

# REPORT ON MACHINERY.

No. 6852

WED. 26 OCT 1910

Port of Belfast Received at London Office \_\_\_\_\_  
 No. in Survey held at Belfast Date, first Survey 18<sup>th</sup> Nov 1909 Last Survey 22<sup>nd</sup> Nov 1910  
 Reg. Book. J.S.P. "Glaucaster hinc" (Number of Visits 61)  
 on the J.S.P. "Glaucaster hinc" Gross 8124 Tons  
 Master J. H. Harris Built at Belfast By whom built Harland & Wolff Net 5079 Tons  
 Engines made at Belfast By whom made \_\_\_\_\_ when made \_\_\_\_\_  
 Boilers made at \_\_\_\_\_ By whom made \_\_\_\_\_ when made \_\_\_\_\_  
 Registered Horse Power \_\_\_\_\_ Owners Bibby S.P. Coy L<sup>d</sup> Port belonging Liverpool  
 Nom. Horse Power as per Section 28 823 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

ENGINES, &c.—Description of Engines Twin Screw Quadruple Expansion No. of Cylinders 8 No. of Cranks 8  
 Dia. of Cylinders 22-3 1/2-46-65 1/2 Length of Stroke 48 Revs. per minute 80 Dia. of Screw shaft as per rule 13 1/4 Material of screw shaft Steel  
 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  
 liners are fitted, is the shaft lapped or protected between the liners Yes Length of stern bush 4'-6"  
 Dia. of Tunnel shaft as per rule 12 3/8 Dia. of Crank shaft journals as per rule 12 3/8 Dia. of Crank pin 13 1/2 Size of Crank web 24 1/2 x 9 1/2 Dia. of thrust shaft under collars 13 1/2 Dia. of screw 18-10 Pitch of Screw 20'-3" No. of Blades 3 State whether moveable Yes Total surface 61 1/2 sq ft  
 No. of Feed pumps 2 Diameter of ditto \_\_\_\_\_ Stroke \_\_\_\_\_ Can one be overhauled while the other is at work Yes  
 No. of Bilge pumps 1 Diameter of ditto 5 Stroke 28 Can one be overhauled while the other is at work Yes  
 No. of Donkey Engines See other pumps sheet No. and size of Suctions connected to both Bilge and Donkey pumps  
 In Engine Room 4-3 1/2" x 4-2 1/2" In Holds, &c. 9-3 1/2" x 6-2 1/2"  
 No. of Bilge Injections 2 sizes 8" Connected to condenser, or to circulating pump Yes Is a separate Donkey Suction fitted in Engine room & size 4" x 1-3 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 Both  
 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 False Hold Suctions 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 15/6/10 of Stern Tube 15/6/10 Screw shaft and Propeller 1/7/10  
 Is the Screw Shaft Tunnel watertight Steel Is it fitted with a watertight door Yes worked from 1st main deck

BOILERS, &c.—(Letter for record S) Manufacturers of Steel A. Calville & Sons L<sup>d</sup>  
 Total Heating Surface of Boilers 9280 sq ft Forced Draft fitted No No. and Description of Boilers 2 Water tube cylinders  
 Working Pressure 215 lbs Tested by hydraulic pressure to 430 lbs Date of test 10-6-10 No. of Certificate 484  
 Can each boiler be worked separately Yes Area of fire grate in each boiler 124 sq ft No. and Description of Safety Valves to each boiler 2 Area of each valve 12.56 sq ft pressure to which they are adjusted 215 lbs Are they fitted with easing gear Yes  
 Smallest distance between boilers or uptakes and bunkers or woodwork 5 ft Mean dia. of boilers 15'-6" Length 19'-0" Material of shell plates Steel  
 Thickness 1 1/2 Range of tensile strength 29-33 tons Are the shell plates welded or flanged No Descrip. of riveting: cir. seam Lapped  
 long. seams Butt Joint Diameter of rivet holes in long. seams 1 1/2 Pitch of rivets 10 Top of plates or width of butt straps 23 1/2  
 Per centages of strength of longitudinal joint rivets 96.9 Working pressure of shell by rules 249 lbs Size of manhole in shell 16" x 12"  
 plate 82.5 Size of compensating ring McNeil's No. and Description of Furnaces in each boiler 8 - Mansour Material Steel Outside diameter 45 1/2  
 Length of plain part top 9 Thickness of plates crown 7 1/2 Description of longitudinal joint Weld No. of strengthening rings 7  
 bottom 9 Working pressure of furnace by the rules 236 lbs Combustion chamber plates: Material Steel Thickness: Sides 5 Back 5 Top 5 Bottom 1 1/2  
 Pitch of stays to ditto: Sides 8 x 7 1/2 Back 8 x 7 1/2 Top 8 x 7 1/2 If stays are fitted with nuts or riveted heads Nuts Working pressure by rules 218 lbs  
 Material of stays Steel Diameter at smallest part 1 1/2 Area supported by each stay 62 sq in Working pressure by rules 227 lbs End plates in steam space: Material Steel Thickness 1 1/2 Pitch of stays 20 1/2 x 14 1/2 How are stays secured Nuts Working pressure by rules 218 lbs Material of stays Steel  
 Diameter at smallest part 2 1/2 supported by each stay 29 3/8 sq in Working pressure by rules 257 lbs Material of Front plates at bottom Steel  
 Thickness 1 1/2 Material of Lower back plate \_\_\_\_\_ Thickness \_\_\_\_\_ Greatest pitch of stays \_\_\_\_\_ Working pressure of plate by rules \_\_\_\_\_  
 Diameter of tubes 2 1/2 Pitch of tubes 4" x 4" Material of tube plate Steel Thickness: Front 14-15 Back 16 Mean pitch of stays 8" x 8"  
 Pitch across wide water spaces 14 Working pressures by rules 335 lbs Chamber tops: Material Steel Depth and thickness of girder at centre 9 x 8 1/2 Length as per rule 49 1/2 Distance apart 8' 7" 9" Number and pitch of stays in each 6-4 1/2  
 Working pressure by rules 296 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 Safe \_\_\_\_\_

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:— *Set crank pin brasses; eccentric & lower & upper valves & spindles; air pump rod & guards; main bearing & sets, piston rings; piston rod & cross head & neck bush; set of gear & auxiliary pumps, etc. and all gear to Lloyd's Rules extent*

The foregoing is a correct description,  
for *Harland & Wolff Ltd* Manufacturer.  
*W. L. Lanning*

Dates of Survey while building: During progress of work in shops— *1909, Nov 2, 18, 21, 26* Nov 21, 28, 11, 12, 14, 25; Dec 2, 7, 13, 23, 1910, Jan 1, 11, 1911

During erection on board vessel— *10, 12, 19, 24, Feb. 11, 16, 23* March 3, 8, 15, 21 up to Nov 22

Total No. of visits *61*

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

Dates of Examination of principal parts—Cylinders *17/11/09* Slides *09* Covers \_\_\_\_\_ Pistons \_\_\_\_\_ Rods \_\_\_\_\_

Connecting rods *7/6/10* Crank shaft *13/12/09* Thrust shaft \_\_\_\_\_ Tunnel shafts *23/10/10* Screw shaft \_\_\_\_\_ Propeller *26/6/10*

Stern tube *7/6/10* Steam pipes tested *14/5/10* Engines and boiler seatings *25/4/10* Engines holding down bolts *29/8/10*

Completion of pumping arrangements *29/9/10* Boilers fixed *25/7/10* Engines tried under steam *21/9/10*

Main boiler safety valves adjusted *21/9/10* Thickness of adjusting washers *5-6*

Material of Crank shaft *Steel* Identification Mark on Do. *LLOYDS N.J.B 23-6-10* Material of Thrust shaft *Steel* Identification Mark on Do. *LLOYDS N.J.B 23-6-10*

Material of Tunnel shafts *do* Identification Marks on Do. *LLOYDS* Material of Screw shafts *do* Identification Marks on Do. *LLOYDS N.J.B 23-6-10*

Material of Steam Pipes *W. L. Lanning* Test pressure *645 lbs sq*

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

*The machinery of this vessel has been examined under Special Survey, and in accordance with the Rules. The workmanship, and the materials used, are of good description, and on trial under steam in Belfast Bay the machinery worked satisfactorily.*

*In my opinion it is eligible for record + L.M.C. 10-10 with notation "Electric Light"*

It is submitted that this vessel is eligible for THE RECORD. + L.M.C. 10.10.

*JUN. 27/10/10*

*R. J. Bennett*  
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping

The amount of Entry Fee..	£ 3 : 0 :	When applied for,
Special ..	£ 6/ : 3 :	18-10-10
Donkey Boiler Fee ..	£ : :	When received,
Travelling Expenses (if any) £	: :	25-10-10

Committee's Minute  
Assigned

TUE. 1 NOV 1910

+ L.M.C. 10.10

MACHINERY CERTIFICATE WRITTEN.



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Lloyd's Office

Certificate (if required) to be sent to