

and a List of
(Decks)

Rpt. 4b.

REPORT ON OIL ENGINE MACHINERY.

No. 9917

Received at London Office 22 FEB 1928

Date of writing Report 19 When handed in at Local Office 21 - 2 - 1928 Port of Belfast

No. in Survey held at Belfast Date, First Survey 22 April 1928 Last Survey 15 Feb 1928
 Reg. Book. Number of Visits 70

41486 on the Single } Screw vessels KING JOHN Tons { Gross 4520
Triple } Net 2690

Master Built at Belfast By whom built Harland & Wolff Ltd Yard No. 760 When built 1928

Engines made at Belfast By whom made Harland & Wolff Ltd Engine No. 760 When made 1928

Donkey Boilers made at Aman By whom made Cochran & Co Aman, Ltd Boiler No. 10424 When made 1927

Brake Horse Power 1900 Owners King Line Ltd (Dodd, Thomson & Co Ltd) Port belonging to London

Nom. Horse Power as per Rule 489 Is Refrigerating Machinery fitted for cargo purposes no Is Electric Light fitted Yes

OIL ENGINES, &c.—Type of Engines Harland Wolff - B.W. Type Diesel 2 or 4 stroke cycle 4 Single or double acting Single

Maximum pressure in cylinders 500 lbs No. of cylinders Six No. of cranks Six Diameter of cylinders 740 mm ^{29 1/8"}

Length of stroke 1500 mm ^{59 1/16"} Revolutions per minute 90 Means of ignition Compression Kind of fuel used diesel oil

Is there a bearing between each crank Yes Span of bearings (Page 92, Section 2, par. 7 of Rules) 1004 mm

Distance between centres of main bearings 1150 mm Is a flywheel fitted Yes Diameter of crank shaft journals as per Rule 1170 mm
 as fitted 1185 mm bored 115 mm

Diameter of crank pins 485 mm Breadth of crank webs as per Rule 625.1 mm Thickness of ditto as per Rule 263.2 mm
 as fitted 790 mm as fitted 310 mm

Diameter of flywheel shaft as per Rule } As Thrust Shaft Diameter of tunnel shaft as per Rule 13.16" Diameter of thrust shaft as per Rule 13.81"
 as fitted } as fitted 13 1/2" as fitted 14 1/4"

Diameter of screw shaft as per Rule 14.1175" Is the screw shaft fitted with a continuous liner the whole length of the stern tube Yes
 as fitted 15" If the liner is in more than one length are the joints burned Yes

Is the after end of the liner made watertight in the propeller boss 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 If without liners, is the shaft arranged to run in oil Yes

Type of outer gland fitted to stern tube Yes Length of stern bush 60" Diameter of propeller 15' 9"

Pitch of propeller 12' 6" No. of blades 4 state whether moveable No Total surface 82 square feet

Method of reversing Levers motor Is a governor or other arrangement fitted to prevent racing of the engine when declutched Yes Thickness of cylinder liners 3 mm

Are the cylinders fitted with safety valves Yes Means of lubrication forced Are the exhaust pipes and silencers water cooled or lagged with insulating material Yes If the exhaust is led overboard near the waterline, what means are arranged to prevent water from being syphoned back to the engine led up funnel

Is the funnel fitted with a direct suction from the engine room bilges Yes No. of cooling water pumps 2 Is the sea suction provided with an efficient strainer which can be cleared Yes

Are the pumps fitted to the main engines Yes Diameter of ditto — Stroke —

Can one be overhauled while the other is at work Yes No. of auxiliary pumps connected to the main bilge lines 3 How driven motor

Sizes of pumps 1 Bilge 80 Long 2 Ballast 100 Long No. and sizes of suction connections to both main bilge pumps and auxiliary bilge pumps:—In engine room 2 3" toped suction 1 1/2"
and in holds, etc. No. 1 Two 3" No. 2 Two 3" Deep Tank Two 2 1/2" No. 3 Two 3" Appl. Coffdam One 2 1/2" No. of ballast pumps 2 How driven motor Sizes of pumps 8" x 8" 100 Tons/hr

Is the ballast pump fitted with a direct suction from the engine room bilges Yes State size Two 6" Is a separate auxiliary pump suction fitted in Yes

Engine Room and size Yes Two 5" Are all the bilge suction pipes fitted with roses Yes Are the roses in Engine Room always accessible Yes

Are the valves on Engine Room bulkheads always accessible Yes Are all connections with the sea direct on the skin of the ship Yes

Are they valves or cocks both Are they fixed sufficiently high on the ship's side to be seen without lifting the floor plates Yes

Are the discharge pipes above or below the deep water line both Are they each fitted with a discharge valve always accessible on the plating of the vessel Yes

Are all pipes, cocks, valves and pumps in connection with the machinery accessible at all times Yes Are the bilge suction pipes, cocks and valves arranged so as to prevent any communication between the sea and the bilges Yes Is the screw shaft tunnel watertight Yes Is it fitted with a watertight door Yes

worked from Main Deck If a wood vessel, what means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork Yes

No. of main air compressors One No. of stages 3 Diameters 70-675-150 mm Stroke 460 mm Driven by Main Engines

No. of auxiliary air compressors Three No. of stages 3 Diameters 320-240-82 mm Stroke 280 mm Driven by Aux Diesels

No. of small auxiliary air compressors One No. of stages 2 Diameters 106-34 mm Stroke 80 mm Driven by Steam

No. of scavenging air pumps — Diameter — Stroke — Driven by —

Diameter of auxiliary Diesel Engine crank shafts as per Rule 180 mm Are the air compressors and their coolers made so as to be easy of access Yes
 as fitted 180 mm

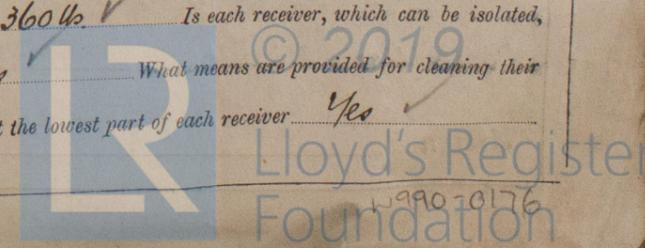
AIR RECEIVERS:—No. of high pressure air receivers Six Internal diameter 295 mm Cubic capacity of each 3/8 litres 3/160 litres

material Steel Seamless, lap welded or riveted longitudinal joint Seamless Range of tensile strength 26-30 Tons

thickness 30 mm working pressure by Rules 29/2 1/2 No. of starting air receivers 2 Internal diameter 72 3/8"

Total cubic capacity 1076 Material Steel Seamless, lap welded or riveted longitudinal joint riveted longitudinal joint

Range of tensile strength 28-32 Tons thickness 1 3/8" Working pressure by rules 360 lbs 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 access Is there a drain arrangement fitted at the lowest part of each receiver Yes



IS A DONKEY BOILER FITTED? *Yes*

If so, is a report now forwarded? *Yes*

HYDRAULIC TESTS:—

DESCRIPTION.	DATE OF TEST.	WORKING PRESSURE.	TEST PRESSURE.	STAMPED.	REMARKS.
ENGINE CYLINDERS					
" " COVERS	10 th to 18 th Oct. 1927	500 lbs	1000 lbs	R.L.A.	
" " JACKETS	3 rd to 19 th Nov. 1927		50 lbs	R.L.A.	
" " PISTON WATER PASSAGES					
MAIN COMPRESSORS—1st STAGE	3 rd & 4 th Nov. 1927	75 lbs	150 lbs	R.L.A.	
" " 2nd "	do.	250 lbs	500 lbs	R.L.A.	
" " 3rd "	11 th Oct. 1927	1000 lbs	2000 lbs	R.L.A.	
AIR RECEIVERS—STARTING	21 st Oct. 1927	356 lbs	585 lbs	R.L.A.	
" " INJECTION	2 nd to 9 th Dec. 1927	1000 lbs	2000 lbs	R.L.A.	
AIR PIPES	9 th to 19 th Jan. 1927.	356 lbs	712 lbs	R.L.A.	
FUEL PIPES					
FUEL PUMPS	7 th Nov. to 12 th Dec. 1927.	1000 lbs	2000 lbs	R.L.A.	
SILENCER	29 th Nov. 1927		5 lbs.	R.L.A.	
" " WATER JACKET					
SEPARATE FUEL TANKS	17 th Nov. 1927.		8 lbs.	R.L.A.	

PLANS. Are approved plans forwarded herewith for shafting *11.12.26* Receivers *30.11.26* Separate Tanks *21.1.27*
(If not, state date of approval)

SPARE GEAR

In excess of Lloyd's Register requirements - see separate list.

The foregoing is a correct description,
For HARLAND AND WOLFF LIMITED,

F. Feiler

Manufacturer.

Dates of Survey while building
 During progress of work in shops: *1927* *Apr 22 May 10 23 July 27 Aug 2 9 10 11 16 19 23 24 25 26 Sept. 1 2 6 7 19 Oct 5 6 10 11 12 13 14 17 18 21 25 27 Nov 1 2 3 4 7 8 9 10 11 12 14 15 16 17 18 21 23 24 25 28 29 30 Dec 1 2 6 9 12 13 16 Jan 6 9 10 19 26 Feb 10 13 15*
 During erection on board vessel: *21 23 24 25 28 29 30 Dec 1 2 6 9 12 13 16 Jan 6 9 10 19 26 Feb 10 13 15*
 Total No. of visits *70*

Dates of Examination of principal parts—Cylinders *3rd 7th 19th Nov. 1927* Covers *10th 18th Oct. 1927* Pistons *7. 11. 27* Rods *3. 10. 27* Connecting rods *21. 10. 27*
 Crank shaft *21. 10. 27* Thrust shaft *30. 11. 27* Tunnel shafts *24. 11. 27* Screw shaft *15. 11. 27* Propeller *12. 11. 27* Stern tube *10. 11. 27* Engine seatings *24. 11. 27*
 Engines holding down bolts *26. 1. 28* Completion of pumping arrangements *13. 2. 28* Engines tried under working conditions *16. 2. 28*
 Completion of fitting sea connections *24. 11. 27* Stern tube *24. 11. 27* Screw shaft and propeller *24. 11. 27*
 Material of crank shaft *S.M.O.H. STEEL* Identification Mark on Do. *1588 R.L.A.* Material of thrust shaft *S.M.O.H. STEEL* Identification Mark on Do. *1833 R.L.A.*
 Material of tunnel shafts *S.M.O.H. STEEL* Identification Marks on Do. *1817 1818 1840 R.L.A.* Material of screw shafts *S.M.O.H. STEEL* Identification Marks on Do. *1775 R.L.A.*

Is the flash point of the oil to be used over 150° F. *Yes*
 Is this machinery duplicate of a previous case *Yes* If so, state name of vessel *"KING EDGAR" BALIA*

General Remarks (State quality of workmanship, opinions as to class, &c.)

*The machinery of this vessel has been constructed under special survey. The materials and workmanship are satisfactory and good. The main and auxiliary engines were tried out with satisfactory results. The fuel oil lines were tested to hydraulic pressure. The air relief valves were adjusted to lift at their respective pressures. The donkey boiler safety valve was adjusted under steam. In my opinion the vessel is now eligible for notation in the Society's Register. Best
 + L.M.C. 2.28 C.L. *(Fitted for oil fuel 2.28 F.P. above 150°F)* donkey boiler pressure 100 lbs.*

The amount of Entry Fee ... £ 5 : -
 Special ... £ 98 : 7
 Air RESERVOIRS Donkey Boiler Fee ... £ 8 : 8
 Travelling Expenses (if any) £ : :
 When applied for, *20 Feb. 1928*
 When received, *5.3.28*

R. Lee Amers
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

FRI. 2 MAR 1928

Assigned

+ L.M.C. 2.28 C.L. Oil engines 275 100 lbs.

CERTIFICATE WRITTEN



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