

REPORT ON OIL ENGINE MACHINERY.

No. 12,385

MAH 25 1939

Date of writing Report 19... When handed in at Local Office 24. 3. 1939 Port of Belfast
 No. in Survey held at Belfast Date, First Survey 20. Jan. 1938 Last Survey 15. March 1939
 Reg. Book. Number of Visits 121

on the Single Screw vessel "ROWALLAN CASTLE" Tons { Gross 7797.92 Net 4727.64
 Built at Belfast By whom built Harland & Wolff Ltd Yard No. 1013 When built 1939
 Engines made at Belfast By whom made Harland & Wolff Ltd Engine No. 1013 When made 1939
 Donkey Boilers made at Annan By whom made Cochran & Co Annan Ltd Boiler No. 14195 When made 1938
 Brake Horse Power 9375 Owners Union Castle Mail Steamship Co Port belonging to London
 Nom. Horse Power as per Rule 1643 Is Refrigerating Machinery fitted for cargo purposes Yes Is Electric Light fitted Yes
 Trade for which vessel is intended 1647 Ocean Going 2475 558

OIL ENGINES, &c.—Type of Engines Harland B.W. Airless injection (2 or 4 stroke cycle) 2 Single or double acting double
 Maximum pressure in cylinders 49490 Diameter of cylinders 6207/16 Length of stroke 14007/16 No. of cylinders 8 No. of cranks 8
 Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 11647/16 Is there a bearing between each crank Yes
 Revolutions per minute 105.5 Flywheel dia. 24837/16 Weight 2500490 Means of ignition Compression Kind of fuel used Diesel oil
 Crank Shaft, dia. of journals as per Rule 5007/16 Crank pin dia. 5007/16 Crank Webs Mid. length breadth 9607/16 Thickness parallel to axis 2607/16
 as fitted 5007/16 M. d. length thickness 2607/16 shrunk Thickness around eye-hole 2257/16
 Flywheel Shaft, diameter as per Rule as fitted Intermediate Shafts, diameter as per Rule 173/4 Thrust Shaft, diameter at collars as per Rule as approved
 as fitted 173/4 as fitted 490
 Tube Shaft, diameter as per Rule as fitted Screw Shaft, diameter as per Rule as approved Is the screw shaft fitted with a continuous liner Yes
 as fitted 193/4 as fitted
 Bronze Liners, thickness in way of bushes as per Rule as fitted 1 Thickness between bushes as per rule as fitted 27/32 Is the after end of the liner made watertight in the
 propeller boss Yes If the liner is in more than one length are the junctions made by fusion through the whole thickness of the liner Yes
 If the liner does not fit tightly at the part between the bearings in the stern tube, is the space charged with a plastic material insoluble in water and non-corrosive Yes
 If two liners are fitted, is the shaft lapped or protected between the liners Yes Is an approved Oil Gland or other appliance fitted at the after end of the tube
 shaft No If so, state type Yes Length of Bearing in Stern Bush next to and supporting propeller 6'9"
 Propeller, dia. 19'6" Pitch 17'10" No. of blades 4 Material M.S. whether Moveable Solid Total Developed Surface 130 sq. feet
 Method of reversing Engines Air Is a governor or other arrangement fitted to prevent racing of the engine when declutched Yes Means of lubrication
 Forced Thickness of cylinder liners 427/16 Are the cylinders fitted with safety valves Yes Are the exhaust pipes and silencers water cooled or lagged with
 non-conducting material lagged If the exhaust is led overboard near the waterline, what means are arranged to prevent water from being syphoned back to the engine Yes
 Cooling Water Pumps, No. Two Is the sea suction provided with an efficient strainer which can be cleared within the vessel Yes
 Bilge Pumps worked from the Main Engines, No. None Diameter Stroke Can one be overhauled while the other is at work
 Pumps connected to the Main Bilge Line { No. and Size Two 1-110 tons/hr. & 1-150 tons/hr
 How driven Electric Motors
 Ballast Pumps, No. and size One 150 tons/hr Lubricating Oil Pumps, including Spare Pump, No. and size Two 300 tons/hr each
 Are two independent means arranged for circulating water through the Oil Cooler Yes Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge
 Pumps, No. and size:—In Machinery Spaces Two 3 1/2" and Five 2 1/2" Refrig room Two 3 1/2" Tunnel, One 4"
 In Holds, &c. One 4" and Six 3 1/2"
 Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size Two 5 1/2"
 Are all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes Yes Are the Bilge Suctions in the Machinery Spaces
 ed from easily accessible mud-boxes, placed above the level of the working floor, with straight tail pipes to the bilges Yes
 Are all Sea Connections fitted direct on the skin of the ship Yes Are they fitted with Valves or Cocks Yes
 Are they fixed sufficiently high on the ship's side to be seen without lifting the platform plates Yes Are the Overboard Discharges above or below the deep water line below
 Are they each fitted with a Discharge Valve always accessible on the plating of the vessel Yes Are the Blow Off Cocks fitted with a spigot and brass covering plate Yes
 What pipes pass through the bunkers None How are they protected
 What pipes pass through the deep tanks None Have they been tested as per Rule Yes
 Are all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times Yes
 Is the arrangement of valves and their connections such as to prevent the possibility of water passing from the sea or from water tanks into the cargo or machinery spaces, or from one
 compartment to another Yes Is the Shaft Tunnel watertight Yes Is it fitted with a watertight door Yes worked from Upper deck.
 If a wood vessel, what means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork
 Main Air Compressors, No. Two No. of stages 2 Diameters 280 & 2457/16 Stroke 1307/16 Driven by El Motor
 Auxiliary Air Compressors, No. No. of stages Diameters Stroke Driven by
 Small Auxiliary Air Compressors, No. One No. of stages 2 Diameters 100 & 887/16 Stroke 807/16 Driven by Steam
 BLOWERS
 Scavenging Air Pumps, No. Two Capacity each 695 m³/min at 344 r.p.m. Stroke 1.24 kg/cm² absolute Driven by Main engine

AIR RECEIVERS:—Is each receiver, which can be isolated, fitted with a safety valve as per Rule Yes
 Can the internal surfaces of the receivers be examined Yes What means are provided for cleaning their inner surfaces Manhole
 Is there a drain arrangement fitted at the lowest part of each receiver Yes
 High Pressure Air Receivers, No. Two Cubic capacity of each 538 cuft. Internal diameter 6'0 3/8" thickness 1/32
 Seamless, lap welded or riveted longitudinal joint Riveted Material Steel Range of tensile strength 28/32 tons Working pressure by Rules 374 lbs
 Starting Air Receivers, No. One Total cubic capacity 290 litres Internal diameter 4167/16 thickness 17.57/16
 Seamless, lap welded or riveted longitudinal joint Seamless Material Steel Range of tensile strength 28/32 tons Working pressure by Rules 1185 lbs

W116-0093

IS A DONKEY BOILER FITTED? Yes If so, is a report now forwarded? Yes
 PLANS. Are approved plans forwarded herewith for Shafting 7-1-38 21-2-38 Receivers 3-12-37 Separate Tanks 13-9-38
 Donkey Boilers 1-2-38 General Pumping Arrangements 23-5-38 Oil Fuel Burning Arrangements 29-4-38

SPARE GEAR

See attached list

The foregoing is a correct description.

A. Marshall Manufacturer.

Dates of Survey while building	During progress of work in shops--	1938 Jan 20, 25 Feb 3, Mar 29 May 2, 4, 6, 17, 24, 27 June 1, 2, 4, 6, 7, 17 July 6, 19 Aug 8, 16, 24, 29 Sept 2, 5, 6, 8, 9, 12, 13, 16, 19, 20, 21, 22, 24, 25, 26, 31 Nov. 4, 7, 8, 10, 11, 12, 14, 15, 16, 17, 18, 21, 22, 23, 24, 25, 26, 28, 29, 30 Oct. 1, 4, 5, 8, 10, 12, 13, 14, 18, 19, 20, 21, 22, 24, 25, 26, 31 Nov. 4, 7, 8, 10, 11, 12, 14, 15, 16, 17, 18, 21, 22, 23, 24, 25, 26, 28, 29, 30
	During erection on board vessel--	16, 17, 18, 21, 22, 23, 24, 25, 26, 28, 29, 30 Oct. 1, 2, 3, 5, 6, 7, 8, 9, 10, 12, 13, 14, 15, 16, 17, 19, 20, 21, 22, 23, Jan 3, 5, 6, 9, 12, 13, 14, 15, 16, 17, 18, 21, 22, 23, 24, 25, 26, 28, 29, 30
	Total No. of visits	121

Dates of Examination of principal parts—Cylinders 6-12-38 Covers 22-11-38 Pistons 22-11-38 Rods 28-11-38 Connecting rods 24-11-38
 Crank shaft 15-11-38 Flywheel shaft ✓ Thrust shaft 18-11-38 Intermediate shafts 18-11-38 Tube shaft ✓
 Screw shaft 22-10-38 Propeller 15-11-38 Stern tube 5-10-38 Engine seatings 26-11-38 Engines holding down bolts 7-2-39

Completion of fitting sea connections 26-11-38 Completion of pumping arrangements 1-3-39 Engines tried under working conditions 1-3-39
 Crank shaft, Material S Identification Mark LLOYDS 276 P.L.A. Flywheel shaft, Material ✓ Identification Mark Nº 1 LLOYDS 276 P.L.A.
 Thrust shaft, Material S Identification Mark LLOYDS 276 P.L.A. Intermediate shafts, Material S Identification Marks Nº 2, 3, 4, 5 LLOYDS 276 P.L.A.
 Tube shaft, Material ✓ Identification Mark ✓ Screw shaft, Material S Identification Mark LLOYDS 276 P.L.A.

Is the flash point of the oil to be used over 150° F. Yes
 Have the requirements of the Rules for oil fuel pipes and tank fittings been complied with Yes
 Is the vessel (not being an oil tanker) fitted for carrying oil as cargo No If so, have the requirements of the Rules been complied with ✓

Is this machinery duplicate of a previous case Yes If so, state name of vessel "PICHYOND CASTLE" Bel of 12312
 General Remarks (State quality of workmanship, opinions as to class, &c.) The machinery of this vessel has been constructed under special survey. The materials & workmanship are sound & good. The main engines & auxiliary machinery have been effectively installed and tried out under full working conditions with satisfactory results. In our opinion the vessel is eligible for notation in the Shipping Register Book.

+ LMC 3-39 CL. DB 100 lbs GIL ENGINE

Certificate (if required) to be sent to
 (The Surveyors are requested not to write on or below the space for Committee's Minute.)

The amount of Entry Fee ...	£ 6 : 0 :	When applied for,
Special ...	£ 141 : 1-6 :	24. 3. 19. 39
Donkey Boiler Fee ...	£ 8 : 8 :	When received,
Air Receivers		
Travelling Expenses (if any) £		15. 4. 19. 39 17/4

Charles Y. Hunter & R. Lee Arnold
 Engineer Surveyors to Lloyd's Register of Shipping.

Committee's Minute TUE. 28 MAR 1939
 Assigned + LMC 3-39 CL
Oil Eng DB 100 lbs

