

## REPORT ON MACHINERY

No. 24444

WED. NOV. 29. 1911

Received at London Office

Date of writing Report 19 When handed in at Local Office 7-11-10 Port of Hull

No. in Survey held at Hull Date, First Survey Apr 27 Last Survey Nov 3 1911

Reg. Book. 462uff on the Steel Se. Sr. Montebello (Number of Visits 53)

Master Built at Hull By whom built Messrs Earles & Co. Ltd Tons Gross 4324 Net 2770

Engines made at Hull By whom made Messrs Earles & Co. Ltd when made 1911

Boilers made at Hull By whom made Earles & Co. Ltd when made 1911

Registered Horse Power Owners J. Wilson Sons & Co. Ltd Port belonging to Hull

Nom. Horse Power as per Section 28 398 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

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

Dia. of Cylinders 25" - 41" - 69" Length of Stroke 51" Revs. per minute 65 Dia. of Screw shaft as per rule 14.58 as fitted 15.5 Material of screw shaft S

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 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 — If two liners are fitted, is the shaft lapped or protected between the liners — Length of stern bush 63 1/2"

Dia. of Tunnel shaft as per rule 12.87 as fitted 13.5 Dia. of Crank shaft journals as per rule 13.5 as fitted 14 3/8 Dia. of Crank pin 14 3/8 Size of Crank webs 21 1/2 x 9 1/2 Dia. of thrust shaft under collars 14 3/8 Dia. of screw 18 0" Pitch of Screw 18 0" No. of Blades 4 State whether moveable No Total surface 95 sq ft

No. of Feed pumps 2 Diameter of ditto 4" Stroke 25" Can one be overhauled while the other is at work Yes

No. of Bilge pumps 2 Diameter of ditto 4" Stroke 25" Can one be overhauled while the other is at work Yes

No. of Donkey Engines Three Sizes of Pumps Ballast 10" x 12" x 10" No. and size of Suctions connected to both Bilge and Donkey pumps In Engine Room Three 3 1/2", One 4", one 5" In Holds, &c. One 2 1/2" to tunnel Well. Two in each 3 1/2" in 1, 2, 3, 4, 5 holds. One each 3 1/2" in 1, 4, 5 tanks. One 3 1/2", two 3" in each 1, 2, 3 tanks.

No. of Bilge Injections 1 sizes 5" Connected to condenser, or to circulating pump pump 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 None

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 Tank hold suction How are they protected Wood casing

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 26-9-11 of Stern Tube 26-10-11 Screw shaft and Propeller 26-10-11

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

**BOILERS, &c.—(Letter for record S)** Manufacturers of Steel Phoenix A. G. A. Houlder, Vercin

Total Heating Surface of Boilers 6525 sq ft Is Forced Draft fitted No No. and Description of Boilers 3 Cyl. Mult. Single Ended

Working Pressure 180 lbs Tested by hydraulic pressure to 360 lbs Date of test 10-10-1911 No. of Certificate 1846

Can each boiler be worked separately Yes Area of fire grate in each boiler 57.5 sq ft No. and Description of Safety Valves to each boiler Two Spring Area of each valve 7.0" 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 20" Mean dia. of boilers 14'-6" Length 11'-0" Material of shell plates S

Thickness 13/16" Range of tensile strength 28 to 32 Are the shell plates welded or flanged No Descrip. of riveting: cir. seams Ld.

long. seams D.B.S.L.R. Diameter of rivet holes in long. seams 1 1/4" Pitch of rivets 8 1/2" Lap of plates or width of butt straps 18 1/4"

Per centages of strength of longitudinal joint rivets 89 plate 85 Working pressure of shell by rules 182 lbs Size of manhole in shell end plate 16" x 12"

Size of compensating ring 3 1/2" No. and Description of Furnaces in each boiler 3 plain Material S Outside diameter 3'-7 1/2"

Length of plain part top 8.6" bottom 8.2" Thickness of plates crown 3 1/2" bottom 32 Description of longitudinal joint Welded No. of strengthening rings 0

Working pressure of furnace by the rules 192 lbs Combustion chamber plates: Material S Thickness: Sides 11/16" Back 21/32" Top 1/16" Bottom 1/16"

Pitch of stays to ditto: Sides 9" x 8" Back 9" x 8 3/8" Top 10 1/4" x 7 3/4" If stays are fitted with nuts or riveted heads No Working pressure by rules 197 lbs

Material of stays S Diameter at smallest part 2.07 Area supported by each stay 101.7 Working pressure by rules 182 lbs End plates in steam space: Material S Thickness 1 1/2" Pitch of stays 20 1/2" x 19 How are stays secured D.N. Working pressure by rules 188 lbs Material of stays S

Diameter at smallest part 3 1/2" Area supported by each stay 389.5 Working pressure by rules 194 lbs Material of Front plates at bottom S

Thickness 3 1/2" Material of Lower back plate S Thickness 7/8" Greatest pitch of stays 14 1/2" x 8 3/4" Working pressure of plate by rules 184 lbs

Diameter of tubes 3 1/4" Pitch of tubes 4 1/2" x 4 1/2" Material of tube plates S Thickness: Front 31/32" Back 4/8" Mean pitch of stays 11 1/4"

Pitch across wide water spaces 13 1/4" Working pressures by rules 190 lbs Girders to Chamber tops: Material S Depth and thickness of girder at centre 9 1/2" x 1 3/4" Length as per rule 2'-8 3/8" Distance apart 10 1/2" Number and pitch of stays in each 3 - 7 3/4"

Working pressure by rules 199 lbs Superheater or Steam chest; how connected to boilers by directing box Can the superheater be shut off and the boilers worked separately Yes Diameter Sectional 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

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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	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	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:—Two top and bottom and bottom and connecting rod bolts and nuts, two main bearing bolts and nuts, one set coupling bolts and nuts, one set feed and bilge pump valves, half a set air and circulating pump valves, iron various sizes and a quantity of assorted bolts nuts etc ✓

The foregoing is a correct description,

SHIPBUILDING & ENGINEERING CO. LIMITED

J. J. F. Thompson Manufacturer.

Dates of Survey while building	During progress of work in shops --	SECRETARY: 1911: Apr 27. May 16. 18. 19. 25. 27. 31. Jun 1. 8. 12. 19. 26. 28. July 3. 11. 19. 22. 25.
	During erection on board vessel --	July 27. Aug 5. 14. 16. 23. 24. 28. Sep 6. 7. 12. 13. 16. 19. 15. 20. 21. 22. 26. 28. 30. Oct 3. 4. 5. 6. 9. 10. 13. 14.
	Total No. of visits	53.

Is the approved plan of main boiler forwarded herewith Yes ✓

Dates of Examination of principal parts—Cylinders 6. 9. 11	Slides 12. 9. 11	Covers 28. 9. 11	Pistons 20. 9. 11	Rods 20. 9. 11
Connecting rods 12. 9. 11	Crank shaft 24. 8. 11	Thrust shaft 20. 9. 11	Tunnel shafts 6. 9. 11	Screw shaft 22. 9. 11
Propeller 26. 10. 11	Stern tube 22. 7. 11	Steam pipes tested 6. 18. 10. 11	Engine and boiler seatings 3. 10. 11	Engines holding down bolts 28. 10. 11
Completion of pumping arrangements 3. 11. 11	Boilers fixed 28. 10. 11	Engines tried under steam 3. 11. 11		
Main boiler safety valves adjusted 28. 10. 11	Thickness of adjusting washers 5056			
Material of Crank shaft S	Identification Mark on Do. 3. 7. 11	Material of Thrust shaft S	Identification Mark on Do. 8. 11	
Material of Tunnel shafts S	Identification Marks on Do. 499. 457	Material of Screw shafts S	Identification Marks on Do. 459. 8. 11	
Material of Steam Pipes Solid drawn steel ✓	6779. 6770	Test pressure 540 lbs per sq inch ✓		

General Remarks (State quality of workmanship, opinions as to class, &c. The engines and boilers of this vessel, have been constructed under special survey in accordance with the Rules. The materials workmanship are good. The boilers tested by hydraulic pressure, secured on board, and with the engines tested under steam and found satisfactory. they are now in good order, and safe working condition and respectfully submitted as being eligible in my opinion to be classed with the notation of  $\frac{1}{2}$  L.M.C. 11. 11 in the Register Book

It is submitted that this vessel is eligible for THE RECORD + LMC 11. 11.

The amount of Entry Fee	£ 3 : -	When applied for, 28. 11. 19. 11
Special	£ 39. 18	
Donkey Boiler Fee	£ ✓	When received, 13. 12. 19. 11
Travelling Expenses (if any)	£ ✓	

Committee's Minute  
Assigned

MACHINERY CERTIFICATE WRITTEN.



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