

REPORT ON MACHINERY.

No. 17466
N. H. P. No. 9478

Port of Sunderland

Received at London Office

MAJORS, 13 SEP 1894

No. in Survey held at Sunderland Date, first Survey March 31 Last Survey 7th July 1894
 Reg. Book. S.S. Straits of Malacca Rosebery Richmond Park (Number of Visits 2)
 on the S.S. Straits of Malacca Tons { Gross 2870 Net 1849
 Master A. Coull Built at West Hartlepool By whom built Jurness Wemy & Co. When built 1894
 Engines made at S'land By whom made W. Allan & Co. Lim when made 1894
 Boilers made at S'land By whom made W. Allan & Co. Lim when made 1894
 Registered Horse Power 250 Owners Neil McLean & Co. Port belonging to Glasgow
 Nom. Horse Power as per Section 28 246

ENGINES, &c. — Description of Engines Tri compound 3 cranks No. of Cylinders 3
 Diameter of Cylinders 23" 38" 62" Length of Stroke 42" Revolutions per minute 70 Diameter of Screw shaft 11"
 Diameter of Tunnel shaft 11" Diameter of Crank shaft journals 11 1/2" Diameter of Crank pin 11 1/2" Size of Crank webs 17" x 7 1/8"
 Diameter of screw 15 feet Pitch of screw 16 feet No. of blades 4 State whether moveable f Total surface 68 sq
 No. of Feed pumps 2 Diameter of ditto 3" Stroke 24" Can one be overhauled while the other is at work yes
 No. of Bilge pumps 2 Diameter of ditto 3" Stroke 24" Can one be overhauled while the other is at work yes
 No. of Donkey Engines 2 Sizes of Pumps 8 x 9 + 5 1/2 x 3 1/2 x 5" No. and size of Suctions connected to both Bilge and Donkey pumps
 In Engine Room 2 3 1/2" 3" In Holds, &c. nos 1, 2, 3, 4 hold wells
 1 suction in each of 3 1/2" after well 2 1/2"
 No. of bilge injections 1 sizes 5" 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 none
 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
 When were stern tube, propeller, screw shaft, and all connections examined in dry dock new vessel Is the screw shaft tunnel watertight yes
 Is it fitted with a watertight door yes worked from Upper platform

OILERS, &c. — (Letter for record S) Total Heating Surface of Boilers 3650 sq
 No. and Description of Boilers 2 Cyl. mult. Single ended Working Pressure 160 lbs Tested by hydraulic pressure to 320 lbs
 Date of test 11-6-94 Can each boiler be worked separately yes Area of fire grate in each boiler 47 sq No. and Description of safety valves to
 each boiler 2 of 3" diam. Area of each valve 7.04 Pressure to which they are adjusted 165 lbs Are they fitted
 with easing gear yes Smallest distance between boilers or uptakes and bunkers or woodwork 15" Mean diameter of boilers 14 feet
 length 11-02" Material of shell plates Steel Thickness 1 1/8" Description of riveting: circum. seams d. r. lap long. seams T. r. butt
 diameter of rivet holes in long. seams 1 3/16" Pitch of rivets 4" Lap of plates or width of butt straps 15" Straps
 Percentage of strength of longitudinal joint 83.6 Working pressure of shell by rules 160 lbs Size of manhole in shell 16" x 12"
 Size of compensating ring 2.8 x 2.6 1 3/8" No. and Description of Furnaces in each boiler 3 plain Material S Outside diameter 41"
 Length of plain part 6 1/2" Thickness of plates 3 3/4" Description of longitudinal joint welded No. of strengthening rings 2 ring
 Working pressure of furnace by the rules 160 lbs Combustion chamber plates: Material S Thickness: Sides 5/8" Back 7/8" Top 5/8" Bottom 5/8"
 Pitch of stays to ditto: Sides 8 7/8 x 8 7/8 Back 9 x 8 7/8 Top 8 7/8 x 8" If stays are fitted with nuts or riveted heads nuts Working pressure by rules 160 lbs
 Material of stays S Diameter at smallest part 1 3/8" Area supported by each stay 750 Working pressure by rules 160 lbs End plates in steam space:
 Material S Thickness 3/32" Pitch of stays 16" x 15" How are stays secured d. nuts Working pressure by rules 143 lbs Material of stays S
 Diameter at smallest part 2 1/2" Area supported by each stay 2400 Working pressure by rules 184 lbs Material of Front plates at bottom S
 Thickness 3/4" Material of Lower back plate S Thickness 3/4" Greatest pitch of stays 13 1/2" Working pressure of plate by rules 222 lbs
 Diameter of tubes 3 1/4" Pitch of tubes 4 1/2" x 4 1/4" Material of tube plates S Thickness: Front 3/4" Back 3/4" Mean pitch of stays 11"
 Pitch across wide water spaces 13 1/2" Working pressures by rules 222 lbs Girders to Chamber tops: Material S Depth and
 thickness of girder at centre 7/2" x 1 1/2" Length as per rule 29 1/8" Distance apart 8" Number and pitch of Stays in each 2 of 8 3/8"
 Working pressure by rules 160 lbs Superheater or Steam chest; how connected to boiler none 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
— Pitch of rivets — Working pressure of shell by rules — Diameter of flue — Material of flue plates — Thickness —
 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 —

Lloyd's Register Foundation

HPL373-C109

DONKEY BOILER— Description *Vertical 6 cross tubes*
 Made at *Stockton* By whom made *J. Surra & Co. Ltd* When made *21.3.94* Where fixed *St Helens*
 Working pressure *80 lbs* Tested by hydraulic pressure to *160 lbs* No. of Certificate *818* Fire grate area *256* Description of safety valves *2 Spring*
 No. of safety valves *2* Area of each *4.91* Pressure to which they are adjusted *83 lbs* If fitted with easing gear *yes* If steam from main boilers can enter the donkey boiler *no* Diameter of donkey boiler *6' 6"* Length *14' 6"* Material of shell plates *Steel* Thickness *7/16"*
 Description of riveting long seams *Lap double* Diameter of rivet holes *13/16"* Whether punched or drilled *punched* Pitch of rivets *2 3/4"*
 Lap of plating *4 1/4"* Per centage of strength of joint Rivets *73.4* Thickness of shell crown plates *17/32"* Radius of do. *5' 9"* No. of Stays to do. *6*
 Dia. of stays *1 3/4"* Diameter of furnace Top *5 feet* Bottom *5' 9"* Length of furnace *6 feet* Thickness of furnace plates *19/32"* Description of joint *Lap single* Thickness of furnace crown plates *9/16"* Stayed by *Same as shell crown* Working pressure of shell by rules *83 lbs*
 Working pressure of furnace by rules *81 lbs* Diameter of uptake *14 1/2"* Thickness of uptake plates *7/16"* Thickness of water tubes *3/8"*

SPARE GEAR. State the articles supplied:— *2 Main bearing bolts & nuts, 2 top end bolts & nuts, 2 bottom end bolts & nuts, 1 Set of Shaft coupling bolts & nuts, 1 Set of feed valves, 1 Set of bilge valves, 10 Condenser tubes & boiler tubes, 1 Set of valves for air & circulating pumps, nuts & bolts*
iron assorted, & propeller

The foregoing is a correct description,
 WILLIAM ALLAN & CO. LIMITED. Manufacturer. *main engines & boilers*
Hull, Barns

General Remarks (State quality of workmanship, opinions as to class, &c. Machinery constructed under special survey. Materials and workmanship good & efficient. Steam pipes tested by hydraulic to double the working pressure. Engines & Boilers examined under steam & found to be in good working order. In my opinion this vessel will be eligible for the record of *R.M.C. 9/94* when the following work has been satisfactorily completed viz. pumping arrangement completed as per approved plan Donkey Boiler examined under steam & valves adjusted to the working pressure. & Spare gear examined.

The surveyors at ~~Stockton~~ have been advised the above mentioned fittings have been satisfactorily completed and spare gear supplied in accordance with the Rules of the Society.
 Richard Aird

It is submitted that this vessel is eligible for THE RECORD + L.M.C. 9-94
 W.A. 13-9-94

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

Certificate (if required) to be sent to

The amount of Entry Fee..	£ 2	:	:	When applied for,
Special	£ 32	:	6	12th July 1894
Donkey Boiler Fee .. .	£	:	:	When received,
Travelling Expenses (if any) £		:	:	18th July 1894

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

Committee's Minute FRIDAY 14 SEP 1894

Assigned

+ L.M.C. 9.94



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