

Rpt. 4.

## REPORT ON MACHINERY.

No. 51558.

Port of Newcastle

Received at London Office

SAT. 8 SEP 1906

No. in Survey held at NewcastleDate, first Survey 13<sup>th</sup> December 1905Last Survey 4<sup>th</sup> Sep 1906

Reg. Book.

15 on the55 Hermoine(Number of Visits 25)Gross 519Net 290KMaster J. A. HouseBuilt at NewcastleBy whom built Armstrong WhitworthWhen built 1906Engines made at NewcastleBy whom made Walsend Ship. & Eng. Co. No. 625when made 1906Boilers made at doBy whom made Palmer & Co. No. 412when made 1906

Registered Horse Power

Owners Messrs B. J. Bowring & Co. Ltd.Port belonging to LiverpoolNom. Horse Power as per Section 28 410Is Refrigerating Machinery fitted for cargo purposes noIs Electric Light fitted yes

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

In E.P.R.No. of Cylinders 3No. of Cranks 3Dia. of Cylinders 25.42Length of Stroke 48Revs. per minute 64

Dia. of Screw shaft

as per rule 13.94Material of FSIs 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 yesLength of stern bush 54

Dia. of Tunnel shaft

as per rule none

Dia. of Crank shaft journals

as per rule 13.58Dia. of Crank pin 13.58Size of Crank webs 24 x 9

Dia. of thrust shaft under

collars 13.2Dia. of screw 17.6Pitch of Screw 17.9No. of Blades 4State whether moveable fTotal surface 102 sqNo. of Feed pumps threeDiameter of ditto 9.2 x 7Stroke 18Can one be overhauled while the other is at work yesNo. of Bilge pumps 2Diameter of ditto 4.2Stroke 24Can one be overhauled while the other is at work yesNo. of Donkey Engines 2Sizes of Pumps 7 x 4.2 x 7.76 x 7.2 x 6

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

In Engine Room four of 3.2In Holds, &c. 1 of 3 in copper dam1 of 3 inNo. of Bilge Injections 1Connected to condenser, or to circulating pump CPIs a separate Donkey Suction fitted in Engine room & size yes 8.2Are 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 yesAre 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 yesAre 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 6/7of Stern Tube June 06Screw shaft and Propeller June 06Is the Screw Shaft Tunnel watertight noneIs it fitted with a watertight door yesBOILERS, &c.—(Letter for record R)Manufacturers of Steel J. Spence & SonsTotal Heating Surface of Boilers 6870 sqIs Forced Draft fitted noNo. and Description of Boilers three, single-endedWorking Pressure 180 lbsTested by hydraulic pressure to 360 lbsDate of test 25/7/06No. of Certificate 7276Can each boiler be worked separately yesArea of fire grate in each boiler 65 sqNo. and Description of Safety Valves to see letter 10.9.06each boiler FB 2 of 3" AB 2 of 3.2Area of each valve 7.07 x 9.6Pressure to which they are adjusted 185 lbsAre they fitted with easing gear yesSmallest distance between boilers or uptakes and bunkers or woodwork 20"Mean dia. of boilers 15"-4.2"Length 10'-6"Material of shell plates steelThickness 1 13/32"Range of tensile strength 28-32Are the shell plates welded or flanged noDescrip. of riveting: cir. seams S. Laplong. seams S. B. S. Y. Riv.Diameter of rivet holes in long. seams 1 15/32"Pitch of rivets 10"Lap of plates or width of butt straps 2 1/2"

Per centages of strength of longitudinal joint

rivets 89.4plate 85.3Working pressure of shell by rules 198 lbsSize of manhole in shell 8" x 10" 16" x 12"Size of compensating ring M. HeileNo. and Description of Furnaces in each boiler 3- Brighton'sMaterial SteelOutside diameter 4'-0"

Length of plain part

top 19 1/32"Description of longitudinal joint WeldedNo. of strengthening rings yesWorking pressure of furnace by the rules 196 lbsCombustion chamber plates: Material SteelThickness: Sides 2 1/32"Back 5/8"Top 2 1/32"Bottom 1"Pitch of stays to ditto: Sides 7 3/4 x 7Back 7 3/4 x 8Top 7 1/2 x 7If stays are fitted with nuts or riveted heads nutsWorking pressure by rules 217 lbsMaterial of stays IronDiameter at smallest part 2.03"Area supported by each stay 62 sqWorking pressure by rules 246 lbs

End plates in steam space:

Material SteelThickness 1 1/8"Pitch of stays 17 1/4 x 15 3/4"How are stays secured S. H.Working pressure by rules 208 lbsMaterial of stays SteelDiameter at smallest part 6.33"Area supported by each stay 272 sqWorking pressure by rules 232 lbsMaterial of Front plates at bottom SteelThickness 1"Material of Lower back plate SteelThickness 15/16"Greatest pitch of stays 14 1/2"Working pressure of plate by rules 222 lbsDiameter of tubes 3"Pitch of tubes 4 1/4 x 4 1/4"Material of tube plates SteelThickness: Front 1"Back 3/4"Mean pitch of stays 8 1/2"Pitch across wide water spaces 13 1/2"Working pressures by rules 226 lbsGirders to Chamber tops: Material Steel

Depth and

thickness of girder at centre 7 1/2 x 12"Length as per rule 30"Distance apart 7 1/2"Number and pitch of stays in each 3-7"Working pressure by rules 180 lbsSuperheater or Steam chest; how connected to boiler none

Can the superheater be shut off and the boiler worked

separately yesDiameter yesLength yesThickness of shell plates yesMaterial yesDescription of longitudinal joint yes

Diam. of rivet

holes yesPitch of rivets yesWorking pressure of shell by rules yesDiameter of flue yesMaterial of flue plates yesThickness yesIf stiffened with rings yesDistance between rings yesWorking pressure by rules yesEnd plates: Thickness yesHow stayed yesWorking pressure of end plates yesArea of safety valves to superheater yesAre they fitted with easing gear yes



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:— 1 set connecting rod bolts and nuts  
 2 main bearing bolts & nuts. 1 set of coupling bolts & nuts  
 1 set of bolts for feed & bulge pumps. propeller shaft  
 & nut bolts and assorted iron.

The foregoing is a correct description,  
 Manufacturer. \_\_\_\_\_

Dates of Survey while building \_\_\_\_\_ During progress of work in shops— \_\_\_\_\_  
 During erection on board vessel— \_\_\_\_\_  
 Total No. of visits \_\_\_\_\_

Is the approved plan of main boiler forwarded herewith yes

Dates of Examination of principal parts—Cylinders 25/4 10/4 Slides 10/4 Covers 10/4 Pistons 10/4 Rods 25/4  
 Connecting rods 25/4 Crank shaft 25/4 Thrust shaft 11/5 Tunnel shafts \_\_\_\_\_ Screw shaft 4/5 Propeller 4/5  
 Stern tube June 06 Steam pipes tested 6/July Engine and boiler seatings 29/8 Engines holding down bolts 28/8  
 Completion of pumping arrangements 28/8 Boilers fixed 28/8 Engines tried under steam 28/8  
 Main boiler safety valves adjusted 28/8 Thickness of adjusting washers ABp 3 3/8 PBP 3 5/8 SP 5 1/2  
 Material of Crank shaft S Identification Mark on Do. JTF 25/4/06 Material of Thrust shaft S Identification Mark on Do. JTF 11/5/06  
 Material of Tunnel shafts ✓ Identification Marks on Do. ✓ Material of Screw shafts S Identification Marks on Do. JTF 11/5/06  
 Material of Steam Pipes Steel Test pressure 540 lbs

General Remarks (State quality of workmanship, opinions as to class, &c. Machinery and boilers built under special survey. Materials and workmanship good. Engines and boilers examined under steam & found satisfactory. In my opinion this vessel is now eligible for the record of L.M.C. 9/06.

It is submitted that this vessel is eligible for THE RECORD L.M.C. 9.06 ELEC: LIGHT.

11.9.06

The amount of Entry Fee. £ 3 : : : When applied for, 7/9/06  
 Special .. £ 40 10 : : :  
 Donkey Boiler Fee .. £ : : :  
 Travelling Expenses (if any) £ : : : When received, 12.9.06

Thomas Hill & J. Findlay  
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute TUES. 11 SEP 1906  
 Assigned

