

REPORT ON OIL ENGINE MACHINERY.

No. 9954

Received at London Office

21 APR 1928

Date of writing Report 19 When handed in at Local Office 20th April 1928 Port of Belfast
 No. in Survey held at Belfast Date, First Survey 27th July 1927 Last Survey 17th April 1928
 Reg. Book. Number of Visits 66
 41499 on the ^{Single} ~~Twin~~ ^{Triple} ~~Quadruple~~ Screw vessel KING NEPTUNE Tons { Gross 500
 Net 300
 Built at Belfast By whom built Harland & Wolff Ltd. Yard No. 762 When built 1928
 Engines made at Belfast By whom made Harland & Wolff Ltd. Engine No. 762 When made 1928
 Donkey Boilers made at Annan By whom made Cochran & Co. (Annan) Ltd. Boiler No. 10426 When made 1928
 Brake Horse Power 1900 Owners King Line Ltd. (Sodd, Kamen & 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
 Trade for which vessel is intended Ocean going.

IL ENGINES, &c.—Type of Engines Harland Wolff 3000 Type diesel 2 or 4 stroke cycle 4 Single or double acting Single
 Maximum pressure in cylinders 500 lb. Diameter of cylinders 740 mm. Length of stroke 1500 mm. No. of cylinders 6 No. of cranks 6
 Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 1004 mm. Is there a bearing between each crank Yes
 Revolutions per minute 90 Flywheel dia. 2500 mm. Weight 16000 kilos. Means of ignition Compression Kind of fuel used diesel oil
Crank Shaft, dia. of journals as per Rule 470 mm. Crank pin dia. 485 mm. Crank Webs Mid. length breadth 790 mm. Thickness parallel to axis 310 mm.
 as fitted 485 mm. Mid. length thickness 310 mm. Thickness around eye hole 210 mm.
Flywheel Shaft, diameter as per Rule 13-16" Intermediate Shafts, diameter as per Rule 13-16" Thrust Shaft, diameter at collars as per Rule 13-81"
 as fitted 13-16" as fitted 13-16" as fitted 14-4"
Tube Shaft, diameter as per Rule 14-475" Is the { tube } shaft fitted with a continuous liner { Yes
 as fitted 15" { screw }
Ironze Liners, thickness in way of bushes as per Rule 74" Thickness between bushes as per Rule 56"
 as fitted 74" as fitted 56" 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
 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
 If two liners are fitted, is the shaft lapped or protected between the liners Is an approved Oil Gland or other appliance fitted at the after
 end of the tube shaft No Length of Bearing in Stern Bush next to and supporting propeller 60"
Propeller, dia. 15'-9" Pitch 12'-6" No. of blades 4 Material Bronze whether Moveable No. Total Developed Surface 82 sq. feet
Method of reversing Engines servo-motor Is a governor or other arrangement fitted to prevent racing of the engine when declutched Yes Means of lubrication
 forced Thickness of cylinder liners 53 mm. Are the cylinders fitted with safety valves Yes 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 4 funnel
Cooling Water Pumps, No. Two 100 tons per hr. 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. — Diameter — Stroke — Can one be overhauled while the other is at work —
Pumps connected to the Main Bilge Line { No. and Size 1 Bilge 80 tons per hour 2 Ballast 100 tons per hour
 How driven motor motor
Ballast Pumps, No. and size Two 8" x 8" 100 tons per hr. Lubricating Oil Pumps, including Spare Pump, No. and size Two - twin 50 tons per hr.
 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" Cofferdam suction 4-2 1/2"
Holds, &c. No. 1 Two 3" No. 2 Two 3 1/2" Deep Tank Two 2 1/2" No. 3 Two 3" Cofferdam One 2 1/2" No. 4 Two 3" Tunnel Well One 3"
Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size Two 6" Two 5"
 Are all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes Yes Are the Bilge Suctions in the Machinery Spaces
 1 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 both
 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
 That pipes pass through the bunkers None How are they protected
 That pipes pass through the deep tanks Forward Bilge & Ballast Suctions 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
 apartment to another Yes Is the Shaft Tunnel watertight Yes Is it fitted with a watertight door Yes worked from upper deck
 On 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. One No. of stages Three Diameters 20 - 67.5 - 150 Stroke 460 mm. Driven by main engines
Auxiliary Air Compressors, No. Three No. of stages Three Diameters 30 - 280 - 82 Stroke 220 mm. Driven by aux. diesels
Small Auxiliary Air Compressors, No. One No. of stages Two Diameters 106 - 34 Stroke 80 mm. Driven by steam
Exhausting Air Pumps, No. — Diameter — Stroke — Driven by —
Auxiliary Engines crank shafts, diameter as per Rule 180 mm.
 as fitted 180 mm.

R RECEIVERS:—Is each receiver, which can be isolated, fitted with a safety valve as per Rule Yes
 Are the internal surfaces of the receivers be examined Yes What means are provided for cleaning their inner surfaces Blast Air - open hds { Starting Air
 there a drain arrangement fitted at the lowest part of each receiver Yes { manhole access }
High Pressure Air Receivers, No. One Cubic capacity of each 3.5 cu. ft. Internal diameter 295 mm. thickness 15 mm.
 unless, lap welded or riveted longitudinal joint Yes Material Steel Range of tensile strength 26-30 tons Working pressure by Rules 1150 lb.
Starting Air Receivers, No. Two Total cubic capacity 1076 cu. ft. Internal diameter 72 3/8" thickness 1 1/2"
 Seamless, lap welded or riveted longitudinal joint Yes Material Steel Range of tensile strength 28-32 tons Working pressure by Rules 360 lb.

IS A DONKEY BOILER FITTED?

Yes

If so, is a report now forwarded?

Yes

PLANS. Are approved plans forwarded herewith for Shafting
(If not, state date of approval)

11. 12. 26

Receivers

30. 11. 26

Separate Tanks

21. 1. 27

Donkey Boilers 24. 2. 27

General Pumping Arrangements

23. 12. 27

Oil Fuel Burning Arrangements

✓

SPARE GEAR

In excess of the rule requirements - see accompanying list

The foregoing is a correct description

FOR HARLAND AND WOLFF, LIMITED,

78 Tebbelbeck

Manufacturer.

Dates of Survey while building
During progress of work in shops - 1927 July 27 Aug 2. 10. 12. 16. 19. 23. 24. 25. Sept 2. 5. 6. 7. 13. 19 Oct 5. 11. 18. 28. 31 Nov 1. 2. 4. 7. 8.
During erection on board vessel - 9. 10. 11. 14. Dec 2. 5. 13. 14. 15. 19. 20. 21. 22 Jan (1928) 3. 4. 5. 6. 9. 10. 11. 12. 13. 16.
Total No. of visits 66

Dates of Examination of principal parts - Cylinders 12. 12. 27 & 14. 1. 28 Covers 31. 10. 27 & 11. 11. 27 Pistons 5. 12. 27 Rods 14. 11. 27 Connecting rods 13. 12. 27

Crank shaft 13. 12. 27 Flywheel shaft ✓ Thrust shaft 13. 1. 28 Intermediate shafts 11. 1. 28 Tube shaft ✓

Screw shaft 19. 12. 27 Propeller 3. 1. 28 Stern tube 11. 1. 28 Engine seatings 25. 1. 28 Engines holding down bolts 23. 3. 28

Completion of fitting sea connections 25. 1. 28 Completion of pumping arrangements 12. 4. 28 Engines tried under working conditions 17. 4. 28

Crank shaft, Material S. M. Eng. Steel Identification Mark 1851 R. L. A. Flywheel shaft, Material Identification Mark

Thrust shaft, Material S. M. Eng. Steel Identification Mark 1850 R. L. A. Intermediate shafts, Material S. M. Eng. Steel Identification Marks 201. 1870. 1862. 1870 R. L. A.

Tube shaft, Material Identification Mark ✓ Screw shaft, Material S. M. Eng. Steel Identification Mark 1927 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 &c.

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 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. 4. 28 C.L. fitted for oil fuel 4. 28 F.P. above 150° F donkey boiler pressure 100 lbs.

The amount of Entry Fee ... £ 5 : -

Special ... £ 98 : 7

Donkey Boiler Fee ... £ 8 : 8

Travelling Expenses (if any) £ :

Committee's Minute FRI. 27 APR 1928

Assigned

+ L.M.C. 4. 28 C.L.
oil engines 200-1000

CERTIFICATE WRITTEN

R. Lee Amess

Engineer Surveyor to Lloyd's Register of Shipping.



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