

REPORT ON MACHINERY.

No. 553/7

FRL 4 SEP 1908

Port of Newcastle

Received at London Office

No. in Survey held at Newcastle
Reg. Book.Date, first Survey May 8 07 Last Survey Aug 24 07 1908(Number of Visits 69.71)on the S.S. "Galileo"Master R. WatsonBuilt at NewcastleBy whom built Northumbrian S.B. Co. 151 When built 1908Engines made at NewcastleBy whom made Palmer Co (Eng No 776)when made 1908Boilers made at doBy whom made dowhen made 1908

Registered Horse Power

Owners Thomas Wilson Sons & CoPort belonging to HullNom. Horse Power as per Section 28 567Is Refrigerating Machinery fitted for cargo purposes NoIs Electric Light fitted YesENGINES, &c.—Description of Engines Quadruple expansionNo. of Cylinders 4No. of Cranks 4Dia. of Cylinders 25 1/2 - 36 1/2 - 52 - 75 Length of Stroke 54 Revs. per minute 70 Dia. of Screw shaft 16 1/2 Material of IronIs 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 5' - 8"Dia. of Tunnel shaft 14 1/2 Dia. of Crank shaft journals 14 1/2Dia. of Crank pin 15 1/4Size of Crank webs 22 1/2 x 10 1/2 Dia. of thrust shaft undercollars 15 1/4 Dia. of screw 20 - 0 Pitch of Screw 19 - 3No. of Blades 4State whether moveable NoTotal surface 106 sqNo. of Feed pumps 2Diameter of ditto 10 1/2 x 8 Stroke 24Can one be overhauled while the other is at work YesNo. of Bilge pumps 2Diameter of ditto 4 1/2 Stroke 27Can one be overhauled while the other is at work YesNo. of Donkey Engines 2Sizes of Pumps 13 x 11 x 12 1/2 7 1/2 x 4 1/2 x 10

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

In Engine Room Four, 3 1/2"In Holds, &c. No 1 hold 2-3 1/2", No 2 hold 2-3 1/2"Deep Tank 2-3 1/2", No 3 hold 2-3 1/2", No 4 hold 2-3 1/2", Tunnel well 1-2 1/2"No. of Bilge Injections 1 sizes 6"Connected to condenser, or to circulating pump YesIs a separate Donkey Suction fitted in Engine room & size Yes 7"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 NoneAre 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 21/10/07of Stern Tube 21/10/07Screw shaft and Propeller 21/10/07Is the Screw Shaft Tunnel watertight YesIs it fitted with a watertight door Yesworked from Top platformBOILERS, &c.—(Letter for record S.)Manufacturers of Steel J. Spence & SonsTotal Heating Surface of Boilers 7636 sqIs Forced Draft fitted YesNo. and Description of Boilers Three, single endedWorking Pressure 220 lbsTested by hydraulic pressure to 440 lbsDate of test 21/10/07No. of Certificate 7613Can each boiler be worked separately YesArea of fire grate in each boiler 60.1 sq

No. and Description of Safety Valves to

each boiler Two, SpringArea of each valve 8.29 sqPressure to which they are adjusted 225 lbsAre they fitted with easing gear YesSmallest distance between boilers uptakes and bunkers or woodwork1' - 4"Mean dia. of boilers 15' - 0"Length 11' - 6"Material of shell plates SteelThickness 1 1/2" Range of tensile strength 29-32Are the shell plates welded or flanged NoDescrip. of riveting: cir. seams 8. Laplong. seams S.S. & Riv.Diameter of rivet holes in long. seams 1 1/32Pitch of rivets 9 7/8"Lap of plates or width of butt straps 22 1/8"

Per centages of strength of longitudinal joint

rivets 92.3plate 84.5Working pressure of shell by rules 235 lbsSize of manhole in shell 16 x 12Size of compensating ring FlangedNo. and Description of Furnaces in each boiler 3, MolsonsMaterial SteelOutside diameter 3' - 10 3/4"Length of plain part topThickness of plates bottom5 1/8"Description of longitudinal joint WeldedNo. of strengthening rings YesWorking pressure of furnace by the rules 220 lbsCombustion chamber plates: Material SteelThickness: Sides 23/32Back 23/32Top 23/32Bottom 1 1/16"Pitch of stays to ditto: Sides 8 x 8Back 7 7/8 x 7 7/8Top 8 x 7 3/4If stays are fitted with nuts or riveted heads NutsWorking pressure by rules 280 lbsMaterial of stays SteelDiameter at smallest part 2.03 sqArea supported by each stay 64 sqWorking pressure by rules 286 lbs

End plates in steam space:

Material SteelThickness 1 9/32Pitch of stays 17 1/2 x 15How are stays secured S. N. & W.Working pressure by rules 296 lbsMaterial of stays SteelDiameter at smallest part 7.24 sqArea supported by each stay 262 sqWorking pressure by rules 276 lbsMaterial of Front plates at bottom SteelThickness 1 1/16"Greatest pitch of stays 14 1/4"Working pressure of plate by rules 254 lbsDiameter of tubes 2 1/2"Pitch of tubes 3 3/4 x 3 5/8"Material of tube plates SteelThickness: Front 1 1/16"Back 3/32Mean pitch of stays 7 3/8"Pitch across wide water spaces 14"Working pressures by rules 221 lbsGirders to Chamber tops: Material Steel

Depth and

thickness of girder at centre 8 1/4 x 2"Length as per rule 32 5/16"Distance apart 7 3/4"Number and pitch of stays in each 3 - 8"Working pressure by rules 220 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

Foundation

Lloyd's Register

Foundation

W619-0014

VERTICAL DONKEY BOILER—

Manufacturers of Steel *Hona*

No.	Description			When made	Where fixed
Made at	By whom made				
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:— *Two top-end, two bottom-end + two main bearing bolts + nuts, 1 set of coupling bolts, 1 set of feed + bilge pump valves, 1 set of H.P. piston rings, 1 solid propeller, 1 safety valve spring, 3 condenser tubes, 1 set of H.P. piston rings, 1 solid propeller, 1 safety valve spring, 3 condenser tubes, 1 set of H.P. piston rings, 1 solid propeller, 1 safety valve spring, 3 condenser tubes.*

The foregoing is a correct description,

Engine Works Manager Manufacturer.

Dates of Survey while building	During progress of work in shops—	<i>1907 May 8, 9, 22, 30, 31 June 3, 6, 10, 11, 13, 14, 19 July 2, 3, 5, 8, 10, 11, 12, 17, 23, 26 Aug 14, 20, 23, 27, 28, 29 Sep 2, 3, 5, 6, 9, 10, 11, 12, 16, 18, 19</i>
	During erection on board vessel—	<i>25, 26 Oct 2, 11, 10, 11, 18, 21, 28, 29, 31 Nov 4, 12, 18, 19, 23, 27, 27 Dec 11, 18, 19, 21, 28, 29, 31 Jan 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31</i>
	Total No. of visits	<i>207 1/2</i>

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

" " " donkey " " " *Yes*

Dates of Examination of principal parts—	Cylinders <i>22/8/07</i>	Slides <i>27/8/07</i>	Covers <i>26/7/07</i>	Pistons <i>26/7/07</i>	Rods <i>22/8/07</i>
Connecting rods	<i>22/8/07</i>	Crank shaft	<i>22/8/07</i>	Thrust shaft	<i>26/7/07</i>
Stern tube	<i>27/8/07</i>	Steam pipes tested	<i>23/11/07</i>	Engine and boiler seatings	<i>12/11/07</i>
Completion of pumping arrangements	<i>27/11/07</i>	Boilers fixed	<i>27/11/07</i>	Engines tried under steam	<i>27/11/07</i>
Main boiler safety valves adjusted	<i>27/11/07</i>	Thickness of adjusting washers	<i>P.B. P 7/16 S 3/8. C.B. P 1/2 S 33/64. S.B. P 3/8 S 13/32</i>		
Material of Crank shaft	<i>Steel</i>	Identification Mark on Do.	<i>L.H. 1907</i>	Material of Thrust shaft	<i>Steel</i>
Material of Tunnel shafts	<i>Steel</i>	Identification Marks on Do.	<i>L.H. 1907</i>	Material of Screw shafts	<i>Hona</i>
Material of Steam Pipes	<i>Steel</i>	Test pressure	<i>440 lbs</i>		

General Remarks (State quality of workmanship, opinions as to class, &c. *The engines and boilers of this vessel have been constructed under special survey and the materials and workmanship are found and good. The engines have been tried under steam and the safety valves of main boilers adjusted at the working pressure. The machinery is now in good and safe working condition and eligible in my opinion to have the notation of +L.M.C. 7,08. A report on the electric installation will be forwarded when received from the Electrician.*

It is submitted that this vessel is eligible for THE RECORD. *L.M.C. 8.08.*

APR 4.9.08

F.D. FLEC LIGHT.

HC. 4.9.08

The amount of Entry Fee..	£ 3 : 0 0	When applied for,
Special	£ 48 : 7 0	<i>- 2 SEP 1908</i>
Donkey Boiler Fee	£ : :	When received,
Travelling Expenses (if any) £	: :	<i>29/9/08</i>

Committee's Minute

TUES. 8 SEP 1908

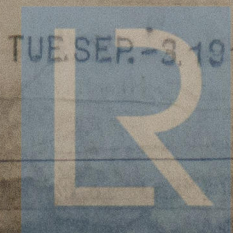
Assigned

+ L.M.C. 8.08

MACHINERY CERTIFICATE WRITTEN.

Thomas Field
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

TUE. SEP. 3 1908



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Certificate (if required) to be sent to Newcastle-on-Tyne.