

REPORT ON STEAM RECIPROCATING ENGINE MACHINERY.

Received at London Office

21 NOV 1927

Date of writing Report 19 When handed in at Local Office 15 NOV. 1927 Port of Sunderland.
 No. in Survey held at Sunderland. Date, First Survey 16 Nov. 27 Last Survey 8th Nov. 1927
 Reg. Book. on the S.S. "BENTON" (Number of Visits 49)
 Built at Sunderland. By whom built Wm Pickersill & Sons Ltd. Yard No. 219. Tons { Gross 4385.
 Engines made at do By whom made George Clark Ltd. Engine No. 1148 when built 1927 Net 2598.
 Boilers made at do By whom made do Boiler No. 1148 when made 1927
 Registered Horse Power Owners International North American Steamship Co Ltd. Port belonging to Newcastle
 Nom. Horse Power as per Rule 387 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes
 Trade for which Vessel is intended General Trade.

ENGINES, &c.—Description of Engines Triple expansion. Revs. per minute
 Dia. of Cylinders 25 1/2", 41 1/2", 69" Length of Stroke 48" No. of Cylinders 3 No. of Cranks 3
 Crank shaft, dia. of journals as per Rule 13.34 as fitted 13 3/8 Crank pin dia. 13 3/8 Crank webs Mid. length breadth 1-8" Thickness parallel to axis 8 1/2"
 Intermediate Shafts, diameter as per Rule 12.707 as fitted 12 3/4 Thrust shaft, diameter at collars as per Rule 13.34 as fitted 13 3/8 Thickness around eye-hole 6 1/8
 Tube Shafts, diameter as per Rule 14.167 as fitted 14 1/4 Screw Shaft, diameter as per Rule 14 1/4 as fitted 14 1/4 Is the { tube } shaft fitted with a continuous liner { Yes }
 Bronze Liners, thickness in way of bushes as per Rule 17" as fitted 3/4 Thickness between bushes as per Rule 17" as fitted 3/4 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. 17-6 Pitch 18-9 No. of Blades 4 Material Cast Iron whether Moveable No Total Developed Surface 90.5 sq. feet
 Feed Pumps worked from the Main Engines, No. 2 Diameter 3 1/2" Stroke 26" Can one be overhauled while the other is at work Yes
 Bilge Pumps worked from the Main Engines, No. 2 Diameter 4 1/4" Stroke 26" Can one be overhauled while the other is at work Yes
 Feed Pumps { No. and size Two 7 1/2" x 5" x 6" Pumps connected to the { No. and size one 9" x 11" x 10" }
 { How driven Steam Main Bilge Line { How driven Steam }
 Ballast Pumps, No. and size one 9" x 11" x 10" Lubricating Oil Pumps, including Spare Pump, No. and size none
 Are two independent means arranged for circulating water through the Oil Cooler — Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge Pumps;—In Engine and Boiler Room 3 @ 2 1/2", 1 @ 4 1/2", 1 @ 2 1/2" TUNNEL WELL.
 In Holds, &c. No 1, 2 @ 2 3/4, No 2, 2 @ 3 1/2 No 3, 2 @ 2 3/4 No 4, 2 @ 3"

Main Water Circulating Pump Direct Bilge Suctions, No. and size one 6 1/2" Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size one 4 1/2" 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 — How are they protected —
 What pipes pass through the deep tanks — 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 engine room

MAIN BOILERS, &c.—(Letter for record S) Total Heating Surface of Boilers 6363 sq. ft.
 Is Forced Draft fitted No No. and Description of Boilers Three epl. muth Working Pressure 180 lbs. sq.
 IS A REPORT ON MAIN BOILERS NOW FORWARDED? Yes
 IS A DONKEY BOILER FITTED? — If so, is a report now forwarded? —
 PLANS. Are approved plans forwarded herewith for Cranks, S. Yes Main Boilers Yes Auxiliary Boilers — Donkey Boilers —
 Superheaters — General Pumping Arrangements Yes Oil fuel Burning Piping Arrangements —

SPARE GEAR. State the articles supplied:— 2 connecting rod top end & 2 connecting rod bottom end bolts & nuts, 2 main bearing bolts, 1 set coupling bolts, 1 set of feed & bilge pump valves, a quantity of adapted bolts & nuts of various sizes, 1 c.i. bush, 12 flange ring bolts, 12 condenser tubes, 12 boiler tubes, 1 set valves for Ballast & Feed discharge, 1 set U.S. packing for piston & slide rod.

The foregoing is a correct description, FOR GEORGE CLARK LIMITED.

W. G. Clark Manufacturer.



1927. *Mch.* 16, 23. *Apr.* 7, 8, 11, 21, 25. *May* 9, 10, 16, 27, 31. *June* 1, 9, 20, 24, 28. *July* 19, 21, 29. *Aug.* 3, 8, 10, 12, 23, 24, 25. *Sep.* 3, 5, 8, 13, 15, 19, 21, 23, 26, 27, 30. *Oct.* 3, 5, 7, 11, 14, 18, 19, 27. *Nov.* 1, 8.

Dates of Survey while building

During progress of work in shops - - -

During erection on board vessel - - -

Total No. of visits. 49

Dates of Examination of principal parts—Cylinders 20/6/27 Slides 24/6/27 Covers 21/7/27
 Pistons 29/7/27 Piston Rods 25/3/27 Connecting rods 25/8/27
 Crank shaft 23/8/27 & 12/8/27 Thrust shaft 21/7/27 Intermediate shafts 5/8/27 & 26/9/27
 Tube shaft - Screw shaft 8/9/27 & 26/9/27 Propeller 8/9/27
 Stern tube 10/8/27 Engine and boiler seatings 30/9/27 Engines holding down bolts 18/10/27
 Completion of fitting sea connections 21/9/27
 Completion of pumping arrangements 27/10/27 Boilers fixed 7/10/27 Engines tried under steam 19/10/27
 Main boiler safety valves adjusted 19/10/27 Thickness of adjusting washers PORT 5 1/16 CENTRE 5 1/16 STAR 5 1/16
 Crank shaft material I. STEEL Identification Mark 7551 JH Thrust shaft material I. STEEL Identification Mark 2815 JH
 Intermediate shafts, material I. STEEL Identification Marks 1093, 1103, 706 Tube shaft, material - Identification Mark -
 Screw shaft, material I. STEEL Identification Mark 680 JH Steam Pipes, material L.W. STEEL Test pressure 540 Date of Test 11/10/27
 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 engines & boilers of this vessel have been built under Special Survey & the materials & workmanship are good. On completion the machinery was tried under full head of steam with satisfactory results. The machinery of this vessel is now in a good & efficient condition & eligible in my opinion to have the notation LMC-11-27 marked in Red in the Society's Register Book.

It is submitted that this vessel is eligible for THE RECORD. + LMC 11. 27. CL.

JWD.
 22/11/27

Harbottle.
 Engineer Surveyor to Lloyd's Register of Shipping.

The amount of Entry Fee ... £ 5-0-0
 Special ... £ 83-1-0
 Donkey Boiler Fee ... £ : :
 Travelling Expenses (if any) £ : :
 When applied for, 15 NOV. 1927
 When received, 17 NOV. 1927

Committee's Minute TUES. 22 NOV 1927
 Assigned + LMC 11:27
 CL

