

## REPORT ON MACHINERY.

No. 57217

THUR. 26 AUG 1909

Port of Newcastle on Tyne

Received at London Office

Date, first Survey 15<sup>th</sup> MayLast Survey 12<sup>th</sup> Aug 1909

No. in Survey held at S. Shields

Reg. Book.

on the

S. T. "ST. LAWRENCE No 1"

Tons { Gross 211  
Net 80

Master

Built at S. Shields

By whom built J. T. Pillingham &amp; Co. Ld.

When built 1909.8

Engines made at S. Shields

By whom made J. T. Pillingham

when made 1909.8

Boilers made at S. Shields

By whom made J. T. Pillingham &amp; Co. Ld.

when made 1909.

Registered Horse Power

Owners R. Hunter &amp; Son

Port belonging to S. Shields

Nom. Horse Power as per Section 28 79

Is Refrigerating Machinery fitted for cargo purposes No

Is Electric Light fitted No

## ENGINES, &amp;c.—Description of Engines Triple Expansion

No. of Cylinders 3

No. of Cranks 3

Dia. of Cylinders 13-21 $\frac{1}{2}$ -35 Length of Stroke 24

Revs. per minute

Dia. of Screw shaft

as per rule 7 $\frac{1}{4}$ 

Material of screw shaft

Is the screw shaft fitted with a continuous liner the whole length of the stern tube 2 Liner 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 No If two

liners are fitted, is the shaft lapped or protected between the liners Yes Length of stern bush 2-7

Dia. of Tunnel shaft as per rule 6 $\frac{1}{2}$  Dia. of Crank shaft journals as per rule 6 $\frac{1}{2}$  Dia. of Crank pin 6 $\frac{1}{2}$  Size of Crank webs 3 $\frac{1}{2}$  Dia. of thrust shaft undercollars 6 $\frac{1}{2}$  Dia. of screw 9-0 Pitch of Screw 10-6 No. of Blades 4 State whether moveable No Total surface 31 $\frac{1}{2}$ No. of Feed pumps 2 Diameter of ditto 2 $\frac{1}{2}$  Stroke 13 Can one be overhauled while the other is at work YesNo. of Bilge pumps 2 Diameter of ditto 2 $\frac{1}{2}$  Stroke 13 Can one be overhauled while the other is at work YesNo. of Donkey Engines One Sizes of Pumps 5 $\frac{1}{2}$  3 $\frac{1}{2}$  5 No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room One 2" Bore &amp; Ejector, Two 2" Bore Hold, &amp;c. One 2" Bore

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

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 Bore

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 Liner 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 12.7.09 of Stern Tube 12.7.09 Screw shaft and Propeller 12.7.09

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

BOILERS, &amp;c.—(Letter for record (5)) Manufacturers of Steel J. Spence &amp; Co. Ltd. Newcastle

Total Heating Surface of Boilers 1439 $\frac{1}{2}$  Is Forced Draft fitted No No. and Description of Boilers One G.L. hull, S. End.

Working Pressure 180 lb Tested by hydraulic pressure to 360 lb Date of test 15.7.09 No. of Certificate 7871

Can each boiler be worked separately Yes Area of fire grate in each boiler 48 $\frac{1}{2}$  No. and Description of Safety Valves toeach boiler 2. Spring Area of each valve 5.9 $\frac{1}{2}$  Pressure to which they are adjusted 185 lb Are they fitted with easing gear YesSmallest distance between boilers or uptakes and bunkers or woodwork 18 $\frac{1}{2}$  Mean dia. of boilers 13-0 Length 10-3 Material of shell plates S.Thickness 1 $\frac{1}{16}$  Range of tensile strength 28 $\frac{1}{2}$  Are the shell plates welded or flanged No Descrip. of riveting: cir. seams 20 $\frac{1}{2}$ ng. seams 20 $\frac{1}{2}$ -TR Diameter of rivet holes in long. seams 1 $\frac{1}{8}$  Pitch of rivets 6 $\frac{1}{2}$  Lap of plates or width of butt straps 15 $\frac{1}{4}$ 

Percentage of strength of longitudinal joint rivets 84. Working pressure of shell by rules 180 lb Size of manhole in shell 16 x 12

Size of compensating ring 7 $\frac{1}{2}$  x 1 $\frac{1}{16}$  No. and Description of Furnaces in each boiler 3. Plain Material S. Outside diameter 40 $\frac{1}{2}$ Length of plain part top 7 $\frac{1}{2}$  Thickness of plates crown 3 $\frac{3}{4}$  Description of longitudinal joint 20 $\frac{1}{2}$  S. No. of strengthening rings OneWorking pressure of furnace by the rules 180 lb Combustion chamber plates: Material S. Thickness: Sides 2 $\frac{1}{32}$  Back 2 $\frac{1}{32}$  Top 2 $\frac{1}{32}$  Bottom 1 $\frac{1}{4}$ Pitch of stays to ditto: Sides 9 $\frac{1}{8}$  Back 9 $\frac{1}{8}$  Top 10 $\frac{1}{8}$  Stays are fitted with nuts or riveted heads No Working pressure by rules 180 lbMaterial of stays S. Diameter at smallest part 1 $\frac{1}{8}$  Area supported by each stay 81 $\frac{1}{2}$  Working pressure by rules 220 lb End plates in steam space:Material S. Thickness 1 $\frac{1}{16}$  Pitch of stays 17 $\frac{1}{4}$  How are stays secured AN.W. Working pressure by rules 181 lb Material of stays S.Diameter at smallest part 2 $\frac{1}{32}$  Area supported by each stay 296 $\frac{1}{2}$  Working pressure by rules 195 lb Material of Front plates at bottom S.Thickness 1 Material of Lower back plate S. Thickness 29 $\frac{1}{32}$  Greatest pitch of stays 15 $\frac{1}{4}$  x 8 Working pressure of plate by rules 191 lbDiameter of tubes 3 $\frac{1}{4}$  Pitch of tubes 4 $\frac{1}{2}$  Material of tube plates S. Thickness: Front 1 Back 1 $\frac{1}{16}$  Mean pitch of stays 17 $\frac{1}{8}$  x 9Pitch across wide water spaces 14 $\frac{1}{4}$  Working pressures by rules 187 lb Girders to Chamber tops: Material S. Depth andthickness of girder at centre 5 $\frac{1}{4}$  x 2 $\frac{1}{2}$  Length as per rule 31 $\frac{1}{2}$  Distance apart 7 $\frac{1}{4}$  Number and pitch of stays in each 2-10 $\frac{1}{2}$ 

Working pressure by rules 183 lb Superheater or Steam chest; how connected to boiler No Can the superheater be shut off and the boiler worked

separately Diameter Length Thickness of shell plates Material Description of longitudinal joint Thickness

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 2 1/2 inch bolts & nuts. Two bottom end nuts. Two main bearing nuts. One nut coupling bolts. One nut end. air. circulating. Two and three pump valves. mounted bolts and iron.*

The foregoing is a correct description,

Manufacturer. of Boiler

*John I. Edgingham & Co*

*Maker of Engines*

1909  
Dates of Survey while building  
During progress of work in shops - -  
During erection on board vessel - -  
Total No. of visits

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

Dates of Examination of principal parts—Cylinders *15.6.09* Slides *10.7.09* Covers *10.7.09* Pistons *28.5.09* Rods *10.7.09*  
Connecting rods *10.7.09* Crank shaft *1.6.09* Thrust shaft *1.6.09* Tunnel shafts *hms* Screw shaft *1.7.09* Propeller *1.7.09*  
Stern tube *1.7.09* Steam pipes tested *6.8.09* Engine and boiler seatings *12.7.09* Engines holding down bolts *6.8.09*  
Completion of pumping arrangements *10.8.09* Boilers fixed *10.8.09* Engines tried under steam *12.8.09*  
Main boiler safety valves adjusted *12.8.09* Thickness of adjusting washers *2 7/16" 5 7/16"*  
Material of Crank shaft *5.7.5* Identification Mark on Do. *ATG* Material of Thrust shaft *5.7.5* Identification Mark on Do. *ATG*  
Material of Tunnel shafts *hms* Identification Marks on Do. *—* Material of Screw shafts *hms* Identification Marks on Do. *1.7.09*  
Material of Steam Pipes *Copper* Test pressure *360 lb.*

General Remarks (State quality of workmanship, opinions as to class, &c. *The above machinery has been constructed under Special Survey. The materials and workmanship employed in its manufacture are sound and good. It has now been fitted on board the above vessel in a satisfactory manner. The vessel is eligible in my opinion for record. + L M C 8.09*

It is submitted that  
this vessel is eligible for  
THE RECORD. + L M C 8.09

The amount of Entry Fee. £ 1 : 0 : 0 When applied for.  
Special . . . . . £ 11 : 17 : 4 25 AUG 1909  
Donkey Boiler Fee . . . . . £ 4 : : : When received,  
Travelling Expenses (if any) £ 4 : : : 27 AUG 1909

Committee's Minute

Assigned

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



© 2020

Lloyd's Register  
Foundation

These  
Signal  
Office  
No., Date  
Whether  
Foreign  
British  
Number of  
Number of  
Rigged  
Stern  
Build  
Galleries  
Head  
Framework  
vessel  
Number of  
Number of  
and the  
Total to quarter  
to bottom  
No. of  
sets of  
Engines.  
One  
No. of  
Shafts.  
One  
Under Ton  
Space or sp  
Turret or  
Forecastle  
Bridge spa  
Poop or Br  
Side House  
Deck House  
Chart Hou  
Spaces for  
Section 7  
1894.  
Excess of  
G  
Deductions  
R  
NOTE.—Th  
Na  
No. of Ow  
Name, Res  
Mo. R  
Dated 2  
301 (65181)