under the bridge. The vessel and her machinery were built in Scotland. The propelling-machinery consists of one set of triple-expansion surface condensing engines, with cylinders 17 in., 27 in., and 45 in. diameter by 33 in. stroke, supplied with steam from two boilers 13 ft. 9 in. diameter and 10 ft. 6 in. long, at a

pressure of 180 lb. per square inch.

S.s. "Kotiti."—When this vessel was docked for survey the keelson under the boiler was strengthened with heavy channel steel bars about 15 ft. long, and the floors under the boiler were backed up by new three-quarter-length floors, bolted together and through bottom of ship. deck-planking was fitted in the captain's cabin, the port alleyway, and the fore deck. A new rudderstock was fitted. In the boiler a short length at the back end of the furnace was cut out, and a new length with one corrugated ring was fitted. Several new tubes were fitted, and the boiler and main steam-pipes were tested by hydraulic pressure. A new lignum-vitæ stern-bush was made and fitted,

and the spare tail-shaft was shipped.

S.s. "Kotuku."—The principal repairs at the annual survey were to the tanks and to the floors under boiler-seats. All the tanks were tested, and at No. 3 tank, on the starboard side, the floors under boiler-seats were each sheathed with two plates 2 ft. 3 in. by 1 ft. 6 in. by  $\frac{3}{8}$  in., and strengthened with two angle-irons 2 ft. 2 in. long. Four floors were sheathed with plates each 2 ft. 3 in. by 1 ft. 5 in. by 5/16 in. On the port side the floors under boiler-seats were each sheathed with two plates 2 ft. 3 in. by 1 ft. 5 in. by  $\frac{3}{8}$  in., and strengthened with two angles. This vessel was, shortly after survey, wrecked

at the north tiphead, Greymouth.

S.s. "Mahua."—This vessel is best described by her original name, "80-ton floating crane." She was built in England, taken adrift and re-erected in Auckland. The crane can lift 80 tons weight at a radius of 62 ft. from the centre of crane-seating, and provision is made for lifting weights up to 10 tons at a radius of 74 ft. 6 in. with a separate set of hoisting-gear. For propelling purposes the crane has two engines of the vertical compound surface condensing type, with cylinders 11½ in. and  $22\frac{1}{2}$  in. diameters by 16 in. stroke. Steam is supplied at a pressure of 130 lb. per square inch from two multitubular marine boilers 14 ft. in diameter and 10 ft. long. The crane is engaged in work connected with the Auckland Harbour-works.

S.s. "Maitai."—Several test holes were drilled in the hull-plating of this vessel at various parts.

Several reverse frames were renewed in the bunkers and elsewhere. Several new ordinary tubes were fitted to the after starboard boiler. The dog-stays in the starboard furnace combustion-chamber of the main after-port boiler and in the donkey-boiler were refitted. The bottom half of the after tubeplate of the main condenser was patched, and several of the tubes were renewed. The condenser was afterwards tested. All the holding-down bolts of the main engine bed-plate were tightened, and a number of them renewed.

O.e.v. "May Howard."—This is a wooden vessel, and she received a thorough overhaul at the annual survey. Twelve of the top timbers on the port side and one top plank amidships on the port side were renewed. All the sheet copper was stripped off, and the hull and the bottom were refastened, caulked, felted, and coppered. Six strakes of lining on the port side and one on the star-