

REPORT ON MACHINERY.

No. 9866

Received at London Office

SAT. 25. AUG. 1917

Date of writing Report 20.8.17 Port of Middlesbrough
 No. in Survey held at Stockton-on-Tees Date, First Survey 28th Dec/16 Last Survey 17th Aug 1917
 Reg. Book. Stockton-on-Tees (Number of Visits) (S.S. No 509)
 on the Steel Screw Steamer "Embleton" Gross 5376.75
 Master Roddam Built at Stockton By whom built Messrs Roper & Sons Net 3969.83
 Engines made at Stockton By whom made Messrs Blair & Co Ltd (No 1844) when made 1917
 Boilers made at Stockton By whom made Messrs Blair & Co Ltd when made 1917
 Registered Horse Power _____ Owners Alderton Steamship Co Ltd Port belonging to London
 Nom. Horse Power as per Section 28 399 Is Refrigerating Machinery fitted for cargo purposes no Is Electric Light fitted no

ENGINES, &c.—Description of Engines Tri-compound No. of Cylinders 3 No. of Cranks 3
 Dia. of Cylinders 26-42-70 Length of Stroke 48 Revs. per minute 57 Dia. of Screw shaft as per rule 14.48 Material of Iron
 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 water tight
 in the propeller boss yes If the liner is in more than one length are the joints burned in one 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 light fit If two
 liners are fitted, is the shaft lapped or protected between the liners _____ Length of stern bush 5'-4"
 Dia. of Tunnel shaft as per rule 12.98 Dia. of Crank shaft journals as per rule 13.68 Dia. of Crank pin 14 3/4" Size of Crank webs 28 1/2" x 9 1/2" Dia. of thrust shaft under
 collars 14 3/4" Dia. of screw 17'-6" Pitch of Screw 17'-6" No. of Blades 4 State whether moveable no Total surface 96 sq ft
 No. of Feed pumps 2 Diameter of ditto 3 1/2" Stroke 34 Can one be overhauled while the other is at work yes
 No. of Bilge pumps 2 Diameter of ditto 5" Stroke 34 Can one be overhauled while the other is at work yes
 No. of Donkey Engines 2 Sizes of Pumps Ballant 7x10 2 1/2 4x8 No. and size of Suctions connected to both Bilge and Donkey pumps
 In Engine Room 3 @ 3 1/2" In Holds, &c. 2 @ 3 1/2" each hold: funnel well
on @ 2 1/2"
 No. of Bilge Injections 1 sizes 7" Connected to condenser, or to circulating pump yes Is a separate Donkey Suction fitted in Engine room & size yes-4"
 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 none
 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 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 Suctions to forward holds How are they protected wood ceiling
 Are all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings 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
 Dates of examination of completion of fitting of Sea Connections 4.6.17 of Stern Tube 4.6.17 Screw shaft and Propeller 22.6.17
 Is the Screw Shaft Tunnel watertight see hull Report Is it fitted with a watertight door yes worked from top platform

BOILERS, &c.—(Letter for record (Y)) Manufacturers of Steel Messrs John Hume & Sons
 Total Heating Surface of Boilers 6565 Is Forced Draft fitted no No. and Description of Boilers 2 single ended
 Working Pressure 180 Tested by hydraulic pressure to 360 Date of test 26.4.17 No. of Certificate 5752
 Can each boiler be worked separately yes Area of fire grate in each boiler 67 sq ft No. and Description of Safety Valves to
 each boiler 2 direct spring Area of each valve 8.29 Pressure to which they are adjusted 185 Are they fitted with easing gear yes
 Smallest distance between boilers or uptakes and bunkers or woodwork 2'-6" Mean dia. of boilers 17'-6" Length 11'-6" Material of shell plates Steel
 Thickness 1 1/32 Range of tensile strength 28-32 Are the shell plates welded or flanged no Descrip. of riveting: cir. seams 2.R. lap
 long. seams 2.B-3 Riv Diameter of rivet holes in long. seams 1 1/2" Pitch of rivets 9 1/4" Lap of plates on width of butt straps 20 3/8" x 1 1/8"
 Per centages of strength of longitudinal joint 92.6 Working pressure of shell by rules 183 Size of manhole in shell 16" x 12"
 Size of compensating ring 7 3/4" x 1 1/2" No. and Description of Furnaces in each boiler 3 Dighton Material Steel Outside diameter 50 1/2"
 Length of plain part 39 Thickness of plates 39 Description of longitudinal joint Weld No. of strengthening rings _____
 Working pressure of furnace by the rules 193 Combustion chamber plates: Material Steel Thickness: Sides 2 1/32 Back 2 1/32 Top 2 1/32 Bottom 2 1/32
 Pitch of stays to ditto: Sides 9 3/8" x 8" Back 9 3/8" x 8 1/2" Top 9 3/8" x 8" If stays are fitted with nuts or riveted heads nuts Working pressure by rules 185
 Material of stays iron Diameter at smallest part 1.99 Area supported by each stay 76 Working pressure by rules 196 End plates in steam space:
 Material Steel Thickness 1 3/8" Pitch of stays 21 How are stays secured nuts & washers Working pressure by rules 188 Material of stays steel
 Diameter at smallest part 8.48 Area supported by each stay 482 Working pressure by rules 183 Material of Front plates at bottom Steel
 Thickness 1" Material of Lower back plate Steel Thickness 1 1/2" Greatest pitch of stays 14 1/2" x 8 1/2" Working pressure of plate by rules 225
 Diameter of tubes 3 1/2" Pitch of tubes 4 3/8" x 4 3/8" Material of tube plates steel Thickness: Front 1 1/2" Back 1 1/2" Mean pitch of stays 9 3/4"
 Pitch across wide water spaces 14 1/2" Working pressures by rules 220 Girders to Chamber tops: Material steel Depth and
 thickness of girder at centre 8 1/2" x 2" Length as per rule 33 Distance apart 9 3/4" Number and pitch of stays in each 3 @ 8"
 Working pressure by rules 190 Superheater or Steam chest; how connected to boiler none Can the superheater be shut off and the boiler worked
 separately _____ Diameter _____ Length _____ Thickness of shell plates _____ Material _____ Description of longitudinal joint _____ Diam. of rivet
 holes _____ Pitch of rivets _____ Working pressure of shell by rules _____ Diameter of flue _____ Material of flue plates _____ Thickness _____
 If stiffened with rings _____ Distance between rings _____ Working pressure by rules _____ End plates: Thickness _____ How stayed _____
 Working pressure of end plates _____ Area of safety valves to superheater _____ Are they fitted with easing gear _____

If not, state whether, and when, etc. will be sent

IS A DONKEY BOILER FITTED? yes

If so, is a report now forwarded? yes - Indt Rpt 9774

SPARE GEAR. State the articles supplied: - 2 each of con. rod top end, bottom end and main bearing bolts and nuts; one set of coupling bolts and nuts; one set of feed and bilge pump valves; assorted bolts and nuts; iron of various sizes; one propeller and minor gear.

The foregoing is a correct description,

FOR BLAIR & Co., LIMITED.

Geo Pittsichyn

Manufacturer.

SECRETARY.

Dates of Survey while building { During progress of work in shops -- 1916 Dec 28, 1917 Jan 8, 11, 18, 22, 28, 30, Feb 1, 6, 12, 14, 16, 21, 26, 28, Mar 5, 8, 13, 16, 19, 22, 28, 26, 27, 30, Apr 2, 5, 6, 11, 13, 16, 17, 19, 21, 24, 25, 26, 27, May 2, 4, 9, 11, 14, 16, 17, 31, 28, 34, 35, June 1, 11, 19, 22, 27, July 2, 4, 5, 9, 16, 23, 31, Aug 7, 9, 13, 14, 16, 17, Total No. of visits 67

Is the approved plan of main boiler forwarded herewith yes

" " " donkey " " " yes

Dates of Examination of principal parts - Cylinders 13.4.17 Slides 13.4.17 Covers 24.4.17 Pistons 24.4.17 Rods 24.4.17

Connecting rods 4.5.17 Crank shaft 21.4.17 Thrust shaft 30.3.17 Tunnel shafts 5.3.17 Screw shaft 1.6.17 Propeller 21.5.17

Stern tube 25.5.17 Steam pipes tested 14.3.17 Engine and boiler seatings 4.6.17 Engines holding down bolts 27.6.17

Completion of pumping arrangements 17.8.17 Boilers fixed 9.8.17 Engines tried under steam 9.8.17

Main boiler safety valves adjusted 9.8.17 Thickness of adjusting washers Port Plr S - 5/16; Star Plr S - 5/16

Material of Crank shaft Eng Steel Identification Mark on Do. 7087 Material of Thrust shaft Eng Steel Identification Mark on Do. 1777 N

Material of Tunnel shafts Eng Steel Identification Marks on Do. 1777 N Material of Screw shafts W. Iron Identification Marks on Do. 7087

Material of Steam Pipes Lap welded W. Iron Test pressure 540

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 Section 49 of the Rules been complied with ✓

Is this machinery duplicate of a previous case yes If so, state name of vessel S.S. 'Sturton' Rpt No 7630

General Remarks (State quality of workmanship, opinions as to class, &c.)

The machinery of this vessel has been built under special survey. The materials and workmanship are sound and good. The boilers were tested by hydraulic pressure and the engines and boilers examined under steam and all found satisfactory.

The machinery is now in a good and safe working conditions and renders the vessel eligible in my opinion to have the notation of LMC-8.17 in the Register Book.

The vessel is fitted with "Wireless"

The ballast pumping arrangements have been altered in accordance with the instructions of Mr Frank representing the Shipping Controller, with a view to carrying oil fuel in the double bottom, and these alterations do not in my opinion effect the efficiency of the ballast pumping arrangements.

It is submitted that this vessel is eligible for THE RECORD. + LMC 8.17.

The amount of Entry Fee ... £ 3-0-0
Special ... £ 39-19-0
Donkey Boiler Fee ... £
Travelling Expenses (if any) £

When applied for, 20/8/17
When received, 23/8/17
Wm Morrison
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute TUE AUG 28 1917
Assigned + Lmb 8.17

MIDDLESBRO'

Certificate (if required) to be sent to the Registrar or below the space for Chairman's Minute.

MACHINERY CERTIFICATE

