

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. Irwin & 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 6.911 as fitted 4 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 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 Length of stern bush 2' 6"
 Dia. of Tunnel shaft as per rule 6.210 as fitted 6 1/2" Dia. of Crank shaft journals as per rule 6.212 as fitted 6 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 14297 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 487 No. and Description of Safety Valves to
 each boiler 2: direct spring Area of each valve 5.94 lbs 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 about 4" 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 1/4" x 1 1/2"
 Per centages of strength of longitudinal joint rivets 86.9 plate 85.9 Working pressure of shell by rules 185 Size of manhole in shell 16" x 12"
 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 82 1/2" bottom 82 1/2" Thickness of plates crown 49 bottom 64 Description of longitudinal joint weld No. of strengthening rings yes
 Working pressure of furnace by the rules 188 Combustion chamber plates: Material S. Thickness: Sides 8" Back 8" Top 8" Bottom 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 186.
 Material of stays Iron Diameter at smallest part 1 3/16" Area supported by each stay 42 sq 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 32 1/4 Working pressure by rules 199 Material of Front plates at bottom S.
 Thickness 1" Material of Lower back plate S. Thickness 1 1/16" Greatest pitch of stays 14 1/4" x 9" Working pressure of plate by rules 213.
 Diameter of tubes 2 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 11 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 yes Length yes Thickness of shell plates yes Material yes Description of longitudinal joint yes Diam. of rivet
 holes yes Pitch of rivets yes Working pressure of shell by rules yes Diameter of flue yes Material of flue plates yes Thickness yes
 If stiffened with rings yes Distance between rings yes Working pressure by rules yes End plates: Thickness yes How stayed yes
 Working pressure of end plates yes Area of safety valves to superheater yes Are they fitted with easing gear yes

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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	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 & 2 bottom end bolts & nuts; 2 main bearing & 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 yes. *with J. Thomas W. Brown*

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 $\frac{11}{10}$ $\frac{28}{11}$ $\frac{4}{12}$

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 $\frac{4}{10}$ $\frac{20}{11}$ Screw shaft $\frac{14.24}{10}$ $\frac{20}{11}$ 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.S. Identification Mark on Do. 229 (Dun) Material of Thrust shaft S Identification Mark on Do. 649.A

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

Material of Steam Pipes Copper, solid drawn, 3 1/2" bore, N° 4 B.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.

The amount of Entry Fee	£ 1. : :	When applied for,
Special	£ 11. 14. :	20. 12. 1911.
Donkey Boiler Fee	£ : :	When received,
Travelling Expenses (if any)	£ : :	28. 12. 1911.

Committee's Minute

FRI. DEC. 29. 1911

Assigned

thine 12. 11

Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.



Lloyd's Register
Foundation