

REPORT ON MACHINERY.

No. 10425
THU. DEC. 21 1911

Received at London Office

Date of writing Report 18.12.1911 When handed in at Local Office 19.12.1911 Port of Aberdeen
 No. in Survey held at Aberdeen Date, First Survey 13.9.12 Last Survey 15.12.1911
 Reg. Book. (Number of Visits 23)
 on the S.S. "JAMES PITCHERS" Gross 194.25 Tons
 Net 45.03
 Master John High Built at Aberdeen By whom built Hall Russell & Co. Ltd. No. 503 When built 1911
 Engines made at Aberdeen By whom made Hall Russell & Co. Ltd. No. 503 when made 1911
 Boilers made at do. By whom made do do do when made 1911
 Registered Horse Power 48 Owners R. Iwin & Sons Ltd. Port belonging to North Shields
 Nom. Horse Power as per Section 28 48 Is Refrigerating Machinery fitted for cargo purposes no. Is Electric Light fitted no.

ENGINES, &c.—Description of Engines Triple expansion No. of Cylinders 3 No. of Cranks 3
 Dia. of Cylinders 12", 20", 34" Length of Stroke 24" Revs. per minute 110 Dia. of Screw shaft as per rule 6.9 1/2" Material of screw shaft Scraper
 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 no 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 no Length of stern bush 2' 6"
 Dia. of Tunnel shaft as per rule 6.2 1/2" Dia. of Crank shaft journals as per rule 6.2 1/2" Dia. of Crank pin 6 3/4" Size of Crank webs 10" x 4 3/4" Dia. of thrust shaft under
 collars 6 3/4" Dia. of screw 8' 4" Pitch of Screw 11' 6" No. of Blades 4 State whether moveable no Total surface 322 1/2
 No. of Feed pumps 2 Diameter of ditto 2 3/8" Stroke 12" Can one be overhauled while the other is at work yes
 No. of Bilge pumps 2 Diameter of ditto 2 3/8" Stroke 12" Can one be overhauled while the other is at work yes
 No. of Donkey Engines 2 Sizes of Pumps 5 1/4" x 3 1/2" x 6" duplex No. and size of Suctions connected to both Bilge and Donkey pumps
 In Engine Room 1 of 2" In Holds, &c. Slushwell in Fishhold, 1 of 2"
 Also ejector, drawing from all parts, and with separate suction to engine room 2" dia.
 No. of Bilge Injections 1 sizes 3 1/2" Connected to condenser, or to circulating pump C. P. Is a separate Donkey Suction fitted in Engine room & size yes 2"
 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 no
 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 from Slushwell & F.W. tank How are they protected strong wood casing
 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 30.11.11 of Stern Tube 9.11.11 Screw shaft and Propeller 30.11.11
 Is the Screw Shaft Tunnel watertight None Is it fitted with a watertight door worked from

BOILERS, &c.—(Letter for record (7)) Manufacturers of Steel W. Beardmore & Co. Ltd. D. Colville & Sons Ltd.
 Total Heating Surface of Boilers 1429 1/2 Is Forced Draft fitted no No. and Description of Boilers one, cyl. mult, single ended
 Working Pressure 180 lbs Tested by hydraulic pressure to 360 Date of test 30.11.11 No. of Certificate 688
 Can each boiler be worked separately yes Area of fire grate in each boiler 48 1/2 No. and Description of Safety Valves to
 each boiler 2: direct spring Area of each valve 5.94 sq. in. Pressure to which they are adjusted 185 lbs Are they fitted with easing gear yes
 Smallest distance between boilers or uptakes and bunkers or woodwork wood 4" inside Mean dia. of boilers 12' 9" Length 10' 9" Material of shell plates S.
 Thickness 1 1/16" Range of tensile strength 28-32 Are the shell plates welded or flanged no Descrip. of riveting: cir. seams d. r. lap
 long. seams double straps Diameter of rivet holes in long. seams 1 1/8" Pitch of rivets 8" 4" Lap of plates or width of butt straps 16 1/2" x 1 1/2"
 Per centages of strength of longitudinal joint rivets 86.9 Working pressure of shell by rules 185 Size of manhole in shell 16" x 12"
 plate 86.9 Size of compensating ring 28" dia x 1 1/16" No. and Description of Furnaces in each boiler 3: plain Material S. Outside diameter 40"
 Length of plain part top 8 1/2" Thickness of plates bottom 1 1/16" Description of longitudinal joint weld No. of strengthening rings 1
 Working pressure of furnace by the rules 188 Combustion chamber plates: Material S. Thickness: Sides 5 1/8" Back 5 1/8" Top 5 1/8" Bottom 5 1/8"
 Pitch of stays to ditto: Sides 9" x 8" Back 9" x 8" Top 9" x 8" If stays are fitted with nuts or riveted heads nuts Working pressure by rules 180
 Material of stays Iron Diameter at smallest part 1 9/16" Area supported by each stay 42 sq. in. Working pressure by rules 200 End plates in steam space:
 Material S. Thickness 1 1/8" Pitch of stays 18" x 18" How are stays secured d. r. w. Working pressure by rules 185 Material of stays S.
 Diameter at smallest part 2 1/16" Area supported by each stay 324 sq. in. Working pressure by rules 199 Material of Front plates at bottom S.
 Thickness 1" Material of Lower back plate S. Thickness 1 5/16" Greatest pitch of stays 1 1/4" x 9" Working pressure of plate by rules 213
 Diameter of tubes 3 1/2" Pitch of tubes 4 3/4" x 4 3/4" Material of tube plates S. Thickness: Front 1" Back 3/2" Mean pitch of stays 1 1/8"
 Pitch across wide water spaces 14 1/2" Working pressures by rules 180.9 Girders to Chamber tops: Material S. Depth and
 thickness of girder at centre 8 1/4" x 1 3/4" Length as per rule 3 1/2" Distance apart 9" Number and pitch of stays in each tier: 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 yes Diameter 12" Length 12" Thickness of shell plates 1 1/16" Material S. Description of longitudinal joint weld Diam. of rivet
 holes 1 1/8" Pitch of rivets 8" Working pressure of shell by rules 180 Diameter of flue 12" Material of flue plates S. Thickness 1 1/16"
 If stiffened with rings yes Distance between rings 12" Working pressure by rules 180 End plates: Thickness 1 1/8" How stayed by stays
 Working pressure of end plates 180 Area of safety valves to superheater 12" Are they fitted with easing gear yes

006332-006342-0270

VERTICAL DONKEY BOILER— Manufacturers of Steel

No. _____ Description _____

Made at _____ By whom made _____ When made _____ Where fixed _____

Working pressure tested by hydraulic pressure to _____ Date of test _____ No. of Certificate _____ Fire grate area _____ Description of Safety Valves _____

Valves No. of Safety Valves _____ Area of each _____ Pressure to which they are adjusted _____ Date of adjustment _____

If fitted with easing gear _____ If steam from main boilers can enter the donkey boiler _____ Dia. of donkey boiler _____ Length _____

Material of shell plates _____ Thickness _____ Range of tensile strength _____ Descrip. of riveting long. seams _____

Dia. of rivet holes _____ Whether punched or drilled _____ Pitch of rivets _____ Lap of plating _____ Per centage of strength of joint _____ Rivets _____ Plates _____

Working pressure of shell by rules _____ Thickness of shell crown plates _____ Radius of do. _____ No. of stays to do. _____ Dia. of stays _____

Diameter of furnace Top _____ Bottom _____ Length of furnace _____ Thickness of furnace plates _____ Description of joint _____

Working pressure of furnace by rules _____ Thickness of furnace crown plates _____ Radius of do. _____ Stayed by _____

Diameter of uptake _____ Thickness of uptake plates _____ Thickness of water tubes _____ Dates of survey _____

SPARE GEAR. State the articles supplied:— Two top & bottom end bolts & nuts; 2 main bearings + 1 set coupling bolts & nuts; 1 set each, Air, Feed, & Bilge pump valves; 1 main + 1 donkey feed check valve; 1 safety valve spring; bolts, and nuts assorted, and iron of various sizes

The foregoing is a correct description,

James J. Hunter Manufacturers of Main Engines & Boilers.

Dates of Survey while building: During progress of work in shops - - 1911. September, 13, 16. October 11, 14, 14, 24, 24, 31. November 3, 9, 13, 20, 23, 24, 28, 30. During erection on board vessel - - - - - December 2, 6, 7, 9, 11, 13, 15 / Total No. of visits 23.

Is the approved plan of main boiler forwarded herewith *with Thomas W. Brown* **yes**.

Dates of Examination of principal parts—Cylinders $\frac{11.14.31}{10}$ $\frac{24}{11}$ Slides $\frac{20}{11}$ Covers $\frac{13}{11}$ Pistons $\frac{13.20.28}{11}$ $\frac{6}{12}$ Rods $\frac{11}{10}$ $\frac{28}{11}$ $\frac{6}{12}$

Connecting rods $\frac{11}{10}$ $\frac{28}{11}$ $\frac{6}{12}$ Crank shaft 20.11.11 Thrust shaft $\frac{11.14}{10}$ $\frac{29}{11}$ Tunnel shafts $\frac{4}{10}$ $\frac{29}{11}$ Screw shaft $\frac{14.24}{10}$ $\frac{29}{11}$ Propeller $\frac{13.20}{11}$

Stern tube 14.10.11 Steam pipes tested 11.12.11. Engine and boiler seatings 9.11.11. Engines holding down bolts $\frac{2.9}{12}$

Completion of pumping arrangements 13.12.11 Boilers fixed 9.12.11. Engines tried under steam 13.12.11.

Main boiler safety valves adjusted 13.12.11. Thickness of adjusting washers Port. $\frac{9}{32}$ Starboard. $\frac{9}{32}$

Material of Crank shaft *S.V.S.* Identification Mark on Do. *229 (Dun)* Material of Thrust shaft *S* Identification Mark on Do. *649.A*

Material of Tunnel shafts *J.* Identification Marks on Do. *650.A* Material of Screw shafts *J.* Identification Marks on Do. *651.A*

Material of Steam Pipes *Copper, solid drawn, 3 1/2 bore, No 4 T.W.G.* Test pressure 360 lbs per sq inch.

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

These engines, and the Boiler, have been constructed under Special Special and in accordance with the Secretary's letter, the Rules, and approved plan. The materials, and workmanship are good. When completed & properly fitted on board, they were tried under steam at moorings, with satisfactory results, and are now in good working order, and in my opinion entitled to the record *L.M.C. 12.11.* in the Register Book.

It is submitted that this vessel is eligible for THE RECORD + LMC 12.11.

J.W.D.
Ridley Howell
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

The amount of Entry Fee .. £ 1. : : When applied for, Special .. £ 11. 14. : : 20. 12. 19. 11. Donkey Boiler Fee .. £ : : : When received, Travelling Expenses (if any) £ : : : 28. 12. 19. 11.

Committee's Minute FRI. DEC. 29. 1911
Assigned *Thme 12. 11*

Alberdeen office.

Certificate (if required) to be sent to
(The Surveyors are requested not to write on or below the space for Committee's Minute.)

