

## REPORT ON MACHINERY.

Port of MIDDLESBROUGH-ON-TEESReceived at London Office 0061 III 23 FRI 23 1909No. in Survey held at Stockton-on-TeesDate, first Survey 3<sup>rd</sup> MayLast Survey 16<sup>th</sup> July 1909

Reg. Book.

(Number of Visits 32)on the Steel Screw Steamer ERRINGTON COURT

Master

Built at NewcastleBy whom built Northumberland S.B. & Co. Lim.S.S. No. 162Gross 4461Net 2782When built 1909Engines made at StocktonBy whom made Messrs Blair & Co. Lim.when made 1909Boilers made at StocktonBy whom made Messrs Blair & Co. Lim.when made 1909

Registered Horse Power

Owners Haldinstein & Co. Lim.Port belonging to LondonNom. Horse Power as per Section 28 427Is Refrigerating Machinery fitted for cargo purposes noIs Electric Light fitted no

## ENGINES, &amp;c.—Description of Engines

Triple ExpansionNo. of Cylinders 3No. of Cranks 3Dia. of Cylinders 26-42-70 Length of Stroke 48 Revs. per minuteDia. of Screw shaft as per rule 14.58 Material of Eng. Steelas fitted 15.74 screw shaftIs 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 ✓

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 5'-4"Dia. of Tunnel shaft as per rule 12.28Dia. of Crank shaft journals as per rule 13.63Dia. of Crank pin 14.7Size of Crank webs 28 1/2 x 9 1/2 Dia. of thrust shaft undercollars 14 3/4 Dia. of screw 17'-6" Pitch of Screw 17'-6"No. of Blades 4State whether moveable no Total surface 96 sqNo. of Feed pumps 2 Diameter of ditto 3 1/2 Stroke 34Can one be overhauled while the other is at work yesNo. of Bilge pumps 2 Diameter of ditto 5 Stroke 34Can one be overhauled while the other is at work yesNo. of Donkey Engines 2 Sizes of Pumps Ballast - 12 x 10 x 13

No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room 3 @ 3 1/2" + Two in dry tank u.B. @ 3 1/2"In Holds, &c. No. 1 - 2 @ 3 1/2" : No. 2 - 2 @ 3 1/2"No. 3 - 2 @ 3 1/2" : No. 4 - 2 @ 3 1/2" : Tunnel well - 1 @ 2 1/2"No. of Bilge Injections 1 sizes 6 3/4Connected to circulating pump yes Is a separate Donkey Suction fitted in Engine room & size yes - 3 1/2"Are all the bilge suction pipes fitted with roses yesAre the roses in Engine room always accessible yes Are the sluices on Engine room bulkheads always accessible noneAre all connections with the sea direct on the skin of the ship yesAre they Valves or Cocks bothAre they fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates yesAre the Discharge Pipes above or below the deep water line aboveAre they each fitted with a Discharge Valve always accessible on the plating of the vessel yesAre the Blow Off Cocks fitted with a spigot and brass covering plate yesWhat pipes are carried through the bunkers Suctions to No. 1 & 2 holdsHow are they protected wood ceilingAre all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times yesAre the Bilge Suction Pipes, Cocks, and Valves arranged so as to prevent any communication between the sea and the bilges yesDates of examination of completion of fitting of Sea Connections 14.6.09of Stern Tube 14.6.09 Screw shaft and Propeller 5-7.09

Is the Screw Shaft Tunnel watertight

Is it fitted with a watertight door yes worked from top platformBOILERS, &c.—(Letter for record (5))Manufacturers of Steel Messrs J. Spencer & Sons2 main & 1 aux converted to 2 darky boilers 3.37.2 main & one auxiliaryTotal Heating Surface of Boilers 7378Is Forced Draft fitted noNo. and Description of Boilers 2 Single EndedWorking Pressure 180Tested by hydraulic pressure to 360Date of test 30.6.09No. of Certificate 4289Can each boiler be worked separately yesArea of fire grate in each boiler 70.8 sq

No. and Description of Safety Valves to

each boiler 2 direct springArea of each valve 8.27 sqPressure to which they are adjusted 185 lbsAre they fitted with easing gear yesSmallest distance between boilers or uptakes and bunkers or woodwork 4 ft; 8 in. dia. of boilers16' 10 1/2" Length 11' 8 1/2"Material of shell plates steelThickness 1 1/2" Range of tensile strength 28-32Are the shell plates welded or flanged noDescrip. of riveting: cir. seams Lap. 8 R.long. seams 2 Riv. 3 Riv Diameter of rivet holes in long. seams 1 1/8"Pitch of rivets 9 1/2"Gap of plates or width of butt straps 20 3/8 x 1 1/2"Per centages of strength of longitudinal joint 86.3Working pressure of shell by rules 183 lbsSize of manhole in shell 16" x 12"Size of compensating ring 7 1/4 x 1 1/2"No. and Description of Furnaces in each boiler 3 (Morison) ConnMaterial steel Outside diameter 50 1/4"Length of plain part top bottom ✓ Thickness of plates top bottom 1 1/2"Description of longitudinal joint weldedNo. of strengthening rings ✓Working pressure of furnace by the rules 186Combustion chamber plates: Material steel Thickness: Sides 2 1/2"Back 2 1/2" Top 2 1/2" Bottom 5 7/8"Pitch of stays to ditto: Sides 9 3/4 x 8 1/4" Back 9 1/2 x 8 1/4" Top 9 1/2 x 8 1/4"If stays are fitted with nuts or riveted heads multiWorking pressure by rules 181 lbsMaterial of stays steel Diameter at smallest part 1.59Area supported by each stay 82 sqWorking pressure by rules 218 End plates in steam space:Material steel Thickness 1 1/2" Pitch of stays 20 x 22How are stays secured nuts & washersWorking pressure by rules 184 Material of stays steelDiameter at smallest part 3.16 Area supported by each stay 440Working pressure by rules 185 Material of Front plates at bottom steelThickness 1 1/2" Material of Lower back plate steelThickness 1 1/2" Greatest pitch of stays 17 1/4 x 9 1/2"Working pressure of plate by rules 285Diameter of tubes 3 1/2" Pitch of tubes 4 3/4 x 4 3/4"Material of tube plates steel Thickness: Front 1 1/2" Back 1 1/2"Mean pitch of stays 10"Pitch across wide water spaces 14 1/2" Working pressures by rules 181Girders to Chamber tops: Material steel Depth andthickness of girder at centre 8 1/2 x 2" Length as per rule 2' 10"Distance apart 9 1/2" Number and pitch of stays in each 3 @ 8 1/4"Working pressure by rules 183 Superheater or Steam chest; none

Can the superheater be shut off and the boiler worked

separately no Diameter — Length — Thickness of shell plates —Material — Description of longitudinal joint — Diam. of rivetholes — 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 —

009954-009961-0233



~~Manufacturers of Steel~~ See Report Auxiliary Boiler attached.

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	Stayed by								
Diameter of uptake	Thickness of uptake plates	Thickness of water tubes	Dates of survey							

SPARE GEAR. State the articles supplied:— 2 each of top end, bottom end & main bearing bolts and nuts: one set of coupling bolts: one set feed and bilge pump valves: one set piston rings each cylinder: assorted bolts and nuts & iron of various sizes: One ingot-steel tail shaft with continuous liner, one cast iron propeller.

*The foregoing is a correct description,*

*[Signature]*

Manufacturer.

APPOINTMENT SECRETARY.	
Dates of Survey while building	During progress of work in shops - 1909 Jan 9-6-11-13-14-15-18-19-24-27-28 June 2-5-9-11-14-16-17-22-24-27 July 1-2-5-6-10-13
	During erection on board vessel - 1909 July 5-7-10-13-16
Total No. of visits	22

Is the approved plan of main boiler forwarded herewith

Is the approved plan of main boiler forwarded herewith yes

” ” ” *donkey qux* ” ” *yes*

Dates of Examination of principal parts—Cylinders 16.6.09 Slides 21.6.09 Covers 21.6.09 Pistons 21.6.09 Rods 16.6.09  
Connecting rods 16.6.09 Crank shaft 5.7.09 Thrust shaft 2.6.09 Tunnel shafts 3.5.09 Screw shaft 29.6.09 Propeller 16.6.09  
Stern tube 5.6.09 Steam pipes tested 6.7.09 Engine and boiler seatings 10.7.09 Engines holding down bolts 9.7.09  
Completion of pumping arrangements 13.7.09 Boilers fixed 13.7.09 Engines tried under steam 16.7.09  
Main boiler safety valves adjusted 16.7.09 Thickness of adjusting washers Star Bk - PV 7/8, SV 1 1/2  
Material of Crank shaft steel Identification Mark on Do. 6496 Material of Thrust shaft steel Identification Mark on Do. 6612 N  
Material of Tunnel shafts I. steel Identification Marks on Do. 6612 N Material of Screw shafts I. steel Identification Marks on Do. 6612 N  
Material of Steam Pipes solid drawn copper 4 @ 5 1/2" Bore x 1/2" Test pressure 400 lbs.

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

The engines and boilers have been built under Special Survey in accordance with the Rules. The materials and workmanship are sound and good. The boiler and main steam pipes have been tested by hydraulic pressure with satisfactory results, and the engines and boilers examined under steam at the wharf and found satisfactory.

The vessel has returned to Newcastle for completion of the survey on the hull.

The machinery of this vessel is now in a good and safe working condition and renders the vessel eligible in our opinion to have the notation of  $\nabla$  LMC in the Register Book

It is submitted that  
this vessel is eligible for  
THE RECORD. + LMC. 7.09

The amount of Entry Fee	£	3-8-0	When applied for,
Special	£	41-7-0	22 <sup>nd</sup> July 1907
Donkey Boiler Fee	£	✓ :	When received,
Travelling Expenses (if any)	£	✓ :	Paid as fee for 1907

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

## Committee's Minute

FRI. 27 AUG 1909

*Assigned*

MACHINERY CERTIFICATE

WRITTEN

Lloyd's Register  
Foundation