

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

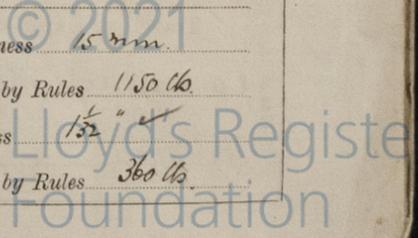
41499 on the ^{Single} ~~Twin~~ ~~Triple~~ ~~Quadruple~~ Screw vessel KING NEPTUNE Tons ^{Gross 5100} _{Net 3000}
Built at Belfast By whom built Harland & Wolff Ltd. Yard No. 762 When built 1928
Engines made at Belfast By whom made Harland & Wolff Ltd. Engine No. 762 When made 1928
Donkey Boilers made at Annan By whom made Cochran & Co. (Annan) Ltd. Boiler No. 10426 When made 1928
Brake Horse Power 1900 Owners King Line Ltd. (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
Trade for which vessel is intended Ocean going

IL ENGINES, &c.—Type of Engines Harland Wolff 800 Type diesel 2 or 4 stroke cycle 4 Single or double acting single
Maximum pressure in cylinders 500 lbs. 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 bore 115 mm. Mid. length thickness 310 mm. shrunk Thickness around eye-hole 210 mm.
Flywheel Shaft, diameter as per Rule 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 Screw Shaft, diameter as per Rule 14-475" Is the ^{tube} ~~screw~~ shaft fitted with a continuous liner Yes
as fitted Thickness in way of bushes as per rule 74" as per rule 56"
as fitted 13/16" as fitted 13/16" 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 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'x8' 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"
in Holds, &c. No. 1 Two 3" No. 2 Two 3 1/2" Deep Tank Two 2 1/2" No. 3 Two 3" After 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
fit 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
What pipes pass through the bunkers none How are they protected
What 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 70 - 67.5 - 150 Stroke 460 mm. Driven by main engines
Auxiliary Air Compressors, No. Three No. of stages Three Diameters 320 - 280 - 82 Stroke 220 mm. Driven by aux. diesels
Small Auxiliary Air Compressors, No. One No. of stages Two Diameters 106 - 54 Stroke 80 mm. Driven by steam
Refrigerating Air Pumps, No. — Diameter — Stroke — Driven by —
Auxiliary Engines crank shafts, diameter as per Rule 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 Black Air - Open Ends {Starting Air
manhole access}
Is there a drain arrangement fitted at the lowest part of each receiver Yes
High Pressure Air Receivers, No. One Cubic capacity of each 3.5 litres 3.50 litres 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 lbs
Starting Air Receivers, No. Two Total cubic capacity 10.76 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 lbs



IS A DONKEY BOILER FITTED? *Yes* ✓

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

PLANS. Are approved plans forwarded herewith for Shafting *11. 12. 26*
(If not, state date of approval)

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,

F. Stebbek Manufacturer.

Dates of Survey while building	During progress of work in shops--	<i>1927</i>	<i>July 27</i>	<i>Aug 2. 10. 12. 16. 19. 23. 24. 25</i>	<i>Sept 2. 5. 6. 7. 13. 19</i>	<i>Oct 5. 11. 18. 28. 31</i>	<i>Nov 1. 2. 4. 7. 8</i>	
		During erection on board vessel--	<i>9. 10. 11. 14</i>	<i>Dec 2. 5. 13. 14. 15. 19. 20. 21. 22</i>	<i>Jan (1928) 3. 4. 5. 6. 9. 10. 11. 12. 13. 16.</i>			
			<i>18. 19. 20. 23. 25. 26. 27. 30. 31</i>	<i>Feb 6. 8. 9. 21</i>	<i>Mar 14. 22. 23</i>	<i>Apr 12. 17</i>		
Total No. of visits	<i>66</i>							

Dates of Examination of principal parts—Cylinders *12. 12. 27 + 4. 1. 28* Covers *31. 10. 27 & 11. 11. 27* Pistons *5. 12. 27* Rods *11. 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 *Sm Eng Steel* Identification Mark *1851 R.L.A.* Flywheel shaft, Material Identification Mark

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

Tube shaft, Material Identification Mark ✓ Screw shaft, Material *Sm 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.

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 ...	£ 5 : -	When applied for, <i>19 April 28</i>
Special ...	£ 98 : 7	
<i>Air RESERVOIRS</i> Donkey Boiler Fee ...	£ 8 : 8	When received, <i>1. 5. 28</i>
Travelling Expenses (if any) £	:	

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



Committee's Minute *FRI. 27 APR 1928*
Assigned *+ L.M.C. 4. 28 C.L. oil engines SB=100 lbs*
CERTIFICATE WRITTEN