

## REPORT ON MACHINERY.

No. 63005

Received at London Office

Date of writing Report

19

When handed in at Local Office

SEP 21 1912

Port of

Newcastle-on-Tyne

MON SEP 23 1912

No. in Survey held at  
Reg. Book.

652 on the

South Shields

Date, First Survey

11th Mar 1912 Last Survey

12th Sept 1912

(Number of Visits

42

Gross 1457  
Net 794

Master

Built at

Blyth

By whom built

Blyth S. B. Co Ltd

When built

1912

Engines made at

South Shields

By whom made

G. J. Grey

when made

1912

Boilers made at

South Shields

By whom made

Jos. J. Eltringham

when made

1912

Registered Horse Power

146

Owners

Donald S. S. Co Ltd

Port belonging to

Bristol

Nom. Horse Power as per Section 28

146

Is Refrigerating Machinery fitted for cargo purposes

No

Is Electric Light fitted

No

ENGINES, &amp;c.—Description of Engines Triple Expansion Surface Condensing No. of Cylinders 3 No. of Cranks 3

Dia. of Cylinders 17"-28"-46" Length of Stroke 33" Revs. per minute Dia. of Screw shaft as per rule 10.03" Material of screw shaft 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 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 3'-6"

Dia. of Tunnel shaft as per rule 8.65" Dia. of Crank shaft journals as per rule 9.08" Dia. of Crank pin 9 3/8" Size of Crank webs 18 1/2 x 6" Dia. of thrust shaft under

collars 9 3/8" Dia. of screw 12'-9" Pitch of Screw 13'-0" No. of Blades 4 State whether moveable No Total surface 52 sq ft

No. of Feed pumps 2 Diameter of ditto 2 3/4" Stroke 17" Can one be overhauled while the other is at work Yes

No. of Bilge pumps 2 Diameter of ditto 3 1/4" Stroke 17" Can one be overhauled while the other is at work Yes

No. of Donkey Engines 2 Sizes of Pumps 5 1/2 x 3 1/2 x 5, 7 1/2 x 8 1/2 x 8 No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room 4 Boiler Space 4-2 1/2 In Holds, &amp;c. Fore-hold 2-2 1/2, After Hold 2-2 1/2

Tunnel well suction 2 1/2"

No. of Bilge Injections 1 sizes 3 1/2" Connected to condenser, or to circulating pump Pump Is a separate Donkey Suction fitted in Engine room &amp; 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

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 12-8-12 of Stern Tube 12-8-12 Screw shaft and Propeller 17-8-12

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

BOILERS, &amp;c.—(Letter for record) Manufacturers of Steel John Spencers &amp; Sons Ltd.

Total Heating Surface of Boilers 2450 sq ft Is Forced Draft fitted No No. and Description of Boilers Two-single ended

Working Pressure 180 lbs Tested by hydraulic pressure to 360 lbs Date of test 13-8-12 No. of Certificate 8361

Can each boiler be worked separately Yes Area of fire grate in each boiler 32.75 sq ft No. and Description of Safety Valves to

each boiler Two-spring loaded Area of each valve 3.98 sq in 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 1'-2" Mean dia. of boilers Length Material of shell plates

Thickness Range of tensile strength Are the shell plates welded or flanged Descrip. of riveting: cir. seams

long. seams Diameter of rivet holes in long. seams Pitch of rivets Lap of plates or width of butt straps

Per centages of strength of longitudinal joint rivets Working pressure of shell by rules Size of manhole in shell

Size of compensating ring No. and Description of Furnaces in each boiler Material Outside diameter

Length of plain part top Thickness of plates crown Description of longitudinal joint No. of strengthening rings

bottom Working pressure of furnace by the rules Combustion chamber plates: Material Thickness: Sides Back Top Bottom

Pitch of stays to ditto: Sides Back Top If stays are fitted with nuts or riveted heads Working pressure by rules

Material of stays Diameter at smallest part Area supported by each stay Working pressure by rules End plates in steam space:

Material Thickness Pitch of stays How are stays secured Working pressure by rules Material of stays

Diameter at smallest part Area supported by each stay Working pressure by rules Material of Front plates at bottom

Thickness Material of Lower back plate Thickness Greatest pitch of stays Working pressure of plate by rules

Diameter of tubes Pitch of tubes Material of tube plates Thickness: Front Back Mean pitch of stays

Pitch across wide water spaces Working pressures by rules Girders to Chamber tops: Material Depth and

thickness of girder at centre Length as per rule Distance apart Number and pitch of stays in each

Working pressure by rules 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

002647-002652-0100



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	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 end bolts & nuts; two bottom end bolts & nuts; two main bearing bolts; 1 set coupling bolts; set of piston junk ring bolts; set each of air, cir<sup>3</sup>, feed & bilge pump valves; propeller & propeller shaft; set of piston springs; pair of top end brasses; bottom end bearing; cir<sup>3</sup> pump rod; eccentric strap; assorted bolts & nuts & iron.

The foregoing is a correct description,

Manufacturer. *John Houston*

Dates of Survey while building	During progress of work in shops - -	1912 Mar. 11. 21. Apr. 2. 10. 17. 24. May. 3. 6. 8. 13. 16. 20. 21. 24. 30. Jun. 4. 10. 13. 14. 19. 24. Jul. 1. 4. 9. 22
	During erection on board vessel - - -	Aug. 1. 7. 8. 12. 16. 18. 20. 21. 22. 23. 27. 28. 29. 30. 31. Sep. 4. 12.
	Total No. of visits	42

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

Dates of Examination of principal parts—Cylinders 24-5-12 Slides 19-6-12 Covers 21-5-12 Pistons 8-5-12 Rods 10-6-12  
 Connecting rods 4-6-12 Crank shaft 20-5-12 Thrust shaft 1-8-12 Tunnel shafts 21-8-12 Screw shaft 1-8-12 Propeller 8-8-12  
 Stern tube 1-8-12 Steam pipes tested 30-8-12 Engine and boiler seatings 15-8-12 Engines holding down bolts 30-8-12  
 Completion of pumping arrangements 12-9-12 Boilers fixed 22-8-12 Engines tried under steam 4-9-12  
 Main boiler safety valves adjusted 4-9-12 Thickness of adjusting washers *Star 4 Bl. S 5/16 1/2 P 3/8 Port Bl. S 5/16 1/2 P 5/16 1/2*  
 Material of Crank shaft *Pin steel* Identification Mark on Do. *273 WDH* Material of Thrust shaft *Steel* Identification Mark on Do. *4958 PA*  
 Material of Tunnel shafts *Steel* Identification Marks on Do. *7613-14-15 KW* Material of Screw shafts *Steel* Identification Marks on Do. *4861 PA*  
 Material of Steam Pipes *Solid drawn copper* Test pressure *360 lbs.*

General Remarks (State quality of workmanship, opinions as to class, &c.)

The machinery of this vessel has been constructed under special survey, & the materials & workmanship are sound & good. The engines & auxiliary machinery have been tried under steam, & the boiler safety valves adjusted to their working pressure. The machinery is now in a good & safe working condition & eligible in my opinion to have the notation of **+ L.M.C. 9-12**, in the Register Book.

It is submitted that  
 this vessel is eligible for  
 THE RECORD, + LMC 9.12.

*John Houston*  
 23/9/12

The amount of Entry Fee	.. £ 2-0-0	When applied for, <b>SEP 21 1912</b>
Special	.. £ 21-18-0	
Donkey Boiler Fee	.. £ :	When received, <i>20/9/12</i>
Travelling Expenses (if any)	£ :	

Committee's Minute

TUE. SEP. 24 1912

Assigned

+ LMC 9.12

MACHINERY CERTIFICATE  
 ENTERED

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



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 Foundation