

REPORT ON MACHINERY

No. 24687

THUR. 19 JAN 1911
MON. 2 JAN 1911

Spt. 4.

Port of Sunderland

Received at London Office

Date, first Survey May 4thLast Survey 9th Dec

1910

No. in Survey held at Sunderland

Reg. Book.

on the

S/S Wearbridge(Number of Visits 40)Gross 4012Net 2692When built 1910

Master

Built at NewcastleBy whom built Northumbrian S. B. Co.Engines made at S. landBy whom made Richardson'swhen made 1910Boilers made at "By whom made "Port belonging to West Hartlepool

Registered Horse Power

Owners Brookly Mages & CoIs Electric Light fitted noNom. Horse Power as per Section 28 372Is Refrigerating Machinery fitted for cargo purposes noNo. of Cylinders 3No. of Cranks 3

ENGINES, &c.—Description of Engines

Tri. C.P.D.Material of W. F.Dia. of Cylinders 26" 41.69"Length of Stroke 48"Revs. per minute 65

Dia. of Screw shaft

as per rule 14.85as fitted 15.8

Is the after end of the liner made water tight

Is the screw shaft fitted with a continuous liner the whole length of the stern tube noIf the liner is in more than one length are the joints burned yes

If the liner does not fit tightly at the part

in the propeller boss yes

If two

between the bearings in the stern tube, is the space charged with a plastic material insoluble in water and non-corrosive yesLength of stern bush 5.1"liners are fitted, is the shaft lapped or protected between the liners yes

Dia. of Tunnel shaft

as per rule 12.69as fitted 13.5

Dia. of Crank shaft journals

as per rule 13.3as fitted 14.5Dia. of Crank pin 14"Size of Crank webs 88x12

Dia. of thrust shaft under

collars 144"Dia. of screw 17"Pitch of Screw 17.9"No. of Blades 4State whether moveable fTotal surface 88 fNo. of Feed pumps 2Diameter of ditto 3 3/4"Stroke 27"Can one be overhauled while the other is at work yesNo. of Bilge pumps 2Diameter of ditto 3 3/4"Stroke 27"Can one be overhauled while the other is at work yesNo. of Donkey Engines twoSizes of Pumps 6x4, 6x4, 9x11, 10x10

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

In Engine Room 4 of 32In Holds, &c. 2 of 32 in each holdIs a separate Donkey Suction fitted in Engine room & size yesNo. of Bilge Injections 1sizes 5Connected to condenser, or to circulating pump C.P.D.Are the sluices on Engine room bulkheads always accessible yesAre all the bilge suction pipes fitted with roses yesAre the roses in Engine room 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 yesHow are they protected yesWhat pipes are carried through the bunkers 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 11/1/10of Stern Tube 2/12/10Screw shaft and Propeller 2.12.10Is the Screw Shaft Tunnel watertight yesIs it fitted with a watertight door yesworked from above lower line (top platform)Manufacturers of Steel Spencer & Sons Ltd.BOILERS, &c.—(Letter for record S)Total Heating Surface of Boilers 5940 fIs Forced Draft fitted noNo. and Description of Boilers 3. S. E.Working Pressure 180 lbTested by hydraulic pressure to 360Date of test 7.9.10No. of Certificate 2859Can each boiler be worked separately yesArea of fire grate in each boiler 50 f

No. and Description of Safety Valves to

each boiler 2 SpringArea of each valve 7.66Pressure to which they are adjusted 185 lbAre they fitted with easing gear yesSmallest distance between boilers or uptakes and bunkers or woodwork 21"Mean dia. of boilers 14'-0"Length 10'-9"Material of shell plates 8Thickness 1 1/8"Range of tensile strength 28-32Are the shell plates welded or flanged noDescrip. of riveting: cir. seams ORlong. seams 7. buttPitch of rivets 8 3/8"Lap of plates or width of butt straps 16"

Per centages of strength of longitudinal joint

rivets 87.5plate 85.8Working pressure of shell by rules 180 lbSize of manhole in shell End. 16x12Size of compensating ring flangedNo. and Description of Furnaces in each boiler 3 MonitorsMaterial SOutside diameter 3' 7/4"Length of plain part top 14"Thickness of plates bottom 13 1/2"Description of longitudinal joint weldNo. of strengthening rings —Working pressure of furnace by the rules 189Combustion chamber plates: Material SThickness: Sides 1 1/8"Back 1 1/8"Top 1 1/8"Bottom 3/4"Pitch of stays to ditto: Sides 10 1/8"Back 10 1/8"Top 10 1/8"Bottom 10 1/8"If stays are fitted with nuts or riveted heads yesWorking pressure by rules 181 1/2End plates in steam space: SMaterial of stays SDiameter at smallest part 1.5"Area supported by each stay 88.76Working pressure by rules 181.7Material of Front plates at bottom SDiameter at smallest part 3.03Area supported by each stay 38.5Working pressure by rules 195Material of Lower back plate SThickness 3/4"Greatest pitch of stays 13 1/2"Working pressure of plate by rules 298Diameter of tubes 3 1/4"Pitch of tubes 4 1/2"Material of tube plates SThickness: Front 3/4"Back 3/4"Mean pitch of stays 11"Pitch across wide water spaces 14 1/2"Working pressures by rules 204Girders to Chamber tops: Material S

Depth and

thickness of girder at centre 8 1/2" 15"Length as per rule 294Distance apart 10"Number and pitch of stays in each 2 @ 8 1/2"Working pressure by rules 186 1/2Superheater or Steam chest; how connected to boiler none

Can the superheater be shut off and the boiler worked

separately yesDiameter 10"

Description of longitudinal joint

Material SThickness of flue plates 3/4"Diameter of flue 10"Material of flue plates SThickness 3/4"End plates: Thickness 3/4"How stayed SIf stiffened with rings yesDistance between rings 10"Working pressure by rules 204

Area of safety valves to superheater

Working pressure of end plates 186 1/2Superheater or Steam chest; how connected to boiler none

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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:— *Set top and bottom end bolts & nuts. Set coupling bolts. Set of two main bearing bolts. Set of head and bree pump valves. 2 Set of air & live pump valves. Propeller. Safety valve Springs. Nut bolts and assorted iron.*

The foregoing is a correct description, **FOR RICHARDSONS, WESTGARTH & CO. LTD**

Manufacturer *Fredrick H. Russell*

ASSISTANT MANAGER

Dates of Survey while building { During progress of work in shops - - 1910 May 4, 20 June 1, 6, 9, 14 July 2, 5, 7, 8, 11, 16, 21, 25, 27 Aug 2, 9, 10, 11, 19, 24
During erection on board vessel - - Sep 7, 13, 20 Oct 4, 13, 17, 25 Nov 1, 8, 9, 15, 21, 22, 30 Dec 2, 6, 15, 19 11th Nov 1910 (New)
Total No. of visits 40

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

" " " donkey " " " *Yes*

Dates of Examination of principal parts—Cylinders 1.11.10 Slides 4.10.10 Covers 4.10.10 Pistons 4.10.10 Rods 4.10.10

Connecting rods 1.11.10 Crank shaft 31.11.10 Thrust shaft 31.11.10 Tunnel shafts 31.11.10 Screw shaft 31.11.10 Propeller 2.11.10

Stern tube 2.12.10 Steam pipes tested 23.11.10 Engine and boiler seatings 2.12.10 Engines holding down bolts 2.12.10

Completion of pumping arrangements 7.5.12.10 Boilers fixed 2.12.10 Engines tried under steam 15.12.10

Main boiler safety valves adjusted 15.12.10 Thickness of adjusting washers *PBp 3/8 5/8 CBp 5/2 5/8 SBp 3/8 5/8*

Material of Crank shaft *S* Identification Mark on Do. *CH* Material of Thrust shaft *S* Identification Mark on Do. *PA*

Material of Tunnel shafts *S* Identification Marks on Do. *KH* Material of Screw shafts *S* Identification Marks on Do. *MR*

Material of Steam Pipes *Copper* Test pressure 360

General Remarks (State quality of workmanship, opinions as to class, &c. *The machinery and boiler of this vessel have been built under special survey.*

Materials and workmanship good.

Engines & boiler examined under steam & found satisfactory.

In our opinion this vessel is eligible for the record of L.M.C. with date on completion.

It is submitted that this vessel is eligible for THE RECORD + L.M.C. 12.10.

JWS 19/11 *APR*

The amount of Entry Fee. £ 3 : : When applied for, 19.12.1910

Special .. £ 38 : 12 : : When received, 10/1/1911

Donkey Boiler Fee .. £ : : : *SP*

Travelling Expenses (if any) £ : : : *SP*

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

Committee's Minute **TUE. 24 JAN 1911**

Assigned *Hmc 12.10*

MINISTRY CERTIFICATE WRITTEN.