

Rpt. 4.

REPORT ON MACHINERY.

NEWCASTLE ON TYNE No. 59945

SUNDERLAND.

No. 24731

FRI. 17 MAR 1911

TUES. 21 FEB 1911

Port of Sunderland

Received at London Office

No. in Survey held at SunderlandDate, first Survey 18 Aug. 1910Last Survey 16th Jan'y 1911

Reg. Book.

on the Steel Screw SteamerMessina(Number of Visits 25)

Tons

Gross 4271Net 2757When built 1911

Master

Built at NewcastleBy whom built Northumberland S.C. & L.Engines made at SunderlandBy whom made Richardson Westgarth & Co. L.when made 1911Boilers made at doBy whom made dowhen made 1911

Registered Horse Power

Owners James W. & Co. Ltd.Port belonging to West HartlepoolNom. Horse Power as per Section 28 372Is Refrigerating Machinery fitted for cargo purposes NoIs Electric Light fitted No

ENGINES, &c.—Description of Engines

Vertical TripleNo. of Cylinders 3No. of Cranks 3Dia. of Cylinders 25" - 41" - 69"Length of Stroke 48"Revs. per minute 65Dia. of Screw shaft 15.00as per rule 15.00Material of screw shaft CrucibleIs the screw shaft fitted with a continuous liner the whole length of the stern tube yesIs the after end of the liner made water tight yesin the propeller boss yesIf 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 5' - 1"Dia. of Tunnel shaft 12.69as per rule 13.33Dia. of Crank shaft journals 13.33as per rule 14"Dia. of Crank pin 14"Size of Crank webs 8 1/2 x 20 1/2

Dia. of thrust shaft under

collars 14 1/4Dia. of screw 17' - 6"Pitch of Screw 17' - 6"No. of Feed pumps 2Diameter of ditto 3 3/4Stroke 27"Can one be overhauled while the other is at work yesNo. of Bilge pumps 2Diameter of ditto 3 3/4Stroke 27"Can one be overhauled while the other is at work yesNo. of Donkey Engines 2

SIZES OF PUMPS

FEED 6 1/2 x 4 x 6BALLAST 9 x 11 x 10

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

In Engine Room 43 1/2" diaDUPLIXIn Holds, &c. 2 in each 3 1/2" dia1 - 2 1/2" in tunnelNo. of Bilge Injections 1sizes 5"Connected to condenser, or to circulating pump pumpIs 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 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 21/1/11of Stern Tube 15-2-11Screw shaft and Propeller 15-2-11Is the Screw Shaft Tunnel watertight yesIs it fitted with a watertight door yesworked from top platform

BOILERS, &c.—(Letter for record 5)

Manufacturers of Steel J. Spencer & Son Ltd NewcastleTotal Heating Surface of Boilers 5940Is Forced Draft fitted noNo. and Description of Boiler 3 S.E. horizontalWorking Pressure 180 lbTested by hydraulic pressure to 360 lbDate of test 28-10-10No. of Certificate 2868Can each boiler be worked separately yesArea of fire grate in each boiler 50 sq

No. and Description of Safety Valves to

each boiler 2 Direct SpringArea of each valve 7.070Pressure to which they are adjusted 185 lbAre they fitted with easing gear yesSmallest distance between boilers or uptakes and bunkers or woodwork 22"Mean dia. of boilers 4'-0"Length 10'-9"Material of shell plates steelThickness 1 1/8"Range of tensile strength 28 to 32 tonsAre the shell plates welded or flanged noDescrip. of riveting: cir. seams DR. Laplong. seams DR. J.R.Diameter of rivet holes in long. seams 1 3/16"Pitch of rivets 8 1/2"Lap of plates or width of butt straps 16"

Per centages of strength of longitudinal joint

rivets 85.5plate 85.8Working pressure of shell by rules 180 lbSize of manhole in shell End 16 x 12Material steelOutside diameter 3'-7 1/4"Size of compensating ring flangedNo. and Description of Furnaces in each boiler 3 horizontalMaterial steelOutside diameter 3'-7 1/4"Length of plain part top 17"Thickness of plates bottom 3 1/2"Description of longitudinal joint weldNo. of strengthening rings —Working pressure of furnace by the rules 189Combustion chamber plates: Material steelThickness: Sides 11"Back 11"Top 11"Bottom 3 1/4"Pitch of stays to ditto: Sides 10 3/8 x 8 1/2Back 10 x 8 1/2Top 10 x 8 1/2If stays are fitted with nuts or riveted heads nutsWorking pressure by rules 181End plates in steam space: —Material of stays steelDiameter at smallest part 1.5Area supported by each stay 88.7Working pressure by rules 181.7Material of stays steelMaterial steelThickness 1 1/4"Pitch of stays 19 1/2 x 19 1/2How are stays secured nutsWorking pressure by rules 181.7Material of Front plates at bottom steelDiameter at smallest part 3.03Area supported by each stay 385Working pressure by rules 195Material of Lower back plate steelThickness 3 1/4"Greatest pitch of stays 13 1/2 x 8 1/2Working pressure of plate by rules 298Diameter of tubes 3 1/4"Pitch of tubes 4 1/2 x 4 1/2Material of tube plates steelThickness: Front 2 1/2"Back 2 1/2"Mean pitch of stays 11"Pitch across wide water spaces 4 1/2"Working pressures by rules 204Girders to Chamber tops: Material steel

Depth and

thickness of girder at centre 8 1/2" x 1 1/2"Length as per rule 29 1/2Distance apart 10'Number and pitch of stays in each 2 8 1/2"Working pressure by rules 186Superheater or Steam chest; how connected to boiler —

Can the superheater be shut off and the boiler worked

separately —

Diameter

Length

Thickness of shell plates

Material

Description of longitudinal joint

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 no donkey boiler

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: Propeller + shaft (2 liners), 2 each bolts + nuts for top + bottom ends + main bearings, set of Coupling bolts + nuts, valves for all pumps, both with turn assisted

The foregoing is a correct description,

FOR RICHARDSONS, WESTGARTH & CO. LTD

Manufacturer.

Frederic H. Russell

ASSISTANT MANAGER

Dates of Survey while building { During progress of work in shops - 1910 Aug 18-24 Sept 7-13-20 Oct 4-13-17-25-28 Nov 8-9-15-21-30
During erection on board vessel - Dec 5-14-19-23 1911 Jan 19 Feb 4-14-15-16 (Jan 27 @ New)
Total No. of visits 24 + 1

Is the approved plan of main boiler forwarded herewith yes
" " " donkey " " "

Dates of Examination of principal parts—Cylinders 9-11-10 Slides 9-11-10 Covers 17-10-10 Pistons 15-11-10 Rods 15-11-10
Connecting rods 15-11-10 Crank shaft Hartlepool 1910 Thrust shaft 23-12-10 Tunnel shafts 23-12-10 Screw shaft 19-1-11 Propeller 9-2-11
Stern tube 5-12-10 Steam pipes tested 14-2-11 Engine and boiler seatings 21/1/11 Engines holding down bolts 15-2-11
Completion of pumping arrangements 16-2-11 Boilers fixed 15-2-11 Engines tried under steam 16-2-11
Main boiler safety valves adjusted 16-2-11 Thickness of adjusting washers PORT CENTRE STARBOARD
P 1/8 S 1/8 P 3/8 S 3/8 P 3/8 S 3/8
Material of Crank shaft Ident Identification Mark on Do. 4982 C.J.H. Material of Thrust shaft Ident Identification Mark on Do. 5872 K.H.
Material of Tunnel shafts Ident Identification Marks on Do. 2526 H.K. 2502-3 H.K. 5873 K.H. Material of Screw shafts Ident Identification Marks on Do. 3900 4107 M.R.
Material of Steam Pipes 5 lengths seamless 12 1/2" bore x 16 m.s. G.P. Test pressure 400 lb.

General Remarks (State quality of workmanship, opinions as to class, &c.) The machinery and boilers of this vessel have been built under special survey. Materials + workmanship good. Engines and boilers examined under full steam + found satisfactory. It is submitted that this vessel is eligible for the record of L.M.C 2, 11 in the Register Book

It is submitted that this vessel is eligible for THE RECORD + L.M.C 2, 11.

The amount of Entry Fee. £ 3 : : When applied for, _____
Special .. £ 38 : 12 : 22-2-1911
Donkey Boiler Fee .. £ : : When received, _____
Travelling Expenses (if any) £ : : as per Bill _____
Committee's Minute _____

Assigned

+ L.M.C 2, 11

MACHINERY CERTIFICATE WRITTEN

J. J. Findlay E. H. Adams
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.
telecop



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