

REPORT ON OIL ENGINE MACHINERY.

No. 9886

Received at London Office 23 DEC 1927

Date of writing Report

19

When handed in at Local Office

23rd Dec 1927

Port of

Belfast

No. in Survey held at
Reg. Book.

Belfast

Date, First Survey

25th Jan 1928

Last Survey

19th Dec 1927

Number of Visits

77

41471 on the ^{Single}
^{Triple} Screw vessels

KING EDWIN

Tons { Gross
Net

Master

Built at

Belfast

By whom built

Harland & Wolff Ltd.

Yard No. 758

When built 1927

Engines made at

Belfast

By whom made

Harland & Wolff Ltd.

Engine No. 758

When made 1927

Donkey Boilers made at

Annan

By whom made

Cochran & Co. (Annan) Ltd.

Boiler No. 10422

When made 1927

Brake Horse Power

1900

Owners

King Line Ltd (Ward, 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.M. 2 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

11450 mm

Is a flywheel fitted

Yes

Diameter of crank shaft journals

as per Rule 470 mm

as fitted 485 mm. bal'd 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 310 mm

Diameter of flywheel shaft

as per Rule

as fitted

Diameter of tunnel shaft

as per Rule

as fitted

13.16"

Diameter of thrust shaft

as per Rule

as fitted

13.81"

as fitted

14.41"

Diameter of screw shaft

as per Rule

as fitted

14.475"

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

No

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

5'-0"

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 *Auto 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

forced

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

No. of bilge pumps fitted to the main engines

Diameter of ditto

Stroke

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

1 Bilge

2 Ballast

100 lpm

No. and sizes of suction

connected to both main bilge pumps and auxiliary bilge pumps

In engine room

2-3"

In funnel well

2-3"

No. of ballast pumps

2

How driven

motor

Sizes of pumps

8" x 8"

100 lpm

Is the ballast pump fitted with a direct suction from the engine room bilges

Yes

State size

2-6"

Is a separate auxiliary pump suction fitted in

Engine Room and size

2-5"

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

750-675-150

Stroke

460 mm

Driven by

Main Engines

No. of auxiliary air compressors

Three

No. of stages

3

Diameters

320-280-82

Stroke

220 mm

Driven by

Aux. Diesels

No. of small auxiliary air compressors

One

No. of stages

2

Diameters

106-34

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

as fitted

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

788 litres

750 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

No. of starting air receivers

Two

Internal diameter

72 3/8"

Total cubic capacity

1076 ft

Material

Steel

Seamless, lap welded or riveted longitudinal joint

in 1 long joint

Range of tensile strength

28-32 tons

thickness

1 3/2"

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	8.4.27 to 21.4.27	500 lbs	1000 lbs	R.L.A.	
" " JACKETS.....	12.9.27 to 19.9.27		50 lbs	R.L.A.	
" " PISTON WATER PASSAGES.....					
MAIN COMPRESSORS—1st STAGE.....	31.8.27	75 lbs	150 lbs	R.L.A.	
" 2nd "	8.9.27	250 lbs	500 lbs	R.L.A.	
" 3rd "	19.9.27 to 27.9.27	1000 lbs	2000 lbs	R.L.A.	
AIR RECEIVERS—STARTING	6.9.27 to 28.9.27	356 lbs	585 lbs	R.L.A.	
" " INJECTION	14.10.27 to 1.11.27	1000 lbs	2000 lbs	R.L.A.	
AIR PIPES	9.11.27 to 17.11.27	356 lbs	712 lbs	R.L.A.	
FUEL PIPES					
FUEL PUMPS	19.9.27 to 14.10.27	1000 lbs	2000 lbs	R.L.A.	
SILENCER	1.11.27		5 lbs	R.L.A.	
" " WATER JACKET					
SEPARATE FUEL TANKS	7.10.27		8 lbs	R.L.A.	

PLANS. Are approved plans forwarded herewith for shafting *11th Dec. 1926* Receivers *30th Nov. 1926* Separate Tanks *21st Jan 1927*
(If not, state date of approval)

SPARE GEAR

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

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

Tekebeck

Manufacturer.

Dates of Survey while building
During progress of work in shops—*1927 Jan 25. 27 Feb 1. Mar 3. 17. 22 Apr 8. 11. 13. 14. 20. 21. 22. 28 May 4. 9. 10. 23. 24*
During erection on board vessel—*July 21. 23. 27. 30 Aug 1. 2. 3. 4. 5. 9. 11. 12. 15. 17. 23. 24. 26. 31 Sept 1. 5. 6. 7. 8. 12. 13. 14. 15. 19. 20. 23. 26. 27. 28. 29 Oct 3. 7. 10. 11. 12. 13. 14. 17. 18. 20. 24. 25. 26. 28. 31 Nov 9. 17. 22. 28 Dec 2. 8. 16. 19*
Total No. of visits *77*

Dates of Examination of principal parts—Cylinders *5. 19. 9. 27* Covers *21. 4. 27* Pistons *15. 8. 27* Rods *15. 8. 27* Connecting rods *19. 8. 27*
Crank shaft *1. 8. 27* Thrust shaft *14. 10. 27* Tunnel shafts *7. 9. 27* Screw shaft *13. 9. 27* Propeller *16. 9. 27* Stern tube *5. 9. 27* Engine seatings *20. 9. 27*
Engines holding down bolts *31. 10. 27* Completion of pumping arrangements *19. 12. 27* Engines tried under working conditions *16. 12. 27*
Completion of fitting sea connections *29. 9. 27* Stern tube *29. 9. 27* Screw shaft and propeller *29. 9. 27*
Material of crank shaft *S.M. Ingot Steel* Identification Mark on Do. *1407 R.L.A.* Material of thrust shaft *S.M. Ingot Steel* Identification Mark on Do. *1586 R.L.A.*
Material of tunnel shafts *S.M. Ingot Steel* Identification Marks on Do. *1637. 1657. 716H3* Material of screw shafts *S.M. Ingot Steel* Identification Marks on Do. *1657 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"*

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 and good. The main and auxiliary engines were tried out at a mooring trial 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. 12.27 C.L. FITTED FOR OIL FUEL 11.27 F.P. ABOVE 150° F.

The amount of Entry Fee ... £ 5 : -
Special ... £ 98 : 7
Air RESERVOIRS Donkey Boiler Fee ... £ 8 : 8
Travelling Expenses (if any) £ :
When applied for, *23rd Dec 27*
When received, *4. 1. 28*

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

Committee's Minute **FRI. 30 DEC 1927**

Assigned

+ L.M.C. 12.27 Oil Engines DB 100 lbs



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