

REPORT ON STEAM RECIPROCATING ENGINE MACHINERY.

Received at London Office

FRI. 21 SEP. 1923

Date of writing Report 17th Sept 1923 When handed in at Local Office 17th Sept 1923 Port of

NEWCASTLE-ON-TYNE

No. in Survey held at St Peters & Hebburn on 28th Sept 1922 Date, First Survey 28th Sept 1922 Last Survey 15th Sept 1923

Reg. Book.

41104 on the S. S. Palma.

(Number of Visits 66)

Gross 10250

Net

Built at Hebburn By whom built R. H. Hawthorn Leslie & Co Ltd Yard No. 529 When built 1923

Engines made at St Peters, Newcastle By whom made do Engine No. 3511 when made 1923

Boilers made at do do By whom made do Boiler No. 3511 when made 1923

Registered Horse Power 900 Owners British India Steam Navigation Co Ltd Port belonging to Glasgow

Nom. Horse Power as per Rule 900 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted yes

ENGINES, &c.—Description of Engines Quadruple Expansion.

Dia. of Cylinder 29 1/2" x 59 1/2" Length of Stroke 54" Revs. per minute 78 No. of Cylinders 4 No. of Cranks 4

Dia. of Crank shaft journals as per rule 16 1/2" as fitted 16 3/4" Dia. of Crank pin 7 1/2" Crank webs Mid. length breadth 3 1/2" Thicker parallel to axis 10 3/4" shrunk Thickness around eye-hole 7 1/8"

Diameter of Thrust shaft under collars as per rule 16 1/2" as fitted 16 3/4" Diameter of Tunnel shaft as per rule 15 3/4" as fitted 15 1/2" Diameter of Screw shaft as per rule 16 1/2" as fitted 17 1/2" 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 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 appliance fitted at the after end of the shaft to permit

of it being efficiently lubricated No Length of Stern Bush 78" Diameter of Propeller 19-6" square feet.

Pitch of Propeller 17-9" No. of Blades 4 State whether Moveable yes Total Surface 125 sq. feet.

No. of Feed Pumps fitted to the Main Engines 2 Diameter of ditto 5" Stroke 27" Can one be overhauled while the other is at work yes

No. of Bilge Pumps fitted to the Main Engines 2 Diameter of ditto 5 1/2" Stroke 27" Can one be overhauled while the other is at work yes

Total number and size of power driven Feed and Bilge Auxiliary Pumps No. 10" x 13 1/2" x 24" one 6" x 8 1/2" x 18"

No. and size of Pumps connected to the Main Bilge Line One 12" x 12" x 12", one 12" x 8" x 10" and one emergency motor 100 tons per hour

No. and size of Ballast Pumps One 12" x 12" x 12" No. and size of Lubricating Oil Pumps, including Spare Pump None

Are two independent means arranged for circulating water through the Oil Cooler No. and size of suction connected to both Main Bilge Pumps and Auxiliary

Bilge Pumps;—In Engine and Boiler Room Three 3 1/2", one 5 1/2" and one 3" diam and in Holds, &c. One 3" in No 1, Three 3" in

No 2 & 3, Two 3" in No 4, One 3" in No 5 and one 3" in tunnel well.

No. and size of Main Water Circulating Pump Bilge Suctions One 12" No. and size of Donkey Pump Direct Suctions

to the Engine Room Bilges No. 5" Are all the Bilge Suction Pipes in holds and tunnel well fitted with strum-boxes yes

Are the Bilge Suctions in the Machinery Space led from easily accessible mud-boxes, placed above the level of the working floor, with straight tail pipes to the bilges yes

Are all connections with the sea direct on the skin of the ship Lower Offenders Are they Valves or Cocks Both

Are they fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates yes Are the Discharge Pipes above or below the deep water line above

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 are carried through the bunkers Pipes to forward holds How are they protected Hood boxing

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

compartment to another yes Is the Screw Shaft Tunnel watertight yes Is it fitted with a watertight door yes

MAIN BOILERS, &c.—(Letter for record 6 S) Total Heating Surface of Boilers 13900 sq ft (13652 for fuel)

Is a Report on MAIN BOILERS NOW FORWARDED? yes

IS A DONKEY BOILER FITTED? No If so, is a report now forwarded? yes

PLANS. Are approved plans forwarded herewith for Shafting yes Main Boilers yes Auxiliary Boilers None Donkey Boilers None

(If not state date of approval) General Pumping Arrangements yes Oil fuel Burning Piping Arrangements None fitted.

SPARE GEAR. State the articles supplied:—As required by the rules, also one set of H.P. 1st D.P. and

2nd D.P. piston rings & springs, a set of H.P. & M.P. piston valve packing, one pair crank pin

bushes, 2 pairs top end bushes, one set eccentric straps with bolts & distance pieces,

one H.P. valve rod, 6 thrust pads, one air pump bucket, rod and head valve

one bronze impeller & shaft for main circulating pump, one set of suction & discharge

valves for ballast pump, 2 bucket rings, 5 sets of valves & 4 group valve springs

for auxiliary feed pump, one set of crank pin crosses for top & bottom ends of

low engine, one propeller shaft, one bronze propeller blade, 2 main safety

valve springs, a few tools & condenser tubes, one piston valve chest complete

one suction valve chest one discharge valve chest, 55 metre valves & bucket rings for

Hull Feed Pumps, etc.

The foregoing is a correct description

J. T. Tindale for R. H. Hawthorn Leslie & Co Manufacturer.



1922
 During progress of work in shops - Sep. 28. Oct. 5. 14. 19. Nov. 21. 24. 28. Dec. 5. 12. 20. 28.
 16. 18. 24. May 1. 2. 4. 8. 9. 11. 14. 16. 17. 18. 25. 28. 29. June 1. 5. 8. 9. 11. 12. 13. 15. 19. 21. July 2. 9. 10. 16. 23. 24.
 Aug. 2. 15. 31. Sep. 7. 10. 13.
 1923
 Jan. 5. 9. 25. 30. Feb. 5. 9. 13. 21. 26. Mar. 13. 20. Apr. 4. 5. 6. 10. 11. 13.
 Dates of Survey while building -
 During erection on board vessel - - -
 Total No. of visits 66.

Dates of Examination of principal parts - Cylinders 5/2/23 Slides 5/2/23
 Covers 5/2/23 Pistons 17/11/22 - 5/2/23 Rods 17/11/22
 Connecting rods 17/11/22 Crank shaft 7/11/22 Thrust shaft 31/1/23
 Tunnel shafts 5/4/23 Screw shaft 4/5/23 Propeller 5/4/23
 Stern tube 9/2/23 Engine and boiler seatings 13/6/23 Engines holding down bolts 15/8/23
 Completion of pumping arrangements 7/9/23 Boilers fixed 15/8/23 Engines tried under steam 7/9 - 12/13/9/23
 Completion of fitting sea connections 9/12/6/23 Stern tube 9/4/23 Port Boilers for 2564 & 313 12/6/23
 Main boiler safety valves adjusted 7/9/23 Thickness of adjusting washers do do do 13/22 - 25/6/23 - 23 aft. 13/22 - 14/23
 Material of Crank shaft S M Stul Identification Mark on Do. 4114 D. M.R.
 Material of Thrust shaft do Identification Mark on Do. 6384 N. J.D.
 Material of Tunnel shafts do Identification Marks on Do. 6384 N. J.D.
 Material of Screw shafts do Identification Marks on Do. 6384 N. J.D.
 Material of Steam Pipes Stul & Copper Test pressure 645 + 4.30 lb per sq. in. Date of Test 2/6, 24/7. 2/8/23
 Is an installation fitted for burning oil fuel No Is the flash point of the oil to be used over 150°F. ✓
 Have the requirements of the Rules for carrying and burning oil fuel been complied with ✓
 Is this machinery duplicate of a previous case No If so, state name of vessel ✓

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 of good quality, it has been securely fitted on board and satisfactorily tested at moorings and also in a North Sea, 24 hour run. In our opinion the machinery of this vessel is now eligible for record as L.M.C. 9.23 (in red) in register book.

Approved and amended plan of boilers, two plans of shafting, reports on forgings and steel castings, evaporator & feed heater and invoices of steel, furnaces and steam pipes now forwarded.

It is submitted that this vessel is eligible for THE RECORD. L.M.C. 9.23. F.D. C.L.

24/9/23.

The amount of Entry Fee ... £ 6 : 0 : 0 When applied for, 20/9/23
 Special ... £ 12 : 0 : 0
 Donkey Boiler Fee ... £ 5 : 0 : 0
 Travelling Expenses (if any) £ 2 : 0 : 0 When received, 20/9/23

George Murdoch & Manie Nelson
 Engineer Surveyors to Lloyd's Register of Shipping.

Committee's Minute

Assigned

L.M.C. 9.23
 F.D. C.L.

CERTIFICATE NUMBER



© 2020 Lloyd's Register Foundation