

holes were bored in the hull-plating to test its thickness. Extensive repairs were carried out to the bunkers. The following portions of the bunkers were cut out and renewed: The two forward sections of the side-bunker casings from the bilge-framing to above the bunker-floor; six sections of angle-framing and bracket-plates in way of same carrying the bunker-floor; eight plates and eight stiffeners in the lower side-bunker casings in way of the stokehold and forward boilers; the two forward corners in the upper casings between the side and cross bunkers; four angle-stays on the starboard side between the casings and the ship's side; six plates and twelve stiffeners, and eight deck-brackets on the stiffeners, in the after-bunker trunkway, in way of the engine-room; two plates and four stiffeners in the forward-bunker trunkway; one plate and twelve stiffeners in the watertight bulkhead of the forward-bunker trunkway; and twelve stiffener bracket-plates in the 'tween-decks of the forward cross-bunker. The ladders in the side bunkers and forward cross-bunker were reversed, and those in the other bunkers were overhauled and repaired. No. 3 trunkway was sheathed with one plate, 8 ft. by 4 ft. by $\frac{5}{16}$ in. In the holds all ladders were altered to come in a direct line from top to bottom. Wider angle-rests were fitted to Nos. 3 and 4 hatch coamings, and all 'thwartship beam-shoes were straightened up. The 'tween-deck beams in Nos. 4 and 5 holds were also straightened. The whole of the funnel-casing top, and the section of light and air trunk at the after end of it, were cut out and renewed. On the main deck in way of the crew's galley three plates were renewed. In the upper 'tween-decks a section of the fore-and-aft plating at the after end of the firemen's quarters on the port side was cut out, and three plates were renewed in way of the main galley, scullery, and a section of plating in the recess of the galley and in the alleyway behind the galley-bunker. All ballast-tanks and peaks were inspected and tested by water-pressure. In the stokehold-bilges twelve sections of floor-plates and six intercostals were renewed in way of boiler-fronts, four floor-plates under boiler-seats were sheathed, several sections of reverse angles on the top of floors and keelsons were cut out and renewed.

The principal repairs to the main boilers include the renewal of part of the port and starboard sides of the combustion-chambers of the port and starboard centre furnaces of the forward starboard boiler. This boiler was tested by hydraulic pressure. Several stays were renewed in the boilers, and all leaky parts and patches received attention. The auxiliary steam-pipes were tested by hydraulic pressure. All piston-rods on both sets of the main engines were taken out and turned up. The glands were rebushed and new neck-bushes were fitted. New rings were fitted to the pistons and piston-valves. The tubes were drawn out of both condensers; the condensers were then cleaned, and tested after the tubes had been put back. The port propeller-shaft was drawn for examination. The vessel's cargo-gear was overhauled. The fore and main lower rigging, foretopmast-backstays, maintopmast-stay, and four after funnel-guys were renewed.

O.e.v. "Oban."—A new centre-board was fitted to this wooden vessel, and the bottom planks on the centre-board casing were renewed. New garboard planking alongside the centre-board was fitted. Several planks on the counter were renewed, and all planking was refastened and caulked throughout. The fracture in the keelson aft was strengthened by fitting two 9 ft. by 12 in. by 4 in. pieces alongside it. The ceiling in the hold was renewed, also all rigging and running gear. Two new sets of oil-engines for propelling purposes were installed in the vessel.

P.s. "Osprey."—The following are the more important repairs made to this vessel at the annual survey: 24 ft. of plate and angle bars were renewed round the fiddley. The deck-beams and gusset-plates above the forward end of the boiler were renewed, as well as 25 ft. of stringer-plate. The stringer-plate below the main deck across the forward bulkhead, and carrying the steering-gear blocks, was renewed on both sides. Similar plates across the bulkhead at the forward end of the boiler were also renewed. An angle-bar and a patch on the starboard side of this bulkhead were renewed. Two deck-angles, with gusset, were renewed in the fore peak. In the starboard bunker three sheathing-patches were fitted, and four angle-bars, 4 ft. 6 in. long, with gusset-plates at each end, and six additional gusset-plates and angle-bars were renewed to strengthen the deck above the bunker. 20 ft. of angle-bar stringers, with the necessary lugs, and 23 ft. of stringer-plate, were renewed. A new frame and half-frame, with reverse bars, were fitted. An 18 in. by 14 in. patch was fitted to the side of the bunker. In the port bunker a sheathing-patch 2 ft. square was fitted to the ship's side. Reverse bars were added to three weak frames. One frame and reverse bar were renewed entirely. Part of a stringer-bar was also renewed. At the after hold, stringers 4 ft. 6 in. long, across the engine-room bulkhead on each side, were renewed, and 4 ft. 6 in. of the stringer-plates across the after bulkhead, carrying the steering-gear blocks, were renewed. A new plate was riveted to the forward rudder-blade. A new steel sponson-beam 34 ft. long, three new brackets, and 44 ft. of the wooden sponson were fitted. The main boiler was thoroughly cleaned out, and the wasted plate, 14 in. by 12 in., in the starboard furnace was cut out and a new piece of plate was fitted. One stay in the starboard combustion-chamber was renewed. The main engines, pumps, &c., were thoroughly overhauled. Seven paddle-arms were renewed for half their length, and one arm was renewed entirely. One new tumbler and six new tumbler-pins for the eccentric rods, and eighty turned bolts in the paddle-arms, were fitted. Two pieces of paddle-wheel rim, with fish-plates, and two spider-arms, were renewed. Five paddle-arms were strengthened. Two top planks in the vessel's boat were repaired, and a new hull on the port side fitted. The buoyancy seat-tanks were thoroughly overhauled.

S.s. "Pupuke."—The hull of this wooden vessel was repaired as follows: Both sister-keelsons were scarfed with pieces approximately 16 ft. by $7\frac{1}{2}$ in. by 12 in. Five angle-bar frames, 16 ft. long, were fitted to the hull amidships; 4 ft. of the ends of nine floors were renewed. Two shelf-pieces were fitted in the stokehold—one 17 ft. by 20 in. by 4 in., and one 20 ft. by 20 in. by 4 in. One plank, 7 ft. by 14 in. by 3 in., was renewed on the port side of the hull, and two new planks were fitted in the air-pockets. 300 ft. of sheathing on the ship's bottom was renewed. One piece of wood in the aperture,