

REPORT ON STEAM RECIPROCATING ENGINE MACHINERY.

Date of writing Report 19 When handed in at Local Office 6 JAN 1928 Port of Sunderland - 7 JAN 1928
 No. in Survey held at Sunderland Date, First Survey Apr. 23 '27 Last Survey Dec. 28 1927
 Reg. Book. 4/133 on the S. S. "HOLYSTONE" (Number of Visits 51)
 Built at Sunderland By whom built Messrs Short Bros Yard No. 427 Tons { Gross 5462
 Engines made at Sunderland By whom made Messrs John Dickinson & Sons Ltd Engine No. 885 when made 1927
 Boilers made at Sunderland By whom made Messrs John Dickinson & Sons Ltd Boiler No. 885 when made 1927
 Registered Horse Power Owners Northumbrian Shipping Co Ltd Port belonging to Newcastle
 Nom. Horse Power as per Rule 332 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes
 Trade for which Vessel is intended General cargo.

ENGINES, &c.—Description of Engines Double compound Lentz type—Single Screw. Revs. per minute 70
 Dia. of Cylinders 2 - 20 1/8" 2 - 43 3/8" Length of Stroke 43 3/8" No. of Cylinders 4 No. of Cranks 4
 Crank shaft, dia. of journals as fitted 12 1/2" Crank pin dia. 13 3/8" Mid. length breadth 25 7/8" Thickness parallel to axis 8 3/8"
 Intermediate Shafts, diameter as fitted 12 3/4" Thrust shaft, diameter at collars as fitted 13 3/8" Thickness around eye-hole 5 3/8"
 Tube Shafts, diameter as per Rule 13 4/8" Screw Shaft, diameter as fitted 14 1/4" Is the shaft fitted with a continuous liner? Yes
 Bronze Liners, thickness in way of bushes as per Rule 7 1/3" Thickness between bushes as per Rule 5 3/5" 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
 Propeller, dia. 17' 0" Pitch 14' 6" No. of Blades 4 Material Bronze whether Moveable No Total Developed Surface 91 sq. feet
 Feed Pumps worked from the Main Engines, No. None Diameter Stroke Can one be overhauled while the other is at work
 Bilge Pumps worked from the Main Engines, No. None Diameter Stroke Can one be overhauled while the other is at work
 Feed Pumps No. and size 2 - Weir's 6" x 8 1/2" x 18" Pumps connected to the Main Bilge Line No. and size 1 - Ballant 9" x 11" x 10" 1 - Bilge 7" x 7" x 8"
 How driven Steam How driven Steam
 Ballast Pumps, No. and size 1 - 9" x 11" x 10" Lubricating Oil Pumps, including Spare Pump, No. and size
 Are two independent means arranged for circulating water through the Oil Cooler
 Bilge Pumps;—In Engine and Boiler Room 3 @ 2 1/2" Dia.
 In Holds, &c. No. 1 Hold 2 @ 2 3/4" Dia; Cross Bunkers 2 @ 3 1/2" Dia; Deep Tank 2 @ 3" Dia; aft main Hold 2 @ 2 3/4" Dia.
 Aft Hold 2 @ 2 3/4" Dia; Tunnel Well 1 @ 2 1/4" Dia.
 Main Water Circulating Pump Direct Bilge Suctions, No. and size 1 @ 7" Dia Independent Power Pump Direct Suctions to the Engine Room Bilges,
 No. and size 1 @ 5" Dia. 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 Sea Connections fitted direct on the skin of the ship Yes Are they fitted with 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 Overboard Discharges 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 pass through the bunkers None How are they protected
 What pipes pass through the deep tanks None Have they been tested as per Rule
 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 Shaft Tunnel watertight Yes Is it fitted with a watertight door Yes worked from Top platform

MAIN BOILERS, &c.—(Letter for record (S)) Total Heating Surface of Boilers 5500 sq. ft.
 Is Forced Draft fitted No No. and Description of Boilers Two Single ended Mammie type Working Pressure 220 lbs. sq. in.
 IS A REPORT ON MAIN BOILERS NOW FORWARDED? Yes
 IS A DONKEY BOILER FITTED? Yes If so, is a report now forwarded? Yes
 PLANS. Are approved plans forwarded herewith for Shafting Main Boilers Auxiliary Boilers Donkey Boilers
 (If not state date of approval) Superheaters General Pumping Arrangements Yes (with Shipport) Oil fuel Burning Piping Arrangements

SPARE GEAR. State the articles supplied:— One C.I. Propeller, One set of Coupling Bolts & Nuts, Two main Bearing Bolts & Nuts, Two Bottom End Bolts & Nuts, Two Top End Bolts & Nuts, 100 Assorted Bolts & Nuts, 100 Condenser Screws, Bars of assorted Iron, Steel Plate, Six Tube Stoppers (ordinary), Six Tube Stoppers (Patent), 12 Cylinder boiler Studs, One Propeller Shaft, 12 Tank Ring Bolts & nuts, 12 Condenser tubes, & 3 frame for Oil fuel Installation.

The foregoing is a correct description,
 for

John Dickinson & Sons, Limited.

Manufacturer.



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1927. Apr. 23. May 20. June 8. 15. 24. July 2. 7. 20. 22. 26. 27. Aug. 3. 5. 8. 20. Sep. 15. 20. 27. Oct. 3. 4.
During progress of work in shops -- 7. 11. 12. 13. 14. 17. 19. 20. 24. 25. 27. Nov. 3. 4. 7. 16. 22. 23. 24. 28. Dec. 2. 5. 6. 7. 9. 12. 17. 19. 20. 21. 28
Dates of Survey while building During erection on board vessel --
Total No. of visits 51

Dates of Examination of principal parts—Cylinders 3-10-27 Piston valves 22-11-27 Covers 6-10-27
Pistons 20-9-27 Piston Rods 4-10-27 Connecting rods 4-10-27
Crank shaft 3-10-27 Thrust shaft 7-10-27 Intermediate shafts 7-10-27
Tube shaft ✓ Screw shaft 12-10-27 Propeller 24-10-27
Stern tube 27-10-27 Engine and boiler seatings 23-11-27 Engines holding down bolts 9-12-27
Completion of fitting sea connections 25-10-27
Completion of pumping arrangements 28-12-27 Boilers fixed 5-12-27 Engines tried under steam 28-12-27
Main boiler safety valves adjusted 12-12-27 Thickness of adjusting washers P.F. $\frac{3}{8}$ " P.A. $\frac{3}{8}$ " Superheater $\frac{5}{16}$ " S.F. $\frac{3}{16}$ " S.A. $\frac{3}{16}$ "
Crank shaft material Ingot Steel Identification Mark 3-10-27 A.T.G. Thrust shaft material Ingot Steel Identification Mark A.T.G. 7-10-27
Intermediate shafts, material Ingot Steel Identification Marks 3-10-27 A.T.G. 7-10-27 Tube shaft, material ✓ Identification Mark ✓
Screw shaft, material Ingot Steel Identification Marks 3-10-27 A.T.G. 7-10-27 Steam Pipes, material Not rolled Solid Drawn Steel Test pressure 660 lbs. Date of Test 2-12-27
Is an installation fitted for burning oil fuel No ✓ A.T.G. 12-10-27 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 materials and workmanship are good.

The Machinery has been constructed under Special Survey, and satisfactorily fitted in the vessel, and is eligible in my opinion for classification and the notation
✠ L.M.C. 12, 27.

It is submitted that
this vessel is eligible for
THE RECORD. + LMC 12.27. CL.
C.4 Cy. (2) $20\frac{1}{8}$ " & (2) $43\frac{3}{8}$ " - $43\frac{3}{8}$ "

10/1/28.

The amount of Entry Fee ... £ 5: : When applied for,
Special ... £ 74: 16: 6 JAN 1928
Donkey Boiler Fee ... £ 7: 2: When received,
Travelling Expenses (if any) £ : : 12-1-28

A. T. Griffith.
Engineer (Surveyor to Lloyd's Register of Shipping.)

Committee's Minute

TUES. 17 JAN 1928

Assigned

CERTIFICATE WRITTEN.



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