

REPORT ON MACHINERY.

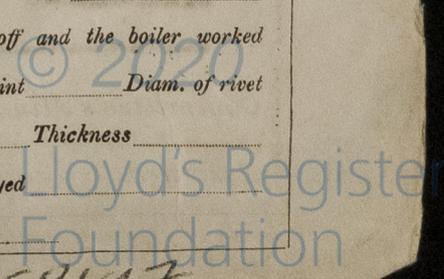
Received at London Office **FRI. SER. 15. 1911**

Date of writing Report **Sept. 12th 1911** When presented in at Local Office **Sept. 14th 1911** Port of **NEWCASTLE-ON-TYNE**
 No. in Survey held at **North Shields** Date, First Survey **12th July 1910** Last Survey **1st Sept 1911**
 Reg. Book. **5** Supp. on the **Machinery for the S/S "Nodzu"** (Number of Visits **8**) Gross **220** Tons
 Master **North Shields** Built at **Middlesbrough** By whom built **Smiths Dock Co. Ltd.** When built **1911**
 Engines made at **North Shields** By whom made **Smiths Engineering Co. Ltd. (No. 242)** when made **1911**
 Boilers made at **Middlesbrough** By whom made **Richardson & McJannet & Co. Ltd.** when made **1911**
 Registered Horse Power **80 1/2** Owners **Neal & West Ltd.** Port belonging to **Cardiff**
 Nom. Horse Power as per Section 28 **80 1/2** 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 1/2 - 21 - 35** Length of Stroke **26** Revs. per minute **110** Dia. of Screw shaft **7 5/8** as per rule **7 5/8** Material of screw shaft **S. Iron**
 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 **No** If two liners are fitted, is the shaft lapped or protected between the liners **Yes** Length of stern bush **3'-0"**
 Dia. of Tunnel shaft **6 5/8** as per rule **6 5/8** Dia. of Crank shaft journals **7 1/8** as per rule **7 1/8** Dia. of Crank pin **7 1/8** Size of Crank webs **10 1/2 x 4 1/2** Dia. of thrust shaft under collars **7 1/8** Dia. of screw **9-6** Pitch of Screw **9-9** No. of Blades **4** State whether moveable **No** Total surface **30 1/2 sq ft**
 No. of Feed pumps **2** Diameter of ditto **2 1/2** Stroke **12** Can one be overhauled while the other is at work **Yes**
 No. of Bilge pumps **2** Diameter of ditto **2 1/2** Stroke **12** Can one be overhauled while the other is at work **Yes**
 No. of Donkey Engines **2** Sizes of Pumps **6 x 3 x 6** No. and size of Suctions connected to both Bilge and Donkey pumps **2 - 2 dia. in slush well**
 In Engine Room **2 - 2 diam. and all equal** In Holds, &c. **2 - 2 dia. in slush well**
 No. of Bilge Injections **3 1/2** Connected to condenser, or to circulating pump **Circulating** 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 **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 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 **3/8/11** of Stern Tube **3/8/11** Screw shaft and Propeller **3/8/11**
 Is the Screw Shaft Tunnel watertight **No tunnel** Is it fitted with a watertight door worked from **John Spencer & Sons Ltd & J. Chorliffe & Sons Ltd.**

BOILERS, &c.—(Letter for record (S)) Manufacturers of Steel **John Spencer & Sons Ltd & J. Chorliffe & Sons Ltd.**
 Total Heating Surface of Boilers **1406** Is Forced Draft fitted **No** No. and Description of Boilers **One, single ended**
 Working Pressure **180 lbs** Tested by hydraulic pressure to **360 lbs** Date of test **8/8/11** No. of Certificate **4713**
 Can each boiler be worked separately **Yes** Area of fire grate in each boiler **48.5 sq ft** No. and Description of Safety Valves to each boiler **Two, spring loaded** Area of each valve **4.9 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'-6"** dia. of boilers **13'-0"** Length **10'-6"** Material of shell plates **Steel**
 Thickness **3/16** Range of tensile strength **28.75/32** Are the shell plates welded or flanged **No** Descrip. of riveting: cir. seams **D.P.L.R.P.** long. seams **T.R.D.B.S.** Diameter of rivet holes in long. seams **1/16** Pitch of rivets **7/8** Lap of plates on width of butt straps **16 1/4**
 Per centages of strength of longitudinal joint rivets **88.7** Working pressure of shell by rules **See** Size of manhole in shell **Report**
 Size of compensating ring **Attached** 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
 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

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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 end bolts and nuts, two bottom end bolts and nuts, two main bearing bolts and nuts, one set of coupling bolts and nuts, one set of feed and tiller pump valves, one safety valve spring, one relief valve spring, assorted bolts and nuts and sheet iron of various sizes.*

The foregoing is a correct description,

Jno. Blakey Manufacturer. **FOR THE SHIELDS ENGINEERING & DRY DOCK CO. LIMITED**

Dates of Survey while building: During progress of work in shops - *1911 Jul. 12, 19, 31, Aug. 3, 17, 31, Sep. 8, 11.*
 During erection on board vessel - - -
 Total No. of visits *8* Is the approved plan of main boiler forwarded herewith *No.*

Dates of Examination of principal parts—Cylinders *17/8/11*, Slides *31/8/11*, Covers *31/8/11*, Pistons *17/8/11*, Rods *31/8/11*
 Connecting rods *31/8/11*, Crank shaft *25/5/11*, Thrust shaft *13/6/11*, Tunnel shafts *✓*, Screw shaft *15/6/11*, Propeller *31/8/11*
 Stern tube *12/7/11*, Steam pipes tested *8/9/11*, Engine and boiler seatings *31/8/11*, Engines holding down bolts *8/9/11*
 Completion of pumping arrangements *11/9/11*, Boilers fixed *8/9/11*, Engines tried under steam *11/9/11*
 Main boiler safety valves adjusted *11/9/11*, Thickness of adjusting washers *F.V. 7/16 A.V. 7/16*
 Material of Crank shaft *Dupl. Steel* Identification Mark on Do. *219*, Material of Thrust shaft *Dupl. Steel* Identification Mark on Do. *219*
 Material of Tunnel shafts *Iron* Identification Marks on Do. *219*, Material of Screw shafts *Iron* Identification Marks on Do. *219*
 Material of Steam Pipes *Solid drawn Copper*, Test pressure *400 lbs per sq. in.*

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

*The Boiler and Machinery of this Vessel has been constructed under Special Survey and placed on board in accordance with the Society's Rules. They are now in my opinion in safe working condition and the case is respectfully submitted for the notation **L.M.C. 9-11** in the Register Book.*

It is submitted that this vessel is eligible for THE RECORD. + L.M.C. 9.11.

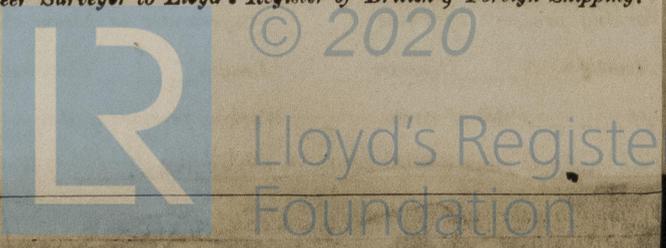
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The amount of Entry Fee .. £ *1 : 0 : 0* When applied for, *SEP 14 1911*
 Special .. £ *7 : 6 : 0*
 Donkey Boiler Fee .. £ *8 : 6 : 0* When received, *3.11.11*
 Travelling Expenses (if any) .. £ : : : .. 19..

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

Committee's Minute *TUE NOV 7-1911*
 Assigned *+ L.M.C. 9.11.*

MACHINERY CERTIFICATE WRITTEN.



NEWCASTLE ON TYNE.

Certificate (if required) to be sent to Committee's Minutes.

(The Surveyors are requested not to write on or below the space for Committee's Minutes.)