

REPORT ON MACHINERY

No. 25876

THU. OCT. 16. 1913

Received at London Office

Date of writing Report

19

When handed in at Local Office

15. 10. 13 Port of Sunderland.

No. in Survey held at *Sunderland*Date, First Survey *8 May*Last Survey *8 Oct 1913*

Reg. Book.

on the

*Steel S.S. Merionethshire*Number of Visits *32*Gross *4308*

Tons

Net *2686*Master *W. Linnson* Built at *S'land*By whom built *Bartram & Sons Ltd*When built *1913*Engines made at *S'land*By whom made *J. Dickinson & Sons Ltd*when made *1913*Boilers made at *"*By whom made *"*when made *1913*

Registered Horse Power

Owners *Royal Mail Steam Pk. Co.* Port belonging to *London*Nom. Horse Power as per Section 28 *401*Is Refrigerating Machinery fitted for cargo purposes *no*Is Electric Light fitted *yes*ENGINES, &c.—Description of Engines *Tre C.P. 10*No. of Cylinders *3*No. of Cranks *3*Dia. of Cylinders *26" 43" 41"*Length of Stroke *48"*Revs. per minute *70*Dia. of Screw shaft *as per rule 4.51*Material of *W.I.*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 *✓*

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 *✓*

If two

liners are fitted, is the shaft lapped or protected between the liners *✓*Length of stern bush *5 ft*Dia. of Tunnel shaft *as per rule 13.03*Dia. of Crank shaft journals *as per rule 13.68*Dia. of Crank pin *13 3/4*Size of Crank webs *25" x 8 1/2"*

Dia. of thrust shaft under

collars *13 3/4*Dia. of screw *14" 6"*Pitch of Screw *14 ft*No. of Blades *4*State whether moveable *no*Total surface *86 1/2 sq*No. of Feed pumps *2*Diameter of ditto *4"*Stroke *25 1/2"*Can one be overhauled while the other is at work *yes*No. of Bilge pumps *2*Diameter of ditto *4 1/2"*Stroke *25 1/2"*Can one be overhauled while the other is at work *yes*No. of Donkey Engines *3*Sizes of Pumps *2 feed 25" x 6" 4 9" x 10"*

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

In Engine Room *3 of 32"*In Holds, &c. *two of 32" in each*No. of Bilge Injections *1*sizes *5 1/2"*Connected to condenser, or to circulating pump *C.P.*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 *✓*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 *7.8.13* of Stern Tube *22.9.13* Screw shaft and Propeller *23.9.13*Is the Screw Shaft Tunnel watertight *yes*Is it fitted with a watertight door *yes*worked from *top platform*BOILERS, &c.—(Letter for record *B*)Manufacturers of Steel *J. Spencer & Sons Ltd**3.S.B.*Total Heating Surface of Boilers *6483 sq* Is Forced Draft fitted *no* No. and Description of Boilers *3 Ordinary type*Working Pressure *180 lbs*Tested by hydraulic pressure to *360 lbs*Date of test *26.9.13*No. of Certificate *3150*Can each boiler be worked separately *yes*Area of fire grate in each boiler *60 sq*

No. and Description of Safety Valves to

each boiler *two Spring*Area of each valve *8.3"*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 *about 5 ft**2 1/2"*dia. of boilers *15 ft*Length *11' 3"*Material of shell plates *S*Thickness *1 1/2"*Range of tensile strength *28 1/2 - 32*Are the shell plates welded or flanged *no*Descrip. of riveting: cir. seams *d. r. lap*long. seams *d. butt IR*Diameter of rivet holes in long. seams *1 5/16"*Pitch of rivets *8 1/16"*Lap of plates or width of butt straps *1' 7/4"*

Per centages of strength of longitudinal joint

rivets *92.4*plate *85.3*Working pressure of shell by rules *183*Size of manhole in shell *16" x 12"*Size of compensating ring *8 5/8" x 13 1/2"*No. and Description of Furnaces in each boiler *3 Corrugated* Material *S* Outside diameter *3' 10"*Length of plain part *top 7' 9"*Thickness of plates *bottom 3 3/8"*Description of longitudinal joint *weld*No. of strengthening rings *✓*Working pressure of furnace by the rules *185*Combustion chamber plates: Material *S*Thickness: Sides *5/8"*Back *5/8"*Top *5/8"*Bottom *5/8"*Pitch of stays to ditto: Sides *8" x 8"*Back *8" x 8"*Top *8" x 8"*If stays are fitted with nuts or riveted heads *nuts*Working pressure by rules *211*Material of stays *S*Diameter at smallest part *1' 35/64"*Area supported by each stay *64*Working pressure by rules *181*

End plates in steam space:

Material *S*Thickness *1 1/4"*Pitch of stays *17" x 20 1/2"*How are stays secured *d. nuts*Working pressure by rules *209*Material of stays *S*Diameter at smallest part *3' 16"*Area supported by each stay *348.5*Working pressure by rules *185*Material of Front plates at bottom *S*Thickness *1 5/16"*Material of Lower back plate *S*Thickness *5/8"*Greatest pitch of stays *14 3/4" x 8"*Working pressure of plate by rules *188*Pitch of tubes *3 1/4"*Pitch of tubes *4 1/2" x 4 1/2"*Material of tube plates *S*Thickness: Front *1 5/16"*Back *5/8"*Mean pitch of stays *9" x 11"*Pitch across wide water spaces *13 1/4"*Working pressures by rules *181*Girders to Chamber tops: Material *S*

Depth and

thickness of girder at centre *7 3/4" x 1' 2"*Length as per rule *2' 7 3/8"*Distance apart *8"*Number and pitch of stays in each *3 @ 8"*Working pressure by rules *198*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

Working pressure of end plates

Area of safety valves to superheater

Are they fitted with easing gear

Working pressure by rules

End plates: Thickness

How stayed

Working pressure of end plates

Area of safety valves to superheater

Working pressure of end plates

Area of safety valves to superheater

Are they fitted with easing gear

Working pressure by rules

End plates: Thickness

How stayed

Working pressure of end plates

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Are they fitted with easing gear

Working pressure by rules

End plates: Thickness

How stayed

Working pressure of end plates

Area of safety valves to superheater

Working pressure of end plates

Area of safety valves to superheater

Are they fitted with easing gear

Working pressure by rules

End plates: Thickness

How stayed

Working pressure of end plates

Area of safety valves to superheater

7910-0167

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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	Diag. 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	Radius of do.	Stayed by		
Diameter of uptake	Thickness of uptake plates	Thickness of water tubes	Dates of survey		

SPARE GEAR. State the articles supplied:— Propeller & propeller shaft. top & bottom end bolts & nuts. two main bearing bolts & nuts. set of coupling bolts & nuts. feed & bilge pump valves. set of Air & Live pump valves. 2 feed & 2 ballast pump valves. 2 safety valve springs. nuts bolts and assorted iron.

The foregoing is a correct description,

John William & Sons, Limited.

Manufacturer.

Dates of Survey while building	During progress of work in shops --	1913 May 8. Jul 24. 31. Aug 5. 6. 7. 8. 13. 14. 21. 22. 27. 29. Sept 1. 2. 5. 9. 15. 17. 18. 19.
	During erection on board vessel --	20. 23. 25. 26. 29. 30. Oct 1. 3. 4. 7. 8.
	Total No. of visits	(32)

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

" " " donkey " " " *Yes*.

Dates of Examination of principal parts—Cylinders	8. 8. 13	Slides	5. 8. 13	Covers	5. 8. 13	Pistons	8. 8. 13	Rods	14. 8. 13.
Connecting rods	14. 8. 13	Crank shaft	18. 9. 13	Thrust shaft	18. 9. 13	Tunnel shafts	18. 9. 13	Screw shaft	18. 9. 13
Stern tube	18. 9. 13	Steam pipes tested	3 rd Dec ^r	Engine and boiler seatings	5. 23. 9. 13	Engines holding down bolts	1. 10. 13		
Completion of pumping arrangements	8. 10. 13	Boilers fixed	4. 10. 13	Engines tried under steam	8 th Dec ^r				
Main boiler safety valves adjusted	8 th October.	Thickness of adjusting washers	P.B. f 3/32. Aft 3/8 C.B. 1/16. 5/16 S.B. f 3/32 aft 3/32.						
Material of Crank shaft	S	Identification Mark on Do.	R. JTF	Material of Thrust shaft	S	Identification Mark on Do.	R. JTF		
Material of Tunnel shafts	S	Identification Marks on Do.	R. JTF	Material of Screw shafts	W. I.	Identification Marks on Do.	R. JTF		
Material of Steam Pipes	Copper.	Test pressure	400 lbs						

General Remarks (State quality of workmanship, opinions as to class, &c. Machinery and boilers built under)

Special Survey: Materials and workmanship good. Engines and boilers examined under full working conditions found satisfactory.

It is submitted that this vessel's machinery is eligible for the Record in the Register Book of L.M.C. 10. 1913.

It is submitted that this vessel is eligible for THE RECORD. + LMC 10. 13.

J. Y. F. Finalay
17/10/13

The amount of Entry Fee	£ 3 : : : When applied for.
Special	£ 40 : : : 15. 10. 13.
Donkey Boiler Fee	£ : : : When received.
Travelling Expenses (if any)	£ : : : 21/10/13

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

Committee's Minute ERI. OCT. 17. 1913

Assigned

+ L.M.C. 10. 13

MACHINERY CERTIFICATE WRITTEN



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