

REPORT ON MACHINERY.

No. 5511

Port of MIDDLESBROUGH-ON-TEES.

Received at London Office

MON. 20 JUL 1908

No. in Survey held at StocktonDate, first Survey 20th Dec 1907Last Survey July 8th 1908

Reg. Book.

on the Steel S.S. "Crossington Court."(Number of Visits 43)Master J W Cleghorn Built at Stockton By whom built Richardson Duck & CoGross 4595.64Net 2715.92When built 1908Engines made at Stockton By whom made Polair & Co Ltdwhen made 1908Boilers made at Stockton By whom made Polair & Co Ltdwhen made 1908Registered Horse Power Owners Haldinorstein & Co LtdPort belonging to LondonNom. Horse Power as per Section 28 350Is Refrigerating Machinery fitted for cargo purposes NoIs Electric Light fitted No

ENGINES, &c.—Description of Engines

Direct acting Triple expansionNo. of Cylinders 3No. of Cranks 3Dia. of Cylinders 26 - 42 1/2 - 69 1/2 Length of Stroke 4' 5" Revs. per minute 56

Dia. of Screw shaft

as per rule 1 1/4"Material of SteelIs 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 Yesliners are fitted, is the shaft lapped or protected between the liners —Length of stern bush 5' - 4"

Dia. of Tunnel shaft

as per rule 1 3/4"

Dia. of Crank shaft journals

as per rule 1 3/4"Dia. of Crank pin 1 1/2"Size of Crank webs 22 3/4 x 9 1/4"

Dia. of thrust shaft under

collars 1 1/2"Dia. of screw 1 7/8"Pitch of Screw 1 7/8"No. of Blades 4State whether moveable NoTotal surface 86 1/2 sq ftNo. of Feed pumps 2Diameter of ditto 3 1/4"Stroke 33"Can one be overhauled while the other is at work YesNo. of Bilge pumps 2Diameter of ditto 4 3/4"Stroke 33"Can one be overhauled while the other is at work YesNo. of Donkey Engines TwoSizes of Pumps Four 4 x 6 Ballast 10 x 13

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

In Engine Room Three 3 1/2 diamIn Holds, &c. Two each hold 3 1/2 diam

One 3 in dry tank below boilers.

No. of Bilge Injections 1sizes 6 1/4"Connected to condenser, or to circulating pump C PIs a separate Donkey Suction fitted in Engine room & size Yes 4"Are all the bilge suction pipes fitted with roses YesAre the roses in Engine room always accessible YesAre the sluices on Engine room bulkheads always accessible —Are 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 NoneHow are they protected —Are 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 29-2-06of Stern Tube 29-2-06Screw shaft and Propeller 16-6-08Is the Screw Shaft Tunnel watertight see ship reportIs it fitted with a watertight door Yesworked from Top platformBOILERS, &c.—(Letter for record S)Manufacturers of Steel John Spencer & Sons LtdTotal Heating Surface of Boilers 5406 sq ftIs Forced Draft fitted NoNo. and Description of Boilers 2 Cyl TubularWorking Pressure 180 lbTested by hydraulic pressure to 360 lbDate of test 7-2-08No. of Certificate 4092Can each boiler be worked separately YesArea of fire grate in each boiler 63 1/2 sq ft

No. and Description of Safety Valves to

each boiler 2 springArea of each valve 0.29 sq inPressure to which they are adjusted 185 lbAre they fitted with easing gear YesSmallest distance between boilers or uptakes and bunkers or woodwork 18"dia. of boilers 16-6"Length 11-0"Material of shell plates SteelThickness 1 7/16"Range of tensile strength 20/32Are the shell plates welded or flanged NoDescrip. of riveting: cir. seams F.S. Riv.long. seams D.B. StrapsDiameter of rivet holes in long. seams 1 5/16"Pitch of rivets 4 3/4"Lap of plates or width of butt straps 1 - 7 1/4"

Per centages of strength of longitudinal joint

rivets 86.3plate 85.2Working pressure of shell by rules 102 lbSize of manhole in shell 17 x 13Size of compensating ring 31 x 27 x 1 5/16"No. and Description of Furnaces in each boiler 3 Marine SuspensionMaterial SteelOutside diameter 4-1"

Length of plain part

top 6-9 3/4"

Thickness of plates

crown 7/16"Description of longitudinal joint WeldedNo. of strengthening rings —Working pressure of furnace by the rules 192 lbCombustion chamber plates: Material SteelThickness: Sides 1 1/16"Back 1 1/16"Top 1 1/16"Bottom 1 3/16"Pitch of stays to ditto: Sides 9 1/4 x 7 3/4"Back 9 1/4 x 9 1/8"Top 9 3/8 x 7 3/4"If stays are fitted with nuts or riveted heads NutsWorking pressure by rules 103 lbMaterial of stays SteelDiameter at smallest part 1 9/16"Area supported by each stay 88.9 sq inWorking pressure by rules 194 lb

End plates in steam space:

Material SteelThickness 1 5/16"Pitch of stays 2 1/2 x 2 1/2"How are stays secured NutsWorking pressure by rules 106 lbMaterial of stays SteelDiameter at smallest part 3 1/4"Area supported by each stay 462.2 sq inWorking pressure by rules 194 lbMaterial of Front plates at bottom SteelThickness 1 1/2"Material of Lower back plate SteelThickness 1 7/8"Greatest pitch of stays 10 1/2 x 9 1/8"Working pressure of plate by rules 103 lbDiameter of tubes 3 1/2"Pitch of tubes 4 3/4 x 4 7/8"Material of tube plates SteelThickness: Front 1 1/2"Back 1 3/16"Mean pitch of stays 10 3/4"Pitch across wide water spaces 1 1/2"Working pressures by rules 194 lbGirders to Chamber tops: Material Steel

Depth and

thickness of girder at centre 7 3/4 x 1 7/8"Length as per rule 30Distance apart 9 3/4"Number and pitch of stays in each Three 7 3/4"Working pressure by rules 104 lbSuperheater 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

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

SPARE GEAR. State the articles supplied:— *Top and bottom end connecting rod bolts and nuts. Two main bearing bolts. Set of coupling bolts. Set of feed and bilge pump valves & M & P piston rings & P piston springs. Propeller & propeller shaft, bolts & nuts assorted &c.*

The foregoing is a correct description,

Geo. H. Milner Manufacturer.

Dates of Survey while building { During progress of work in shops - - 1904 Dec 20.24 1905 Jan 6.4.9.10.15.14.20.21.22.24.24.28.30.31 Feb 3.5.6.7.10.13
During erection on board vessel - - Feb 14.16.21.26 Mar 2.6.11.12.14.16.26 May 4 June 2.16.19.24.26.29.30 July 3.7.8
Total No. of visits 43

Is the approved plan of main boiler forwarded herewith *Yes*

Dates of Examination of principal parts—Cylinders 6-1-08 Slides 6-2-08 Covers 9-1-08 Pistons 17-1-08 Rods 22-1-08
Connecting rods 27-1-08 Crank shaft 12-3-08 Thrust shaft 31-1-08 Tunnel shafts 31-1-08 Screw shaft 18-2-08 Propeller 11-2-08
Stern tube 27-1-08 Steam pipes tested 17-6-08 Engine and boiler seatings 14-2-08 Engines holding down bolts 24-6-08
Completion of pumping arrangements 30-6-08 Boilers fixed 24-6-08 Engines tried under steam 30-6-08
Main boiler safety valves adjusted 30-6-08 Thickness of adjusting washers *573.5V 5 1/16 PV 2 1/2 P/B. 5V 7/16 P 1 1/2 5/2*
Material of Crank shaft *Steel* Identification Mark on Do. *6430* Material of Thrust shaft *Steel* Identification Mark on Do. *6409*
Material of Tunnel shafts *Steel* Identification Marks on Do. *6408* Material of Screw shafts *Steel* Identification Marks on Do. *6419*
Material of Steam Pipes *Copper, solid drawn* Test pressure *400 lb*

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

The engines and boilers of this vessel have been constructed under special survey. The materials and workmanship are good and efficient and when tested under steam were found satisfactory.

*In my opinion the machinery is now eligible for the notation **L.M.C. 7.08.** in the Register Book.*

It is submitted that this vessel is eligible for THE RECORD. **L.M.C. 7.08.**

H.C. 20.7.08

20.7.08

The amount of Entry Fee..	£ 3 : 0 : 0	When applied for,
Special ..	£ 34 : 18 : 0	16.7.1908
Donkey Boiler Fee ..	£ :	When received,
Travelling Expenses (if any) £	:	18.4.1908

Committee's Minute

TUES. 21 JUL 1908

Assigned

+ L.M.C. 7.08

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



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MACHINERY CERTIFICATE WRITTEN