

Rpt. 4.

## REPORT ON MACHINERY.

NEWCASTLE-ON-TYNE.

No. 66248

No. 26091

Received at London Office

TUE. MAY 5-1914

Date of writing Report 1st May 1914 When handed in at Local Office 2nd May 1914 Port of Sunderland MUN. JUN. 15. 1914

No. in Survey held at Sunderland Date, First Survey 6 Jan 1914 Last Survey 28 April 1914  
Reg. Book. (Number of Visits 27 2nd June 1914 + 2 = 29 Tons Gross 1337 Net 719)

No. 82 on the new steel S/S "EDWIN HUNTER"

Master Built at Newcastle By whom built Wood Skinner &amp; Co. (S/S No. 188) When built 1914

Engines made at Sunderland By whom made George Rank Ltd (No. 10005) when made 1914

Boilers made at Sunderland By whom made George Rank Ltd (No. 10005) when made 1914

Registered Horse Power Owners Gool &amp; W. Ridings Shipbuilders Ltd Port belonging to Gool

Nom. Horse Power as per Section 28 176 Is Refrigerating Machinery fitted for cargo purposes no Is Electric Light fitted yes

ENGINES, &c.—Description of Engines Triple expansion No. of Cylinders 3 No. of Cranks 3  
 Dia. of Cylinders 18½" 30" 50" Length of Stroke 33 Revs. per minute 85 Dia. of Screw shaft as per rule 10.93" Material of screw shaft 9. Steel  
 as fitted 9.75" 113/8" screw shaft

Is the screw shaft fitted with a continuous liner the whole length of the stern tube no liners Is the after end of the liner made water tight  
 in the propeller boss 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 If two  
 liners are fitted, is the shaft lapped or protected between the liners Length of stern bush 3'-10 3/4"

Dia. of Tunnel shaft as per rule 9.13" Dia. of Crank shaft journals as per rule 9.89" Dia. of Crank pin 9 7/8" Size of Crank webs 15 x 6 1/4" Dia. of thrust shaft under  
 as fitted 9.75" 9.75" 9 7/8" collars 10" Dia. of screw 13'-0" Pitch of Screw 13'-0" No. of Blades 4 State whether moveable no Total surface 52 ft²  
 No. of Feed pumps 2 Diameter of ditto 2 3/4" Stroke 18" Can one be overhauled while the other is at work yes  
 No. of Bilge pumps 2 Diameter of ditto 3" Stroke 18" Can one be overhauled while the other is at work yes  
 No. of Donkey Engines 3 Sizes of Pumps 20 1/2" x 8" & 10 1/2" x 5 1/2" No. and size of Suctions connected to both Bilge and Donkey pumps  
 In Engine Room 4 @ 3" In Holds, &c. Forward hold - 2 @ 3" After hold -

No. of Bilge Injections 1 sizes 4" Connected to condenser, or to circulating pump 6 P. 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 forward hold suction How are they protected 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 7.4.14 of Stern Tube 16.9.14 Screw shaft and Propeller 17.4.14  
 Is the Screw Shaft Tunnel watertight yes Is it fitted with a watertight door yes worked from Top platform

BOILERS, &c.—(Letter for record (3)) Manufacturers of Steel Selden-Kirchner-Bergwerks A.G. of Rott. End.  
 Total Heating Surface of Boilers 2984 ft² Is Forced Draft fitted no No. and Description of Boilers Two single ended marine  
 Working Pressure 180 LBS Tested by hydraulic pressure to 360 LBS Date of test 27.3.14 No. of Certificate 3201

Can each boiler be worked separately yes Area of fire grate in each boiler 49 ft² No. and Description of Safety Valves to  
 each boiler Two direct spring Area of each valve 7.06 ft² Pressure to which they are adjusted 185 LBS Are they fitted with easing gear yes  
 Smallest distance between boiler or uptakes and bunkers on woodwork 1'-8" Mean dia. of boilers 13'-0" Length 10'-6" Material of shell plates steel  
 Thickness 1" Range of tensile strength 29.1-33 Are the shell plates welded or flanged no Descrip. of riveting: cir. seams 10 R.  
 long. seams 10 B.S. TR Diameter of rivet holes in long. seams 1 1/16 Pitch of rivets 7/8" Lap of plates or width of butt straps 16"  
 Per centages of strength of longitudinal joint rivets 89.6 plate 85.6 Working pressure of shell by rules 180 Size of manhole in shell 16" x 12"  
 Size of compensating ring flanged 3 1/2" No. and Description of Furnaces in each boiler 3 plain Material steel Outside diameter 3'-2 1/2"  
 Length of plain part top 16'-5 1/2" bottom 6'-2" Thickness of plates crown 2 1/2" Description of longitudinal joint welded No. of strengthening rings none  
 Working pressure of furnace by the rules 180 Combustion chamber plates: Material steel Thickness: Sides 1/16 Back 1/16 Top 1/16 Bottom 1 3/32  
 Pitch of stays to ditto: Sides 8 3/4" x 10" Back 9" x 10" Top 8 3/4" x 10" If stays are fitted with nuts or riveted heads nut & washer Working pressure by rules 180

Material of stays steel Diameter at smallest part 20 3/8" Area supported by each stay 900 in² Working pressure by rules 203 End plates in steam space:  
 Material steel Thickness 1 3/16 Pitch of stays 18" x 19" How are stays secured DN Working pressure by rules 184 Material of stays steel  
 Diameter at smallest part 5 1/4" Area supported by each stay 313 in² Working pressure by rules 180 Material of Front plates at bottom steel  
 Thickness 1 3/16 Material of Lower back plate steel Thickness 2 3/32 Greatest pitch of stays 16 1/2" x 9 3/8" Working pressure of plate by rules 181  
 Diameter of tubes 3 1/4" Pitch of tubes 4 1/2" x 4 3/8" Material of tube plates steel Thickness: Front 1 3/16 Back 3/4 Mean pitch of stays 10 1/4"  
 Pitch across wide water spaces 1 1/4" x 1 1/2" Working pressures by rules 264 Girders to Chamber tops: Material steel Depth and  
 thickness of girder at centre 20 1/4" x 7 1/8" Length as per rule 2'-6" Distance apart 10" Number and pitch of stays in each 20 8 3/4"

Working pressure by rules 184 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

W179-0126

Lloyd's Register Foundation



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  
 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 connecting rod top and bottom end bolts and nuts, two main bearing bolts, 1 set coupling bolts, 1 set feed & bilge pump valves, 1 Propeller, Bolts & nuts assorted and iron of sizes

The foregoing is a correct description,  
 FOR GEORGE CLARK, LIMITED  
 Manufacturer. of the main Engines & Boilers

Dates of Survey while building  
 During progress of work in shops 1914 Jan. 6-12-14 Feb. 5-6-13-19-20-23-25-27 Mar. 10-13-17-20-23-27-30-31  
 During erection on board vessel Apr. 3-6-16-17-21-23-24-28 at New. Apr. 7 May 27 Jun. 2  
 Total No. of visits 27 + 3 Is the approved plan of main boiler forwarded herewith yes

Dates of Examination of principal parts—Cylinders 27-3-14 Slides 20-3-14 Covers 13-2-14 Pistons 10-3-14 Rods 27-3-14  
 Connecting rods 31-3-14 Crank shaft 6-2-14 Thrust shaft 27-2-14 Tunnel shafts 25-2-14 Screw shaft 6-4-14 Propeller 31-3-14  
 Stern tube 3-4-14 Steam pipes tested 21-4-14 Engine and boiler seatings Engines holding down bolts 24-4-14  
 Completion of pumping arrangements 27-5-14 Boilers fixed 23-4-14 Engines tried under steam 28-4-14  
 Main boiler safety valves adjusted 28-4-14 Thickness of adjusting washers 1st Bl. P 3/8 S 1 1/2 2nd Bl. P 1/2 S 9/32  
 Material of Crank shaft 9 Steel Identification Mark on Do. 80 AL 1.14 Material of Thrust shaft 9 Steel Identification Mark on Do. 76 MB 10.11  
 Material of Tunnel shafts 9 Steel Identification Marks on Do. 116 AL 1.14 Material of Screw shafts 9 Steel Identification Marks on Do. 107 AL 1.14  
 Material of Steam Pipes Solid drawn copper 2 @ 3 3/4 x 6 r 3 Test pressure 400 lbs per sq in

General Remarks (State quality of workmanship, opinions as to class, &c.)  
 To complete the survey the spare gear requires to be made complete. The tunnel made watertight and its well suction to be fitted.  
 The vessel has left this port for the Tyne. Newcastle Surveyors advised.  
 The materials and workmanship are good.  
 The machinery has been made under special survey and is eligible in our opinion for classification and the record + LMC (with date) when the survey is complete  
 Newcastle-on-Tyne  
 2nd June 1914

The tunnel well suction fitted & spare gear examined  
 It is submitted that this vessel is eligible for THE RECORD + LMC 6 14

The amount of Entry Fee ... £2 : : When applied for, 4-5-1914  
 Special ... £26 8 : :  
 Donkey Boiler Fee ... £ : :  
 Travelling Expenses (if any) £ : :  
 Committee's Minute FRI. JUN. 19 1914  
 Assigned + LMC 6.14  
 Lewis Dairs, Thomas Field  
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.  
 15/6/14

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