

Rpt. 4.

No. 89401

REPORT ON STEAM RECIPROCATING ENGINE MACHINERY.

27 NOV 1925

Received at London Office

-2 DEC 1925

Date of writing Report 19 When handed in at Local Office 19 Port of LIVERPOOL

No. in Survey held at Birkenhead Date, First Survey 14th Nov 1925 Last Survey 26th Nov 1925

Reg. Book. 4/301 on the s/s "Upton" (Number of Visits 83)

Built at Birkenhead By whom built Cammell, Laird & Co. Ltd. Yard No. 914 Tons { Gross 374 Net 127 When built 1925

Engines made at Birkenhead By whom made Cammell, Laird & Co. Ltd. Engine No. 914 when made 1925

Boilers made at Birkenhead By whom made Cammell, Laird & Co. Ltd. Boiler No. 914 when made 1925

Registered Horse Power Owners Municipal Corporation of Birkenhead Port belonging to Liverpool

Nom. Horse Power as per Rule 150 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

Trade for which Vessel is intended Passenger Ferry Service on River Mersey

ENGINES, &c.—Description of Engines Triple Expansion Reciprocating Turbine Screw Revs. per minute 130

Dia. of Cylinders 13 1/2", 21 1/2", 24 1/2", 24 1/2" Length of Stroke 18" No. of Cylinder 8 No. of Cranks 8

Crank shaft, dia. of journals 6.03" as per Rule 6 1/2" as fitted Crank pin dia. 6 1/2" Crank webs Mid. length breadth 7 1/2" Thickness parallel to axis 4 1/2" shrunk Mid. length thickness 4 1/2" Thickness around eye-hole 4 1/2"

Intermediate Shafts, diameter as per Rule 5.75" as fitted 6" Thrust shaft, diameter at collars as per Rule 6.03" as fitted 6 1/2"

Tube Shafts, diameter as per Rule 6.62" as fitted 6 3/4" Is the { tube } shaft fitted with a continuous liner { No }

Bronze Liners, thickness in way of bushes as per Rule 3/16" as fitted Thickness between bushes as fitted 3/16" 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 Yes

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 Is an approved Oil Gland or other appliance fitted at the after end of the ~~main~~ propeller shaft Yes Length of Bearing in Stern Bush next to and supporting propeller 3'0"

Propeller, dia. 7'3" Pitch 11'3" No. of Blades 3 Material Cast Iron whether Movable No Total Developed Surface 25 sq. feet

Feed Pumps worked from the Main Engines, No. 2 Diameter 4" Stroke 5" Can one be overhauled while the other is at work Yes

Bilge Pumps worked from the Main Engines, No. 2 Diameter 4" Stroke 5" Can one be overhauled while the other is at work Yes

Feed Pumps { No. and size 2 - 3 1/2" x 8" x 6" How driven Direct acting steam Pumps connected to the Main Bilge Line { No. and size Duplex 5" x 5" x 5" direct acting steam & 2 - 4" x 5" How driven driven by main engines }

Ballast Pumps, No. and size 1 - Duplex 5" x 5" x 5" Lubricating Oil Pumps, including Spare Pump, No. and size 1 - 4" x 2 1/2"

Are two independent means arranged for circulating water through the Oil Cooler Yes Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge Pumps;—In Engine and Boiler Room 4 - 2 1/2"

In Holds, &c. Fore peak 1-2", after peak 1-2", Hold 1-2"

Main Water Circulating Pump Direct Bilge Suctions, No. and size 1 - 5 1/2" Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size 1 - 3" 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 Valves & Cocks

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 are carried through the bunkers None How are they protected As per Rule

What pipes pass through the deep tanks None 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 compartment to another Yes Is the Shaft Tunnel watertight None Is it fitted with a watertight door Yes worked from Yes

MAIN BOILERS, &c.—(Letter for record S) Total Heating Surface of Boilers 2850 sq. feet.

Is Forced Draft fitted No No. and Description of Boilers Two cylindrical locomotive type Working Pressure 180 lbs per sq. in.

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 No Main Boilers Yes Auxiliary Boilers Yes Donkey Boilers Yes

(If not state date of approval) (E) 24/3/25

Superheaters Yes General Pumping Arrangements Yes Oil fuel Burning Piping Arrangements Yes

SPARE GEAR. State the articles supplied:—

2 propellers, 1 propeller shaft and nut, 4 connecting rod tops and 4 bottom end bolts and nuts, 2 main bearing bolts and nuts, 6 shaft coupling bolts and nuts, 2 pairs of crank pin bruses, condenser tubes and ferrules, plain and stay boiler tubes, metallic packing parts for piston rods, bilge pump valves and seats, valves and nuts for duplex pumps, bolts and nuts various sizes, iron various sizes, 2 stern bushes.

The foregoing is a correct description,
OF AMELL LAIRD AND COMPANY (LIMITED).

J. W. Laird
LOCAL SECRETARY

Manufacturer.



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003591-003598-0028

If not, state whether, and when, one will be sent. Is a Report also sent on the Hull of the Ship? NOTE.—The words which do not apply should be deleted.

During progress of work in shops - - 1925: Mar. 4, 11, 17, 24, 27, 30. April 1, 2, 7, 16, 22, 28, 29. May 4, 5, 6, 12, 29. June 3, 15, 17, 26. July 13, 14, 16, 17, 18, 20, 21, 22, 24, 27, 29, 30, 31. Aug 10, 16, 18, 20, 24, 27, 28, 31. Sep. 1, 2, 3, 4, 7, 8, 10, 10, 11, 14, 15, 16, 17, 18, 19, 22, 23, 24, 28, 29, 30.
 During erection on board vessel - - Oct. 2, 3, 6, 9, 14, 19, 21, 23, 27, 29, 30. Nov. 5, 10, 11, 17, 19, 25, 26.
 Total No. of visits **83**

Dates of Examination of principal parts—Cylinders 5/6/25 to 1/9/25 Slides 1/9/25 Covers 14/9/25
 Pistons 14/9/25 Piston Rods 1/9/25 Connecting rods 1/9/25
 Crank shafts 26/6/25 to 24/7/25 Thrust shafts 14/7/25 to 1/9/25 Intermediate shafts 14/7/25 to 3/9/25
 Tube shaft ✓ Screw shafts 14/7/25 to 6/10/25 Propellers 14/9/25 to 23/10/25
 Stern tubes 1/9/25 to 16/9/25 Engine and boiler seatings 15/6/25 to 24/8/25 Engines holding down bolts 14/9/25
 Completion of pumping arrangements 30/9/25 Boilers fixed 8/9/25 Engines tried under steam 26/11/25
 Main boiler safety valves adjusted 30/9/25 Thickness of adjusting washers Starb. Blk S. 5/16", P. 1/2", Port Blk S. 5/16", P. 5/16"
 Crank shaft material Steel Identification Mark 152, 7430 Thrust shaft material Steel Identification Mark 122
 Intermediate shafts, material Steel Identification Marks 122, 107 Tube shaft, material ✓ Identification Mark ✓
 Screw shaft, material Steel Identification Mark 122, 139, 152 Steam Pipes, material Copper Test pressure 360 lb Date of Test 14/9/25, 21/9/25
 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 built under Special Survey in accordance with the Rules, the approved plans and the Secretary's letters (E) of 14/2/25, 24/3/25, 22/7/25, 4/9/25. The Materials and Workmanship are of good quality. When tried under full working conditions at sea, the Machinery was found satisfactory in every respect and, in my opinion, is eligible for the notation of LMC 11, 25 to be recorded in the Register Book.

It is submitted that this vessel is eligible for THE RECORD. + LMC 11. 25. 06.

[Signature] 4/12/25

The amount of Entry Fee ... £ 3 : 0 :
 Special ... £ 37 : 10 :
 Donkey Boiler Fee ... £ : :
 Travelling Expenses (if any) £ : :

When applied for, 30 NOV 1925
 When received, 26 DEC 1925

B. G. Bedford
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute LIVERPOOL - 1 DEC 1925

Assigned + L.M.C. 11. 25. O.G.

CERTIFICATE WRITTEN 2-12-25



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The Surveyors are requested not to write on or below the space for Committee's Minute.