

Rpt. 4.

REPORT ON MACHINERY.

No. 53291.

Port of Newcastle on Tyne

Received at London Office TUES. 30 JUL 1907

No. in Survey held at Newcastle Date, first Survey Jan 25 Last Survey 27 July 1907

Reg. Book. on the Steel S.S. "Townburg" (Number of Visits 30)

Master H. J. Locken Built at Newcastle By whom built Swan Hunter & W Richardson Ltd When built 1907

Engines made at Newcastle By whom made Swan Hunter & W Richardson Ltd when made 1907

Boilers made at D. By whom made D. when made 1907

Registered Horse Power Owners Hansa Co. Port belonging to Bremen

Nom. Horse Power as per Section 28 403 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

Tons { Gross 4781 Net 3037

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

Dia. of Cylinders 26 - 42 1/2 - 70 Length of Stroke 48 Revs. per minute 62 Dia. of Screw shaft as per rule 14 - 67 Material of screw shaft as fitted 14 7/8 (Steel)

Is 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 Yes Length of stern bush 68

Dia. of Tunnel shaft as per rule 13 Dia. of Crank shaft journals as per rule 1 65/8 Dia. of Crank pin 13 7/8 Size of Crank webs 8 7/8 Dia. of thrust shaft under collars 14 3/8 Dia. of screw 18 - 0 Pitch of Screw 19 - 0 No. of Blades 4 State whether moveable Yes Total surface 90 4

No. of Feed pumps 2 Diameter of ditto 3 1/2 Stroke 28 Can one be overhauled while the other is at work Yes

No. of Bilge pumps 2 Diameter of ditto 4 1/4 Stroke 28 Can one be overhauled while the other is at work Yes

No. of Donkey Engines Two Sizes of Pumps 9 7/8 x 5 7/8 x 1 1/4 - 9 7/8 x 13 3/4 x 2 3/4 No. and size of Suctions connected to both Bilge and Donkey pumps In Engine Room 7 - 3 1/2 In Holds, &c. In each hold - two 3 1/2. Tunnel Well. One 3 -

No. of Bilge Injections 1 sizes 7 Connected to condenser, or to circulating pump C/P Is a separate Donkey Suction fitted in Engine room & size Yes 3 1/2

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 Yes

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 Yes

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 Ford bilge pipes How are they protected Strong wood casings Yes

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 8 - 6 - 07 of Stern Tube 8 - 6 - 07 Screw shaft and Propeller 8 - 6 - 07

Is the Screw Shaft Tunnel watertight Yes Is it fitted with a watertight door Yes worked from Top platform.

BOILERS, &c.—(Letter for record R) Manufacturers of Steel J. Spencer & Son

Total Heating Surface of Boilers 5356 4 Is Forced Draft fitted Yes No. and Description of Boilers Two. Cyl. 5 Ends.

Working Pressure 180 Tested by hydraulic pressure to 360 Date of test 28-5-07 No. of Certificate 7496

Can each boiler be worked separately Yes Area of fire grate in each boiler 60.5 4 No. and Description of Safety Valves to each boiler Two Spring Area of each valve 9-62 Pressure to which they are adjusted 185 Are they fitted with easing gear Yes

Smallest distance between boilers or uptakes and bunkers or woodwork 24 Outside Mean dia. of boilers 15-3 Length 12-0 Material of shell plates S

Thickness 1 5/16 Range of tensile strength 28 3/4 to 32 Are the shell plates welded or flanged No Descrip. of riveting: cir. seams d Lap long. seams d shop Diameter of rivet holes in long. seams 1 3/8 Pitch of rivets 9/4 Lap of plates or width of butt straps 20 5/8

Per centages of strength of longitudinal joint rivets 91 plate 85 Working pressure of shell by rules 200 Size of manhole in shell 16 x 12

Size of compensating ring 9 x 1 5/16 No. and Description of Furnaces in each boiler 3 Suspension Material S Outside diameter 47 1/2

Length of plain part top bottom Thickness of plates crown bottom 3 1/2 64 Description of longitudinal joint weld No. of strengthening rings Yes

Working pressure of furnace by the rules 192 Combustion chamber plates: Material S Thickness: Sides 2 1/32 Back 5/8 Top 2 1/32 Bottom 3 1/32

Pitch of stays to ditto: Sides 7 1/8 x 7 1/8 Back 7 3/4 x 7 1/8 Top 8 3/4 x 7 1/8 If stays are fitted with nuts or riveted heads No Working pressure by rules 220

Material of stays Iron Diameter at smallest part 2-03 Area supported by each stay 67 Working pressure by rules 228 245 End plates in steam space: Material S Thickness 3 1/32 Pitch of stays 16 1/2 x 14 1/8 How are stays secured d n x w Working pressure by rules 180 Material of stays S

Diameter at smallest part 5-56 Area supported by each stay 245 Working pressure by rules 226 Material of Front plates at bottom S

Thickness 3 1/4 Material of Lower back plate S Thickness 15/16 Greatest pitch of stays as per plan Working pressure of plate by rules 180

Diameter of tubes 2 1/2 Pitch of tubes 3 3/4 x 3 1/16 Material of tube plates S Thickness: Front 3 1/32 Back 3/4 Mean pitch of stays 9 9/16

Pitch across wide water spaces 13 1/2 Working pressures by rules 184 Girders to Chamber tops: Material S Depth and thickness of girder at centre 11 x 13/8 Length as per rule 33 1/2 Distance apart 8 3/4 Number and pitch of stays in each 3 - 7 5/8

Working pressure by rules 214 Superheater 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 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

If not, state whether, and when, one will be sent

Lloyd's Register Foundation W1628-0216

VERTICAL DONKEY BOILER— Manufacturers of Steel

No. One Description Please see attached sheet.

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:— Tail shaft, crank shaft, Propeller blade, two top end, two bottom end, two main bearings & one set coupling bolts, feed & bilge valve, piston rings, slide rods, various hoses, pump links, assorted bolts & nuts, a few bars of iron & other gear.

The foregoing is a correct description,
 J. H. Heck, Manufacturer.

Dates of Survey while building	During progress of work in shops -	1907 Jan 28 Feb 7 11 20	Mar 8 14 19 22	Apr 9 15 19 29	May 26 19 24 28 31	Jun 6 11 14 21	July 14 19 23 27
	During erection on board vessel -						
	Total No. of visits	30					

Is the approved plan of main boiler forwarded herewith Yes ✓
 " " " donkey " " " Yes ✓

Dates of Examination of principal parts—

Cylinders	29-4-07	Slides	29-4-07	Covers	29-4-07	Pistons	29-4-07	Rods	29-4-07
Connecting rods	29-4-07	Crank shaft	9-4-07	Thrust shaft	13-5-07	Tunnel shafts	13-5-07	Screw shaft	13-5-07
Propeller	8-6-07	Engines holding down bolts	4-23-7-07	Engines tried under steam	23-27-7-07				
Material of Crank shaft	Steel	Identification Mark on Do.	1584-PA-2-07	Material of Thrust shaft	Steel	Identification Mark on Do.	J.H.H. 1907		
Material of Tunnel shafts	Steel	Identification Marks on Do.	J.H.H. 1907	Material of Screw shafts	S	Identification Marks on Do.	J.H.H. 1907		
Material of Steam Pipes	Steel	Test pressure	540 (Tested at Swansea)						

General Remarks (State quality of workmanship, opinions as to class, &c.)
The material & workmanship is good.
The Machinery has been built under special survey & is eligible in my opinion for classification & the record + I.M.C. 7-07.

It is submitted that this vessel is eligible for **THE RECORD.** + LMC 707. 7.D.
 Elec. light
 J.H.H. 30/7/07
 30.7.07

The amount of Entry Fee..	£ 3 : : :	When applied for,	
Special	£ 40 : 3 : :	26 th July 1907	
Donkey Boiler Fee .. .	£ : : :	When received,	
Travelling Expenses (if any) £	: : :	27 th July 1907	

John H Heck
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute
 Assigned Thine 7.07



Hawthornthwaite - on - Tyne

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

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