

Rpt. 4.

# REPORT ON MACHINERY.

No. 24137

Received at London Office TUE AUG 29 1911

Date of writing Report 19 When handed in at Local Office 22<sup>nd</sup> Aug 1911 Port of Hull  
 No. in Survey held at Hull & Selby Date, First Survey Jan 13<sup>th</sup> Last Survey Aug 16<sup>th</sup> 1911  
 Reg. Book. 4 Supp on the Steel S. K. Princeps (Number of Visits 30) Gross Tons 264  
 Master Selby Built at Selby By whom built Messrs. Cochrane & Sons When built 1911  
 Engines made at Hull By whom made Messrs. Chas. D. Holmes & Co. Ltd. when made 1911  
 Boilers made at Hull By whom made Chas. D. Holmes & Co. Ltd. when made 1911  
 Registered Horse Power 73 Owners Anchor Ste. Fishing Co. Ltd. Port belonging to Grimsby  
 Nom. Horse Power as per Section 28 73 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<sup>3</sup>/<sub>4</sub> - 22 - 36 Length of Stroke 24 Revs. per minute 111 Dia. of Screw shaft 7.33 Material of screw shaft Iron  
 as per rule 7.33 as fitted 7.5  
 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 — If two  
 liners are fitted, is the shaft lapped or protected between the liners — Length of stern bush 36  
 Dia. of Tunnel shaft 6.47 Dia. of Crank shaft journals 6.49 Dia. of Crank pin 7<sup>1</sup>/<sub>8</sub> Size of Crank webs 13<sup>1</sup>/<sub>2</sub> x 4<sup>1</sup>/<sub>2</sub> Dia. of thrust shaft under  
 collars 7<sup>1</sup>/<sub>8</sub> Dia. of screw 9 - 0 Pitch of Screw 11 - 0 No. of Blades 4 State whether moceable No Total surface 29  $\phi$   
 No. of Feed pumps 1 Diameter of ditto 2<sup>1</sup>/<sub>8</sub> Stroke 24 Can one be overhauled while the other is at work —  
 No. of Bilge pumps 1 Diameter of ditto 2<sup>1</sup>/<sub>8</sub> Stroke 24 Can one be overhauled while the other is at work —  
 No. of Donkey Engines One Sizes of Pumps 2<sup>3</sup>/<sub>4</sub> x 5 No. and size of Suctions connected to both Bilge and Donkey pumps  
 In Engine Room Two 2", One 2<sup>1</sup>/<sub>2</sub>", One 3" In Holds, &c. One each 2" to forepeak,  
forward slush well, aft slush well.  
 No. of Bilge Injections 1 sizes 3 Connected to condenser, or to circulating pump — Is a separate Donkey Suction fitted in Engine room & size Yes 2<sup>1</sup>/<sub>2</sub>  $\phi$   
 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 sized 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 hold suction How are they protected Wood casing  
 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 29.5.11 of Stern Tube 29.5.11 Screw shaft and Propeller 29.5.11  
 Is the Screw Shaft Tunnel watertight None Is it fitted with a watertight door — worked from —

**BOILERS, &c.**—(Letter for record S) Manufacturers of Steel Phoenix Act. S. for B. H. Westphalia  
 Total Heating Surface of Boilers 1140  $\phi$  Is Forced Draft fitted No No. and Description of Boilers One Gyl. Mult. S. Ended  
 Working Pressure 180 lbs Tested by hydraulic pressure to 360 lbs Date of test 18.5.11 No. of Certificate 1813  
 Can each boiler be worked separately — Area of fire grate in each boiler 37.5  $\phi$  No. and Description of Safety Valves to  
 each boiler Two Spring Area of each valve 3.94  $\square$  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 8" Mean dia. of boilers 13 - 0 Length 10 - 6 Material of shell plates S  
 Thickness 1<sup>1</sup>/<sub>2</sub>" Range of tensile strength 29 tons Are the shell plates welded or flanged No Descrip. of riveting: cir. seams L.D.  
 long. seams O.B.S.P. Diameter of rivet holes in long. seams 1<sup>1</sup>/<sub>2</sub>" Pitch of rivets 6<sup>1</sup>/<sub>8</sub>" Lap of plates or width of butt straps 15"  
 Per centages of strength of longitudinal joint rivets 89 Working pressure of shell by rules 182 lbs Size of manhole in shell 14" x 12"  
 plate 85  
 Size of compensating ring 7" x 1<sup>1</sup>/<sub>2</sub>" No. and Description of Furnaces in each boiler Two plain Material S Outside diameter 3 - 8<sup>1</sup>/<sub>2</sub>"  
 Length of plain part top 72.5" Thickness of plates crown 25 Description of longitudinal joint Welded No. of strengthening rings 0  
 bottom 32 bottom 32 Thickness: Sides 45 Back 11 Top 11 Bottom 45  
 Working pressure of furnace by the rules 181 lbs Combustion chamber plates: Material S Thickness: Sides 64 Back 11 Top 11 Bottom 45  
 Pitch of stays to ditto: Sides 10<sup>1</sup>/<sub>2</sub> x 8<sup>1</sup>/<sub>2</sub> Back 10 x 9 Top 9 x 8<sup>1</sup>/<sub>2</sub> If stays are fitted with nuts or riveted heads Nuts Working pressure by rules 181 lbs  
 Material of stays S Diameter at smallest part 2.75" Area supported by each stay 120  $\square$  Working pressure by rules 205 lbs End plates in steam space:  
 Material S Thickness 1<sup>1</sup>/<sub>2</sub>" Pitch of stays 18 x 18 How are stays secured 8" x 3/4" Working pressure by rules 185 lbs Material of stays S  
 Diameter at smallest part 6.33 Area supported by each stay 324  $\square$  Working pressure by rules 203 lbs Material of Front plates at bottom S  
 Thickness 7/8" Material of Lower back plate S Thickness 15/16" Greatest pitch of stays 15 x 10 Working pressure of plate by rules 186 lbs  
 Diameter of tubes 3<sup>1</sup>/<sub>2</sub>" Pitch of tubes 4<sup>1</sup>/<sub>2</sub> - 5 Material of tube plates S Thickness: Front 7/8" Back 7/8" Mean pitch of stays 9<sup>1</sup>/<sub>8</sub>"  
 Pitch across wide water spaces 14<sup>3</sup>/<sub>4</sub>" Working pressures by rules 256 lbs Girders to Chamber tops: Material S Depth and  
 thickness of girder at centre 8<sup>3</sup>/<sub>4</sub> x 2" Length as per rule 2 - 11<sup>1</sup>/<sub>2</sub>" Distance apart 9" Number and pitch of stays in each 3 - 8<sup>1</sup>/<sub>2</sub>"  
 Working pressure by rules 185 lbs 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 —

**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 each top and bottom end of connecting rod, and main bearing bolts and nuts, one set coupling bolts and nuts, one set each air, circulating feed and bilge pump valves, Iron various sizes, quantity of bolts & nuts etc*  
 The foregoing is a correct description,  
 p. pro CHARLES D. HOLMES & Co, LTD. Manufacturer.

*Charles D. Holmes* DIRECTOR  
 Dates of Survey while building: During progress of work in shops --- 1911. Jan 13. Feb 9. 11. 14. 20. 23. Mar 26. 31. Apr 6. 20. May 3. 8. 10. 15. 18. 19  
 During erection on board vessel --- May 20. 29. Jan 7. 13. 17. 29. July 7. 10. 17. 26. Aug 9. 10. 12. 16.  
 Total No. of visits 30  
 Is the approved plan of main boiler forwarded herewith *Yes*  
 " " " donkey " " " " "

Dates of Examination of principal parts—Cylinders 29.6.11 Slides 7.7.11 Covers 10.7.11 Pistons 13.6.11 Rods 13.6.11  
 Connecting rods 10.7.11 Crank shaft 13.6.11 Thrust shaft 17.7.11 Tunnel shafts \_\_\_\_\_ Screw shaft 20.5.11 Propeller 19.5.11  
 Stern tube 10.5.11 Steam pipes tested 10.8.11 Engine and boiler seatings 17.6.11 Engines holding down bolts 12.8.11  
 Completion of pumping arrangements 9.8.11 Boilers fixed 12.8.11 Engines tried under steam 12.8.11  
 Main boiler safety valves adjusted 12.8.11 Thickness of adjusting washers  $\frac{3}{8}$ "  $\frac{3}{8}$ "  
 Material of Crank shaft *S* Identification Mark on Do. *749* Material of Thrust shaft *S* Identification Mark on Do. *749*  
 Material of Tunnel shafts \_\_\_\_\_ Identification Marks on Do. \_\_\_\_\_ Material of Screw shafts *I* Identification Marks on Do. *749*  
 Material of Steam Pipes *Solid drawn Copper* Test pressure *400 lbs per sq inch*

**General Remarks** (State quality of workmanship, opinions as to class, &c. *The engines & boilers on this vessel have been constructed under special survey in accordance with the Rules. The materials and workmanship are good. The boiler tested by hydraulic pressure, and with the engines secured on board & tested under steam, they are now in good order & safe working condition, and respectfully submitted as being eligible in our opinion to be classed with the notation of L.A.B. 8.11 in the Register Book.*

It is submitted that this vessel is eligible for THE RECORD. *4th Dec 8.11*  
*J.P.H.* *J.S.M.*  
 24/8/11

The amount of Entry Fee	£ 1	When applied for,	
Special	£ 10 19	When received,	25.8.11
Donkey Boiler Fee	£		
Travelling Expenses (if any)	£ 8		31.8.11

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

Committee's Minute \_\_\_\_\_  
 Assigned \_\_\_\_\_  
 FRIDAY 1. 1911  
*Thmc 8.11*

**VESS**  
 These particulars  
 Signal Letters (if any)  
 Official Number.  
 132109  
 No., Date, and Port of Pr  
 Whether British or Foreign Built.  
 British  
 Number of Decks  
 Number of Masts  
 Rigged  
 Stern  
 Build  
 Galleries  
 Head  
 Framework and descrip vessel  
 Number of Bulkheads  
 Number of water ballast and their capacity in  
 Total to quarter the depth from ves to bottom of keel  
 No. of sets of Engines.  
 Description of Engine  
 Triple Expansion  
 direct acting  
 One. Inverted cylin  
 No. of Shafts.  
 Particulars of Boile  
 Description Cyl. Mult  
 Number  
 Iron or Steel  
 Loaded Pressure 180  
 One.  
 GROSS TO  
 Under Tonnage Deck  
 Space or spaces between I  
 Turret or Tank  
 Forecastle... / House  
 Bridge space  
 Poop or Break  
 Side Houses  
 Deck Houses  
 Chart Houses  
 Spaces for machinery, and Section 78 (2) of the Me 1894  
 Excess of Hatchways  
 Gross Tonnage  
 Deductions, as per Contra  
 Registered Tonn  
 NOTE 2- The only spaces a Open Forecastle, Low Side House, etc  
 NOTE 1- The tonnage of the total  
 Name of Master  
 No. of Owners  
 Name, Residence, and D  
 The Anchor  
 Docks, Great G  
 Manager - W  
 Dated 28<sup>th</sup> July  
 (830) (70635) Wt. 14095/26 100

