

## REPORT ON MACHINERY.

No. 6852.

WED. 26 OCT 1910

Port of Belfast  
 No. in Survey held at Belfast Date, first Survey 12<sup>th</sup> Nov 1909 Last Survey 22<sup>nd</sup> Nov 1910  
 Reg. Book. J.P. "Gloucestershire" (Number of Visits 61)  
 on the J.P. "Gloucestershire" Gross 8124 Tons  
 Master J. H. Harris Built at Belfast By whom built Harland & Wolff Net 5079  
 Engines made at Belfast By whom made when made  
 Boilers made at Belfast By whom made when made  
 Registered Horse Power 823 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 Two Low Pressure Compound Expansion 8 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 1/2 Material of screw shaft as fitted 14 1/2  
 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 Two Main Engines Diameter of ditto Stroke Can one be overhauled while the other is at work Yes  
 No. of Bilge pumps One each engine Diameter of ditto Stroke 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 Four 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 Stated as Is it fitted with a watertight door Yes worked from Lower main deck

BOILERS, &c.—(Letter for record 5) Manufacturers of Steel A. Calverley & Sons L<sup>d</sup>  
 Total Heating Surface of Boilers 9280 sq ft Is Forced Draft fitted No No. and Description of Boilers 2 Water Tube Cylindrical  
 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 Two each engine 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. sec. Lapped & riveted  
 long. seams Butt joint Diameter of rivet holes in long. seams 1 1/2 Pitch of rivets 10 Lap 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 81.5 Size of compensating ring McNeil No. and Description of Furnaces in each boiler 8-Manusaw Material Steel Outside diameter 45 1/2  
 Length of plain part top 9 Thickness of plates crown 3 1/2 Description of longitudinal joint Weld No. of strengthening rings 8  
 bottom 9 Working pressure of furnace by the rules 286 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 Material of stays Steel  
 Thickness 1 1/2 Pitch of stays 20 x 14 1/2 How are stays secured Nuts Working pressure by rules 218 lbs Material of Front plates at bottom Steel  
 Diameter at smallest part 28 1/2 Area 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 Steel Thickness 1 1/2 Greatest pitch of stays 2 Working pressure of plate by rules 218 lbs  
 Diameter of tubes 2 1/2 Pitch of tubes 4 x 4 Material of tube plate Steel Thickness: Front 14 1/2 Back 14 1/2 Mean pitch of stays 8 x 8  
 Pitch across wide water spaces 14 Working pressures by rules 335 lbs Orders to 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 x 7 1/2 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 Yes Can the superheater be shut off and the boiler worked  
 separately Yes 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 Yes



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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 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  
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 brackets; even two & lower & c  
22 clips valves & spindles; air pump rod & guards; main clearing  
3 sets. for tank rings; for tank rod & flange & neck band; set of gear  
auxiliary pumps, etc. and all gear to Lloyd's Rules extent

The foregoing is a correct description,  
for Harland & Wolff Ltd  
Liverpool Manufacturer.

Dates of Survey while building During progress of work in shops - - - 1909, Nov 2, 18, 21, 26 Nov 3, 1, 8, 11, 12, 14, 25, Dec 2, 3, 7, 13, 23, 1910, Jan 1, 8, 15, 22, Feb 5, 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 23/10/10 Pistons 26/10/10 Rods 26/10/10  
Connecting rods 26/10/10 Crank shaft 13/12/09 Thrust shaft 23/10/10 Tunnel shaft 23/10/10 Propeller 26/10/10  
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 shafts Steel Identification Mark on Do. LLOYDS 23-6-10 Material of Thrust shafts Steel LLOYDS 23-6-10 Identification Mark on Do. LLOYDS 23-6-10  
Material of Tunnel shafts Steel Identification Marks on Do. LLOYDS 23-6-10 Material of Screw shafts Steel LLOYDS 23-6-10 Identification Marks on Do. LLOYDS 23-6-10  
Material of Steam Pipes W. L. L. 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 an trial under steam in Belfast Lough 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  
P. J. Pennington  
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping

The amount of Entry Fee..	£ 3 : 0 :	When applied for,
Special ..	£ 6 : 3 :	18-10-1910.
Donkey Boiler Fee ..	£ :	When received,
Travelling Expenses (if any) £	:	25-10-1910.

Committee's Minute  
Assigned

TUE. 1 NOV 1910

+ L.M.C. 10-10

MACHINERY CERTIFICATE  
WRITTEN.



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Foundation