

# REPORT ON MACHINERY.

No. 56606

Port of *Newcastle-on-Tyne*

Received at London Office

MAY 7 1909

No. in Survey held at *Newcastle*

Date, first Survey *24 Oct. 1908* Last Survey *April 27<sup>th</sup> 1909*

Reg. Book.

4964 on the *S/S "PATELLA"*

(Number of Visits *45*)

Gross *5660*

Net *3400*

When built *1909*

Master Built at *Newcastle*

By whom built *Swan Hunter & Wigham, Richardson*

Engines made at *Newcastle*

By whom made *Walker & Shipway & Co. Ltd.*

when made *1909*

Boilers made at *Newcastle*

By whom made *Walker & Shipway & Co. Ltd.*

when made *1909*

Registered Horse Power

Owners *Anglo-Saxon Petroleum Co*

Port belonging to *London*

Nom. Horse Power as per Section 28 *448*

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 *26 1/2, 43, 72* Length of Stroke *48* Revs. per minute *67* Dia. of Screw shaft *as per rule 14 1/2* Material of *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 *Yes* 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 *Yes* If two

liners are fitted, is the shaft lapped or protected between the liners *Yes* Length of stern bush *5-3*

Dia. of Tunnel shaft *as per rule none* Dia. of Crank shaft journals *as per rule 13-7/8* Dia. of Crank pin *14* Size of Crank webs *28 1/2 x 9 1/2* Dia. of thrust shaft under

collars *14* Dia. of screw *17-9* Pitch of Screw *16-9* No. of Blades *4* State whether moveable *M* Total surface *100 sq*

No. of Feed pumps *2* Diameter of ditto *4 1/2* Stroke *24* Can one be overhauled while the other is at work *Yes*

No. of Bilge pumps *2* Diameter of ditto *4 1/2* Stroke *24* Can one be overhauled while the other is at work *Yes*

No. of Donkey Engines *3* Sizes of Pumps *6x4x6, 7x9 1/2 x 18, 8x6x10* No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room *four of 3 1/2* In Holds, &c. *Cargo 2 of 2 1/2*

No. of Bilge Injections *1* sizes *8* Connected to condenser, or to circulating pump *C.P.* Is a separate Donkey Suction fitted in Engine room & size *Yes 3 1/2*

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 *Yes*

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 *Yes*

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 *9-3-09* of Stern Tube *9-3-09* Screw shaft and Propeller *18-3-09*

Is the Screw Shaft Tunnel watertight *none* Is it fitted with a watertight door *Yes* worked from *Yes*

BOILERS, &c.—(Letter for record *S*) Manufacturers of Steel *John Spencer & Sons Ltd.*

Total Heating Surface of Boilers *7725* Is Forced Draft fitted *no* No. and Description of Boilers *Three Single End*

Working Pressure *180 lbs* Tested by hydraulic pressure to *360 lbs* Date of test *30-12-08* No. of Certificate *7794*

Can each boiler be worked separately *Yes* Area of fire grate in each boiler *68 sq* No. and Description of Safety Valves to

each boiler *2 Spring* Area of each valve *8.29* 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 *2 feet* dia. of boilers *16 feet* Length *11-9* Material of shell plates *S*

Thickness *1 1/4* Range of tensile strength *29500* Are the shell plates welded on flanged ends, Descrip. of riveting: cir. seams *2 & Lap*

long. seams *A. Nutts* Diameter of rivet holes in long. seams *1 5/16* Pitch of rivets *9/16* Lap of plates on width of butt straps *19 1/4*

Per centages of strength of longitudinal joint rivets *88.7* Working pressure of shell by rules *185* Size of manhole in shell *16x12*

Size of compensating rings *W. Keils* No. and Description of Furnaces in each boiler *3 horizontal* Material *S* Outside diameter *4-1 1/2*

Length of plain part top *Yes* Thickness of plates crown *19 1/32* Description of longitudinal joint *Weld* No. of strengthening rings *Yes*

Working pressure of furnace by the rules *189* Combustion chamber plates: Material *S* Thickness: Sides *5/8* Back *5/8* Top *5/8* Bottom *1 1/16*

Pitch of stays to ditto: Sides *8 3/4 x 8 3/4* Back *8 3/4 x 8 3/4* Top *8 3/4 x 8 3/4* If stays are fitted with nuts or riveted heads *Nuts* Working pressure by rules *186*

Material of stays *S* Diameter at smallest part *2.03* Area supported by each stay *74.4* Working pressure by rules *245* End plates in steam space:

Material *S* Thickness *1 9/32* Pitch of stays *22 1/2 x 17* How are stays secured *2 nuts* Working pressure by rules *186* Material of stays *S*

Diameter at smallest part *7.24* Area supported by each stay *383* Working pressure by rules *197* Material of Front plates at bottom *S*

Thickness *1* Material of Lower back plate *S* Thickness *3/8* Greatest pitch of stays *13 3/4* Working pressure of plate by rules *183*

Diameter of tubes *3* Pitch of tubes *4 1/2 x 4 1/2* Material of tube plates *S* Thickness: Front *1-13/32* Back *3/4* Mean pitch of stays *8 1/2*

Pitch across wide water spaces *14* Working pressures by rules *183* Girders to Chamber tops: Material *S* Depth and

thickness of girder at centre *9 1/2 x 1 1/2* Length as per rule *35 1/4* Distance apart *8 3/4* Number and pitch of stays in each *3 @ 8 1/2*

Working pressure by rules *183* Superheater or Steam chest; how connected to boiler *Yes* Can the superheater be shut off and the boiler worked

separately *Yes* Diameter *Yes* Length *Yes* Thickness of shell plates *Yes* Material *Yes* Description of longitudinal joint *Yes* Diam. of rivet

holes *Yes* Pitch of rivets *Yes* Working pressure of shell *Yes* Diameter of flue *Yes* Material of flue plates *Yes* Thickness *Yes*

If stiffened with rings *Yes* Distance between rings *Yes* Working pressure by rules *Yes* End plates: Thickness *Yes* How stayed *Yes*

Working pressure of end plates *Yes* Area of safety valves to superheater *Yes* Are they fitted with easing gear *Yes*

If a Report also sent on the Hull of the Ship, state whether, and when, one will be sent.

Lloyd's Register Foundation

WAB5-0005

**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: — 4 Cast. Propeller blades, tail shaft, 1 Set of H.P. & L.P. piston rings & springs, 12 piston bolts & nuts, 1 Slide Valve rod, 1 pair of top & bottom end braces, 2 Main bearing bolts & nuts, 1 Set of Safety Valve springs, 1 Set of top & bottom end & coupling bolts & nuts, 1 eccentric strap & pin, 1 circulating pump, rods & nuts, 1 Set of Valves for ballast & bilge, 1 Set of Valves for Air, circulating feed & bilge pumps, 3 crank shaft, 20 boiler tubes, 50 condenser tubes & 100 Ferrules, & a quantity of assorted iron bars, also bolts and nuts, & 1 Piston rod.

The foregoing is a correct description,  
**FOR THE WALLSEND SLIPWAY & ENGINEERING CO. LIMITED,**  
 Manufacturer.

Dates of Survey while building	During progress of work in shops - -	1908	1909
	During erection on board vessel - -	Feb. 4, 8, 19, 20, 22, 24, 25. Mar. 9, 18, 19, 20, 22, 23, 24. Apr. 1, 2, 19, 20, 21, 24, 27.	Jan. 6, 12, 14, 23, 28.
	Total No. of visits	45	

Dates of Examination of principal parts — Cylinders 4-2-09, Slides 4-2-09, Covers 4-2-09, Pistons 4-2-09, Rods 18-12-08

Connecting rods 18-12-08, Crank shaft 22-2-09, Thrust shaft 22-2-09, Tunnel shafts ✓, Screw shaft 22-2-09, Propeller 22-2-09

Stern tube 22-2-09, Steam pipes tested 6-11-08, Engine and boiler seatings 9-3-09, Engines holding down bolts 19-3-09

Completion of pumping arrangements 21-4-09, Boilers fixed 19-3-09, Engines tried under steam 21-4-09

Main boiler safety valves adjusted 21-4-09, Thickness of adjusting washers  $PB \frac{3}{8} \times \frac{13}{32}$ ,  $FB \frac{1}{2} \times \frac{3}{8}$ ,  $SB \frac{1}{2} \times \frac{3}{8}$

Material of Crank shaft S, Identification Mark on Do. J.T.F., Material of Thrust shaft S, Identification Mark on Do. J.T.F.

Material of Tunnel shafts ✓, Identification Marks on Do. J.T.F., Material of Screw shafts S, Identification Marks on Do. J.T.F.

Material of Steam Pipes Wrought Iron, Test pressure 540 lb.

**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 steam and found satisfactory. It is submitted that this vessel is eligible for record of R.L.M.C. 4.09. This vessel is fitted with an oil burning installation on the Meijers System in accordance with Rule requirements.*

*The report on the electric light installation will be forwarded when received from the electricians.*

*It is submitted that this vessel is eligible for THE RECORD + L.M.C. 4.09. Fitted for liquid fuel Elec. light*

The amount of Entry Fee... £ 3 : : When applied for, - MAY 1909

Special ... £ 42 : 8 : : When received, 7/5/09

Donkey Boiler Fee ... £ 2 : 2 : : 9.5.09

Travelling Expenses (if any) £ 47-10-0

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

Committee's Minute  
 Assigned  
 11 MAY 1909  
 Fitted for liquid fuel 4.09

Form No. 1B. Write "Silver Stroke" opposite its corresponding letter.  
 Certificate (if required) to be sent to.  
 (The Surveyors are requested not to write on or below the space for Committee's Minute.)  
 Boiler  
 Pump  
 Winch  
 Engine  
 Wheel  
 Coal  
 Number  
 Ceiling  
 Car  
 State  
 Number  
 Bulb  
 The  
 Built

