

Rpt. 4.

REPORT ON MACHINERY.

No. 24731

FRI. 17 MAR 1911

TUES. 21 FEB 1911

Port of Sunderland

Received at London Office

No. in Survey held at Sunderland Date, first Survey 18 Aug. 1910 Last Survey 16th July 1911

Reg. Book. on the Steel Screw Steamer "Messina" (Number of Visits 25)

Master Built at Newcastle By whom built Northumberland S.C. & L^a Tons { Gross 4271 Net 2757 When built 1911

Engines made at Sunderland By whom made Richardson Westgarth & C^o L^a when made 1911

Boilers made at do By whom made do when made 1911

Registered Horse Power _____ Owners James W. & Co. Ltd Port belonging to West Hartlepool

Nom. Horse Power as per Section 28 372 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted No

ENGINES, &c.—Description of Engines Vertical Triple No. of Cylinders 3 No. of Cranks 3

Dia. of Cylinders 25-41-69 Length of Stroke 48 Revs. per minute 65 Dia. of Screw shaft as per rule 15.00 Material of screw shaft Forged Iron

Is the screw shaft fitted with a continuous liner the whole length of the stern tube worky shape 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 no 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 _____ Length of stern bush 5'-1"

Dia. of Tunnel shaft as per rule 12.69 Dia. of Crank shaft journals as per rule 13.33 Dia. of Crank pin 14 Size of Crank webs 8 1/2 x 20 1/2 Dia. of thrust shaft under collars 14 1/4 Dia. of screw 17-6 Pitch of Screw 17-6 No. of Blades 4 State whether moveable no Total surface 89 sq ft

No. of Feed pumps 2 Diameter of ditto 3 3/4 Stroke 27 Can one be overhauled while the other is at work yes

No. of Bilge pumps 2 Diameter of ditto 3 3/4 Stroke 27 Can one be overhauled while the other is at work yes

No. of Donkey Engines 2 Sizes of Pumps FEED 6 1/2 x 4 x 6 BALLAST 9 x 11 x 10 No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room 4 3 1/2 dia In Holds, &c. 2 in each 3 1/2 dia

No. of Bilge Injections 1 sizes 5 Connected to condenser, or to circulating pump yes 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 yes

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 none How are they protected _____

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 21/1/11 of Stern Tube 15-2-11 Screw shaft and Propeller 15-2-11

Is the Screw Shaft Tunnel watertight yes Is it fitted with a watertight door yes worked from top platform

BOILERS, &c.—(Letter for record 5) Manufacturers of Steel Spencer & Son L^a Newcastle

Total Heating Surface of Boilers 5940 Is Forced Draft fitted no No. and Description of Boiler 3 S.E. horizontal

Working Pressure 180 lbs Tested by hydraulic pressure to 360 lbs Date of test 28-10-10 No. of Certificate 2868

Can each boiler be worked separately yes Area of fire grate in each boiler 50 sq ft No. and Description of Safety Valves to each boiler 2 Direct Spring Area of each valve 7.07 sq in Pressure to which they are adjusted 185 lbs Are they fitted with easing gear yes

Smallest distance between boilers or uptakes and bunkers or woodwork 22" Mean dia. of boilers 14'-0" Length 10'-9" Material of shell plates Steel

Thickness 1 1/8" Range of tensile strength 28 to 32 tons Are the shell plates welded or flanged no Descrip. of riveting: cir. seams DR. Lap

long. 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 87.5 plate 85.8 Working pressure of shell by rules 180 lbs Size of manhole in shell End 16 x 12

Size of compensating ring flanged No. and Description of Furnaces in each boiler 3 horizontal Material Steel Outside diameter 3'-7 1/4"

Length of plain part top _____ bottom _____ Thickness of plates crown 17" Description of longitudinal joint weld No. of strengthening rings _____

Working pressure of furnace by the rules 189 Combustion chamber plates: Material Steel Thickness: Sides 11/16" Back 11/16" Top 11/16" Bottom 3/4"

Pitch of stays to ditto: Sides 10 3/8 x 8 1/2" Back 10 x 8 1/2" Top 10 x 8 1/2" If stays are fitted with nuts or riveted heads nuts Working pressure by rules 181

Material of stays Steel Diameter at smallest part 1.5 Area supported by each stay 88.7 Working pressure by rules 181 End plates in steam space: _____

Material Steel Thickness 1 1/4" Pitch of stays 19 1/2 x 19 1/2" How are stays secured DR. nuts Working pressure by rules 181.7 Material of stays Steel

Diameter at smallest part 3.03 Area supported by each stay 385 Working pressure by rules 195 Material of Front plates at bottom Steel

Thickness 2 1/2" Material of Lower back plate Steel Thickness 3/4" Greatest pitch of stays 13 1/2 x 8 1/2" Working pressure of plate by rules 298

Diameter of tubes 3 1/4" Pitch of tubes 4 1/2 x 4 1/2" Material of tube plates Steel Thickness: Front 25/32" Back 25/32" Mean pitch of stays 11"

Pitch across wide water spaces 4 1/2" Working pressures by rules 204 Girders to Chamber tops: Material Steel Depth and thickness of girder at centre 8 1/2" x 1 1/2" Length as per rule 29 1/2" Distance apart 10" Number and pitch of stays in each 2 8 1/2"

Working pressure by rules 186 Superheater or Steam chest; how connected to boiler _____ Can the superheater be shut off and the boiler worked separately _____

holes _____ Diameter _____ Length _____ Thickness of shell plates _____ Material _____ Description of longitudinal joint _____ Diam. of rivet _____

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 _____

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 iron 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

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 P 1/4 S 1/4 P 3/8 S 3/8 P 3/8 S 3/8
 Material of Crank shaft Ident. Mark on Do. 4982 C.J.H Material of Thrust shaft Ident. Mark on Do. 5872 K.H.
 Material of Tunnel shafts Ident. Marks on Do. 2526 H.K. 2502-3 H.K. 5873 K.H. Material of Screw shafts Ident. Marks on Do. 3900 4107
 Material of Steam Pipes 5 lengths seamless 12 1/2" bore x 16 lbs. G.P.S. Test pressure 400 lbs. sq. in.

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.

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

Certificate (if required) to be sent to the Committee's Minute.

The amount of Entry Fee. . . £ 3 : : When applied for, _____
 Special £ 38 : 12 : { 21.2.1911
 Donkey Boiler Fee £ : : {
 Travelling Expenses (if any) £ : : {
 Committee's Minute

TUE. 21 MAR 1911

Assigned + L.M.C 2, 11
 MACHINERY CERTIFICATE WRITTEN

