

# REPORT ON OIL ENGINE MACHINERY.

No. **9905**

Received at London Office

Date of writing Report 19 When handed in at Local Office 24-1-28 Port of Belfast  
 No. in Survey held at Belfast Date, First Survey 3<sup>rd</sup> March, 1927 Last Survey 17 Jan. 1928  
 Reg. Book. 41178 on the Single Screw vessels KING EGBERT Tons { Gross 4520 Net 2690  
 Master                      Built at Belfast By whom built Harland & Wolff Ltd. Yard No. 789 When built 1928  
 Engines made at Belfast By whom made Harland & Wolff Ltd. Engine No. 789 When made 1928  
 Donkey Boilers made at Aman By whom made Cochran & Co (Aman) Ltd. Boiler No. 10413 When made 1927  
 Brake Horse Power 1900 Owners Kingline 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.  
 Length of stroke 1500 mm. 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 1450 mm. Is a flywheel fitted Yes Diameter of crank shaft journals as per Rule 470 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.  
 Diameter of flywheel shaft as fitted 14.475" Diameter of tunnel shaft as per Rule 13.16" Diameter of thrust shaft as per Rule 13.81"  
 Diameter of screw shaft as fitted 15" Is the screw shaft fitted with a continuous liner the whole length of the stern tube Yes  
 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 joints burned 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                      Length of stern bush                      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 Revo. motor Is a governor or other arrangement fitted to prevent racing of the engine when declutched Yes Thickness of cylinder liners 53 mm.  
 Are the cylinders fitted with safety valves Yes Means of lubrication faced Are the exhaust pipes and silencers water cooled or lagged with non-conducting 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  
 No. of cooling water pumps 2 Is the sea suction provided with an efficient strainer which can be cleared within the vessel Yes  
 Can one be overhauled while the other is at work                      No. of auxiliary pumps connected to the main bilge lines 3 How driven motor  
 Sizes of pumps Bilge 80 Jonsq 2 Ballast 100 Jonsq and sizes of suction connected to both main bilge pumps and auxiliary bilge pumps:—In engine room two 3" Copstead sections four 2 1/2"  
 and in holds, etc. No 1 two 3" No 2 two 3 1/2" Deep Tank two 2 1/2" No 3 two 3" Off Copstead No. of ballast pumps 2 How driven motor Sizes of pumps 8" x 8" 100 Jonsq/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 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 sluices 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                       
 No. of main air compressors One No. of stages 3 Diameters 750 mm 675-150 Stroke 460 mm Driven by Main Engines  
 No. of auxiliary air compressors Three No. of stages 3 Diameters 320-280-82 Stroke 270 mm Driven by Aux. Diesels  
 No. of small auxiliary air compressors One No. of stages 2 Diameters 106 3/4 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

**AIR RECEIVERS:**—No. of high pressure air receivers Six Internal diameter 295 mm. Cubic capacity of each 388 litres 3/150 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 2912 lbs/sq" No. of starting air receivers Two Internal diameter 7 3/8"  
 Total cubic capacity 1076 ft<sup>3</sup> Material Steel Seamless, lap welded or riveted longitudinal joint welded long-joint  
 Range of tensile strength 28-32 Tons thickness 1 1/2" 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 .....	19 <sup>th</sup> to 27 <sup>th</sup> Sept 1927	500 lbs	1000 lbs	R.L.A.	
"    "    JACKETS.....	10 <sup>th</sup> to 18 <sup>th</sup> Oct. 1927		50 lbs	R.L.A.	
"    PISTON WATER PASSAGES.....					
MAIN COMPRESSORS—1st STAGE.....	17 <sup>th</sup> to 18 <sup>th</sup> Oct. 1927	75 lbs	150 lbs	R.L.A.	
"    2nd " .....	13 <sup>th</sup> Oct. 1927	50 lbs	500 lbs	R.L.A.	
"    3rd " .....	10 <sup>th</sup> Oct. 1927	1000 lbs	2000 lbs	R.L.A.	
AIR RECEIVERS—STARTING .....	16 <sup>th</sup> to 28 <sup>th</sup> Sept 1927	356 lbs	585 lbs	R.L.A.	
"    INJECTION .....	24 <sup>th</sup> to 28 <sup>th</sup> Nov. 1927	1000 lbs	2000 lbs	R.L.A.	
AIR PIPES .....	3 <sup>rd</sup> Jan. 1928	356 lbs	712 lbs	R.L.A.	
FUEL PIPES .....					
FUEL PUMPS .....	11 <sup>th</sup> Oct. to 14 <sup>th</sup> Nov. 1927	1000 lbs	2000 lbs	R.L.A.	
SILENCER .....	27 <sup>th</sup> Oct. 1927	-	5 lbs	R.L.A.	
"    WATER JACKET .....					
SEPARATE FUEL TANKS .....	25 <sup>th</sup> Oct. 1927		8 lbs	R.L.A.	

PLANS. Are approved plans forwarded herewith for shafting *3<sup>rd</sup> Dec. 1926* Receivers *30<sup>th</sup> Nov. 1926* Separate Tanks *21<sup>st</sup> Jan. 1927*

SPARE GEAR *In excess of Lloyd's Register requirements - See Separate List.*

The foregoing is a correct description.  
**FOR HARLAND AND WOLFF, LIMITED,**

*W. Stebbek*

Manufacturer.

1927  
 Dates of Survey while building  
 During progress of work in shops-- *Mar 3-22 Apr 11-13-22-28 May 4-9-23-24 July 27-30 Aug 1-2-5-8-9-10-11-15-16-23-24-31*  
 During erection on board vessel-- *Sept 1-16-19-20-22-23-27-28 Oct 3-4-5-10-11-12-13-14-17-18-20-21-24-25-16-27-28*  
*31 Nov 1-2-3-4-7-8-14-16-17-18-21-28-30 Dec 2-19 Jan 3-12-17*  
 Total No. of visits *68*

Dates of Examination of principal parts—Cylinders *10<sup>th</sup> to 18<sup>th</sup> Oct 1927* Covers *19<sup>th</sup> to 27<sup>th</sup> Sept 1927* Pistons *14<sup>th</sup> Oct 1927* Rods *15<sup>th</sup> Aug. 1927* Connecting rods *3<sup>rd</sup> Oct 1927*  
 Crank shaft *20<sup>th</sup> Sept 1927* Thrust shaft *21<sup>st</sup> Oct 1927* Tunnel shafts *12<sup>th</sup> Oct 1927* Screw shaft *21<sup>st</sup> Oct 1927* Propeller *21<sup>st</sup> Oct 1927* Stern tube *10<sup>th</sup> Oct 1927* Engine seatings *31<sup>st</sup> Oct 1927*  
 Engines holding down bolts *3<sup>rd</sup> Jan. 1928* Completion of pumping arrangements *12<sup>th</sup> Jan 1928* Engines tried under working conditions *17<sup>th</sup> Jan. 1928*  
 Completion of fitting sea connections *26<sup>th</sup> Oct. 1927* Stern tube *26<sup>th</sup> Oct. 1927* Screw shaft and propeller *26<sup>th</sup> Oct. 1927*  
 Material of crank shaft *S.M. Ingot Steel* Identification Mark on Do. *1481 R.L.A.* Material of thrust shaft *S.M. Ingot Steel* Identification Mark on Do. *1809 R.L.A.*  
 Material of tunnel shafts *S.M. Ingot Steel* Identification Marks on Do. *1705 1802 1699 R.L.A.* Material of screw shafts *S.M. Ingot Steel* Identification Marks on Do. *1710 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" - "King Edwin"*

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 sound and good. The main and auxiliary engines were tried out at a mooring and at a deep sea trials with satisfactory results. The fuel oil lines were tested by hydraulic pressure. The air relief valves were adjusted to lift at their respective pressures. The donkey boiler safety valves were adjusted under steam. In my opinion the vessel is now eligible for notation in the Society's Register Book + L.M.C. 1-28. C.L. (Signed for oil fuel F. Paton 11-28)*

The amount of Entry Fee ... £ 5 : -  
 Special ... £ 98 : 7  
 Donkey Boiler Fee ... £ 8 : 8  
 Travelling Expenses (if any) £ : :  
 When applied for, *24-1-1928*  
 When received, *7-2-1928*

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

TUES. 7 FEB 1928

Committee's Minute

Assigned

*L.M.C. 1:28*  
*Oil engines*  
*S.B. 100 lb*



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