

Port of Hull

Received at London Office

FRI. 9 NOV 1906

No. in Survey held at Hull Date, first Survey July 27th Last Survey 5th Nov 1906
Reg. Book. 7144 on the Steel S. S. Spider (Number of Visits 22)
Master Hull Built at Hull By whom built Earles & Co. Ltd Tons { Gross 271
Net 96
Engines made at Hull By whom made Earles & Co. Ltd when made 1906
Boilers made at Hull By whom made Earles & Co. Ltd when made 1906
Registered Horse Power 77.6 Owners British S. S. Co. Ltd Port belonging to Hull
Nom. Horse Power as per Section 28 77.6 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted No

ENGINES, &c.—Description of Engines

Triple Expansion

No. of Cylinders

3

No. of Cranks

3

Dia. of Cylinders 12 $\frac{3}{4}$ " ~ 22" ~ 36" Length of Stroke 24 Revs. per minute 112 Dia. of Screw shaft 7 $\frac{1}{2}$ " as per rule 7 $\frac{1}{2}$ " Material of Iron
as fitted 8" screw shaft

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 one length 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 34 $\frac{1}{2}$ "

Dia. of plain shaft as per rule 6 $\frac{3}{4}$ " Dia. of Crank shaft journals as per rule 7 $\frac{1}{2}$ " Dia. of Crank pin 7 $\frac{1}{2}$ " Size of Crank webs 14" x 4 $\frac{1}{2}$ " Dia. of thrust shaft under

collars 7 $\frac{1}{2}$ " Dia. of screw 9" ~ 0" Pitch of Screw 11" ~ 0" 6 12" ~ 0" No. of Blades 4 State whether moveable No Total surface 27 sq ft

No. of Feed pumps 1 Diameter of ditto 3" Stroke 12" Can one be overhauled while the other is at work

No. of Bilge pumps 1 Diameter of ditto 3" Stroke 12" Can one be overhauled while the other is at work

No. of Donkey Engines Two Sizes of Pumps 6" x 6" x 6" 7 6" x 3" x 6" No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room (Three) One 2" One 3" One 3 $\frac{1}{2}$ " In Holds, &c. One 2" to each slush well, & one

2" to fore compartment. Ejector suction from E. R. holds

No. of Bilge Injections 1 sizes 3 $\frac{1}{2}$ " Connected to condenser, or to circulating pump pump Is a separate Donkey Suction fitted in Engine room & size Yes 3"

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 0

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 Slush well 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 31-10-06 of Stern Tube 31-10-06 Screw shaft and Propeller 31-10-06

Is the Screw Shaft Tunnel watertight None Is it fitted with a watertight door — worked from —

BOILERS, &c.—(Letter for record S) Manufacturers of Steel

Hordern & Co.

Germany.

Total Heating Surface of Boilers 1260 sq ft Is Forced Draft fitted No No. and Description of Boilers One cyl. Muelsh

Working Pressure 200 lbs Tested by hydraulic pressure to 400 lbs Date of test 20-10-06 No. of Certificate 1516

Can each boiler be worked separately — Area of fire grate in each boiler 40 sq ft No. and Description of Safety Valves to

each boiler Two Spring Area of each valve 4.91 sq in Pressure to which they are adjusted 205 lbs Are they fitted with easing gear Yes

Smallest distance between boilers or uptakes and bunkers or woodwork 6 $\frac{1}{2}$ " Int. dia. of boilers 13' ~ 0" Length 10' ~ 6" Material of shell plates Steel

Thickness 1 $\frac{3}{16}$ " Range of tensile strength 28-32 tons Are the shell plates welded or flanged No Descrip. of riveting: cir. seams L. D.

long. seams D. B. S. Y. R. Diameter of rivet holes in long. seams 1 $\frac{1}{16}$ " Pitch of rivets 7 $\frac{1}{16}$ " Lap of plates or width of butt straps 17 $\frac{1}{2}$ "

Per centages of strength of longitudinal joint rivets 90.1 plate 84.55 Working pressure of shell by rules 200 lbs Size of manhole in shell 16" x 12"

Size of compensating ring 40 x 30 x 1 $\frac{1}{2}$ " No. and Description of Furnaces in each boiler 3 plain Material Steel Outside diameter 37"

Length of plain part top 5' ~ 7" Thickness of plates crown 3/4" Description of longitudinal joint Welded No. of strengthening rings 0

Working pressure of furnace by the rules 213 lbs Combustion chamber plates: Material Steel Thickness: Sides 1/16" Back 5/8" Top 1/16" Bottom 1/16"

Pitch of stays to ditto: Sides 9 $\frac{1}{2}$ " x 8" Back 8" x 7 $\frac{1}{2}$ " Top 8" x 7 $\frac{1}{2}$ " If stays are fitted with nuts or riveted heads Nuts Working pressure by rules 212 lbs

Material of stays Steel Diameter at smallest part 1 $\frac{5}{8}$ " Area supported by each stay 76 sq in Working pressure by rules 245 lbs End plates in steam space:

Material Steel Thickness 1 $\frac{3}{16}$ " Pitch of stays 15 $\frac{1}{4}$ " x 17 $\frac{1}{2}$ " How are stays secured D. Nuts Working pressure by rules 231 lbs Material of stays steel

Diameter at smallest part 2 $\frac{3}{16}$ " Area supported by each stay 270.68 sq in Working pressure by rules 229 lbs Material of Front plates at bottom Steel

Thickness 1" Material of Lower back plate Steel Thickness 1" Greatest pitch of stays 14 $\frac{1}{2}$ " Working pressure of plate by rules 213 lbs

Diameter of tubes 3 $\frac{1}{4}$ " Pitch of tubes 4 $\frac{3}{4}$ " Material of tube plates Steel Thickness: Front 1" Back 5/8" Mean pitch of stays 9 $\frac{1}{2}$ "

Pitch across wide water spaces 14" Working pressures by rules 208 lbs Girders to Chamber tops: Material Steel Depth and

thickness of girder at centre 9 $\frac{1}{2}$ " x 13 $\frac{1}{4}$ " Length as per rule 2' ~ 11" Distance apart 7 $\frac{5}{8}$ " Number and pitch of stays in each Three 8"

Working pressure by rules 216 lbs 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 —

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	Stayed by			
Diameter of uptake	Thickness of uptake plates	Thickness of water tubes	Dates of survey		

SPARE GEAR. State the articles supplied:— Two each top and bottom end connecting rod bolts and nuts, two main bearing bolts and nuts, one set coupling bolts and nuts, one set each feed and bilge pump valves, and a quantity of assorted bolts nuts etc
The foregoing is a correct description,

FOR EARLE'S		Manufacturer.
F. J. Paley & Co. Ltd.		
Dates of Survey while building	During progress of work in shops - -	1906:— July 27. Aug 13. 23. Sep 10. 14. 19. 20. 27. Oct 1. 3. 5. 15. 17. 20. 22. 24. 26. 29. 30
	During erection on board vessel - -	Oct 31. Nov 1. 5.
	Total No. of visits	22
		Is the approved plan of main boiler forwarded herewith Yes

Dates of Examination of principal parts—	Cylinders 8.9.06	Slides 3-10.06	Covers 3-10.06	Pistons 26.9.06	Rods 19.9.06
Connecting rods 19.9.06	Crank shaft 23-8.06	Thrust shaft 23-8.06	Tunnel shafts ———	Screw shaft 23-8.06	Propeller 23-8.06
Stern tube 17.10.06	Steam pipes tested 24-10.06	Engine and boiler seatings 20.10.06	Engines holding down bolts 26.10.06		
Completion of pumping arrangements 1.11.06	Boilers fixed 26-10.06	Engines tried under steam 1.11.06			
Main boiler safety valves adjusted 26.10.06	Thickness of adjusting washers 3/8" 3/8"				
Material of Crank shaft Steel	Identification Mark on Do. 1718. ATG	Material of Thrust shaft Steel	Identification Mark on Do. A63 GAH		
Material of Tunnel shafts ———	Identification Marks on Do. ———	Material of Screw shafts Iron	Identification Marks on Do. A63 GAH		
Material of Steam Pipes Solid drawn Copper	Test pressure 400 lbs per sq inch				

General Remarks (State quality of workmanship, opinions as to class, &c. The engines and boiler of this vessel have been constructed under special survey in accordance, with the Rules. The materials and workmanship are good. The boiler tested by hydraulic pressure, and with the engines placed on board and tested under steam. 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 L.M.C. 11.06 in the Register Book.

This is a sister vessel to the "North King" Hull Rpt 8° 17965

It is submitted that
this vessel is eligible for
THE RECORD H L.M.C. 11.06.

The amount of Entry Fee..	£ 1 : : :	When applied for,	8/11/1906
Special	£ 11 : 14 : :	When received,	30/11/07
Donkey Boiler Fee	£ - : - : :		
Travelling Expenses (if any) £	- : - : :		

Committee's Minute

Assigned

TUES. NOV 13 1906

+ Lmb 11 06

MACHINERY CERTIFICATE
WRITTEN.

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

6. 11. 06



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Foundation