

# REPORT ON MACHINERY.

Port of Belfast Received at London Office 1025. 20 SEP 1904  
 No. in Survey held at Belfast Date, first Survey 10<sup>th</sup> Sept 1903 Last Survey 15<sup>th</sup> Sept 1904  
 Book. A.S.P. "Gunnluce Castle" (Number of Visits 78)  
 on the Belfast Built at Belfast By whom built Harland & Wolff L<sup>td</sup> Tons { Gross 8113  
 { Net 5105 When built 1904  
 Engines made at Belfast By whom made Harland & Wolff L<sup>td</sup> when made 1904  
 Movers made at " By whom made " when made "  
 Registered Horse Power ✓ Owners Union Castle Mail S.S. Coy L<sup>td</sup> Port belonging to London  
 Net Horse Power as per Section 28 965 Is Refrigerating Machinery fitted No Is Electric Light fitted Yes

ENGINES, &c.—Description of Engines Twin Screw Quadruple Expansion of Cylinders 8 No. of Cranks 8  
 No. of Cylinders 22 $\frac{1}{2}$  - 22 - 46 $\frac{1}{2}$  - 68 Length of Stroke 51 Revs. per minute 76 Dia. of Screw shaft as per rule 14.02  
 as fitted 14.5 Lgth. of stern bush 4-10  
 No. of Tunnel shaft as per rule 12.83 Dia. of Crank shaft journals as per rule 13.47 Dia. of Crank pin 15 Size of Crank webs 27 $\frac{1}{2}$  x 10 Dia. of thrust shaft under  
 as fitted 13.62 Dia. of screws 16-6 Pitch of screw 21-0 No. of blades 3 State whether moveable Yes Total surface 68 sq ft.  
 No. of Feed pumps Four Diameter of ditto ✓ Stroke ✓ Can one be overhauled while the other is at work ✓  
 No. of Bilge pumps 1 on each engine Diameter of ditto 6 Stroke 30 Can one be overhauled while the other is at work Yes  
 No. of Donkey Engines See other sheet No. and size of Suctions connected to both Bilge and Donkey pumps  
 Engine Room 8-3 $\frac{1}{2}$  x 4-2 $\frac{1}{2}$  In Holds, &c. 18-3 $\frac{1}{2}$  x 2-2 $\frac{1}{2}$   
 No. of bilge injections 2 sizes 10 Connected to condenser, or to circulating pump Pump Is a separate donkey suction fitted in Engine room & size Yes - 5"  
 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 tank 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  
 How are pipes carried through the bunkers For both 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  
 When were stern tube, propeller, screw shaft, and all connections examined in dry dock Before launching Is the screw shaft tunnel watertight Yes  
 Is it fitted with a watertight door Yes worked from Upper platform & Room

BOILERS, &c.— (Letter for record ✓) Total Heating Surface of Boilers 16899 sq ft Is forced draft fitted No  
 No. and Description of Boilers 3 Double End Cylinders Working Pressure 220 lbs Tested by hydraulic pressure to 440 lbs  
 Date of test 27-5-04 Can each boiler be worked separately Yes Area of fire grate in each boiler 53 $\frac{1}{2}$  sq ft No. and Description of safety valves to  
 each boiler Two - Direct Spring Area of each valve 2.6723 sq in Pressure to which they are adjusted 220 lbs Are they fitted with easing gear Yes  
 Smallest distance between boilers or uptakes and bunkers or woodwork 2 ft. Mean dia. of boilers 14-9 Length 40-0 Material of shell plates Steel  
 Thickness 1 $\frac{1}{2}$  Range of tensile strength 29-32 Are they welded or flanged No Descrip. of riveting: cir. seams Both Seible  
 Diameter of rivet holes in long. seams 1 $\frac{1}{8}$  Pitch of rivets 10 Lap of plates or width of butt straps 23  
 Percentages of strength of longitudinal joint rivets 94.4 Working pressure of shell by rules 255 lbs Size of manhole in shell 16 x 12  
 plate 03.7 No. and Description of Furnaces in each boiler 3 - Monomax Material Steel Outside diameter 45 $\frac{1}{2}$   
 Length of plain part top 4 bottom 10 Thickness of plates crown 3 $\frac{1}{16}$  bottom 3 $\frac{1}{16}$  Description of longitudinal joint Weld No. of strengthening rings 4  
 Working pressure of furnace by the rules 240 lbs Combustion chamber plates: Material Steel Thickness: Sides 5 $\frac{1}{8}$  Back 5 $\frac{1}{8}$  Top 5 $\frac{1}{8}$  Bottom 4  
 Pitch of stays to ditto: Sides 8 $\frac{1}{2}$  x 7 $\frac{1}{2}$  Back 8 $\frac{1}{2}$  x 7 $\frac{1}{2}$  Top 8 $\frac{1}{2}$  x 7 $\frac{1}{2}$  If stays are fitted with nuts or riveted heads Nuts inside Working pressure by rules 220 lbs  
 Material of stay Steel Diameter at smallest part 1 $\frac{1}{4}$  x 1 $\frac{1}{8}$  Area supported by each stay 64 sq in Working pressure by rules 246 lbs End plates in steam space:  
 Material Steel Thickness 1 $\frac{1}{4}$  Pitch of stays 7 $\frac{1}{2}$  x 14 $\frac{1}{2}$  How are stays secured Nuts inside Working pressure by rules 240 lbs Material of stays Steel  
 Diameter at smallest part 2 $\frac{1}{2}$  x 2 $\frac{1}{2}$  Area supported by each stay 253 sq in Working pressure by rules 207 lbs Material of Front plates at bottom Steel  
 Thickness 4 $\frac{1}{8}$  Material of Lower back plate Steel Thickness 4 $\frac{1}{8}$  Greatest pitch of stays 12 $\frac{1}{2}$  Working pressure of plate by rules 53 lbs  
 Diameter of tubes 2 $\frac{1}{2}$  Pitch of tubes 4 x 4 Material of tube plate Steel Thickness: Front 7 $\frac{1}{8}$  Back 7 $\frac{1}{8}$  Mean pitch of stays 8 x 8  
 Pitch across wide water spaces 14 Working pressures by rules 338 lbs Girders to Chamber tops: Material Iron Depth and  
 thickness of girder at centre 8 $\frac{1}{2}$  Length as per rule 28 $\frac{1}{2}$  Distance apart 8 $\frac{1}{2}$  Number and pitch of Stays in each 6 - 7 $\frac{1}{2}$   
 Working pressure by rules 291 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  
 plates Pitch of rivets Working pressure of shell by rules Diameter of flue Material of flue plates Thickness  
 Stays 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

