

REPORT ON MACHINERY.

MON. 1 FEB 1904

Port of *Belfast*

Received at London Office

No. in Survey held at
Reg. Book.Date, first Survey *15th Dec 1902* Last Survey *28th Jan 1904*(Number of Visits *108*)

on the

Gross *705 11*

Tons

Net *524 4*Master *J. B. Hughes*

Built at

Belfast

By whom built

Harland & Wolff

When built

1904

Engines made at

Belfast

By whom made

Harland & Wolff

when made

1904

Boilers made at

By whom made

when made

Registered Horse Power *1799*

Owners

Peninsular & Oriental S. N. Co.

Port belonging to

Belfast

Nom. Horse Power as per Section 28

1799

Is Refrigerating Machinery fitted

Yes

Is Electric Light fitted

Yes

ENGINES, &c.—Description of Engines

*Two new Quadruple Expansion*No. of Cranks *8*Dia. of Cylinders *29-42-60-85* Length of Stroke *54* Revs. per minute *85* Dia. of Screw shaft as per rule *16.75* as fitted *16.75* Lgth. of stern bush *6'-0"*Dia. of Tunnel shaft as per rule *16.25* as fitted *16.25* Dia. of Crank shaft journals as per rule *17.0* as fitted *17.0* Dia. of Crank pin *17.2* Size of Crank webs *32x124* Dia. of thrust shaft under collars *17* Dia. of screw *18'-0"* Pitch of screw *20'-0"* No. of blades *3 on each* State whether moveable *Yes* Total surface *78 sq ft*No. of Feed pumps *1* on each Diameter of ditto *5.2* Stroke *27* Can one be overhauled while the other is at work *Yes*No. of Bilge pumps *1* on each Diameter of ditto *5* Stroke *27* Can one be overhauled while the other is at work *Yes*No. of Donkey Engines *See other page* No. and size of Suctions connected to both Bilge and Donkey pumpsIn Engine Room *Six - 4" In Hold 5-8" + 6-22" In Holds, &c. Fifteen 32" + Two 8"*No. of bilge injections *2* sizes *4.5* Connected to condenser, *Yes* Is a separate donkey suction fitted in Engine room & size *Yes - 2 - 3*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 *For hold suction* How are they protected *Wood casings*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 *Stitch & Le*Is it fitted with a watertight door *Yes* worked from *Upper deck*

BOILERS, &c.—

(Letter for record *Yes*)Total Heating Surface of Boilers *27493 sq ft* Is forced draft fitted *Yes - Howden*No. and Description of Boilers *Two Single End Cylinders* Working Pressure *215 lbs* Tested by hydraulic pressure to *430 lbs*Date of test *18-9-03* Can each boiler be worked separately *Yes* Area of fire grate in each boiler *116 sq ft* No. and Description of safety valves to each boiler *2 Direct Spring* Area of each valve *15.9 sq in* Bressure to which they are adjusted *215 lbs* Are they fitted with easing gear *Yes*Smallest distance between boilers or uptakes and bunkers or woodwork *24* Mean dia. of boilers *14'-8"* Length *20'-0"* Material of shell plates *Steel*Thickness *1 7/8* Range of tensile strength *29-32* Are they welded or flanged *No* Descrip. of riveting: cir. seams *Lap. Dr. Weld seams. Butt. Double*Diameter of rivet holes in long. seams *1 7/8* Pitch of rivets *10* Lap of plates or width of butt straps *22 3/8*Per centages of strength of longitudinal joint rivets *84.3* Working pressure of shell by rules *248 lbs* Size of manhole in shell *16x12*Size of compensating ring *16x12* No. and Description of Furnaces in each boiler *3 - No. 1, 2, 3* Material *Steel* Outside diameter *45 3/4*Length of plain part top *10* bottom *10* Thickness of plates crown *3 1/2* bottom *3 1/2* Description of longitudinal joint *Weld* No. of strengthening rings *2*Working pressure of furnace by the rules *234* Combustion chamber plates: Material *Steel* Thickness: Sides *5* Back *5* Top *5 1/2* Bottom *5 1/2*Pitch of stays to ditto: Sides *8x7 1/2* Back *7 1/2x7 1/2* Top *8 1/2x8* If stays are fitted with nuts or riveted heads *Nuts inside* Working pressure by rules *218 lbs*Material of stays *Steel* Diameter at smallest part *4 1/2* Area supported by each stay *66 sq in* Working pressure by rules *218 lbs* End plates in steam space: Material *Steel* Thickness *1 1/2* Pitch of stays *16 1/2x16* How are stays secured *Nuts & Washers* Working pressure by rules *218 lbs* Material of stays *Steel*Diameter at smallest part *2 3/8* Area supported by each stay *25 1/4 sq in* Working pressure by rules *258 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 *13* Working pressure of plate by rules *218 lbs*Diameter of tubes *22* Pitch of tubes *4 1/2x4 1/2* Material of tube plate *Steel* Thickness: Front *7* Back *7* Mean pitch of stays *8 1/2x7 1/2*Pitch across wide water spaces *13 1/2* Working pressures by rules *362 lbs with doubler* Chamber tops: Material *Iron* Depth and thickness of girder at centre *8x18x2* Length as per rule *5 1/2* Distance apart *8 1/2* Number and pitch of Stays in each *3-8*Working pressure by rules *236* Superheater or Steam chest; how connected to boiler *Yes* 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

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Lloyd's Register
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List of Spare Gear continued

Slide Valve Spindles: - 1. H.P. 1 I.P.² and 1 L.P. slide valve spindles complete: - 1 lock for slide valve links: 4 sets - brass liners for links: 1 H.P. & 1 L.P. eccentric sheaves with bolts complete.

Weirs Fresh Water Pump: - Set valves & seats complete bucket ring: piston ring.

Weirs Bilge & Ballast Pump: - Set suction & delivery valves & seats: 2 bucket rings: piston ring.

Weirs General Pump: - Set suction & delivery valves & seats: 2 bucket rings.

Weirs Auxiliary Feed Pump: - Set suction & delivery valves & seats: Set & springs

Weirs Main Feed Pumps: - Set suction & delivery valves & seats & guards complete: 1 bucket ring: 1 packing ring: 1 piston ring: 60 valves: 48 springs.

Weirs Sanitary Pump: - Set suction & delivery valves & seats: four bucket rings: 2 piston rings.

Donkey Pumps

2 Weirs Double Feed 14 $\frac{1}{2}$ " x 13" x 26"

2 - Harbour & Res^t Feed 8" x 6" x 15"

2 - Ballast 8" x 9 $\frac{1}{2}$ " x 15"

1 - Sanitary, Fire, etc. 8" x 10" x 21"

1 - Fresh Water 5" x 5" x 12"

2 - Ash Suction Duplex 12" x 7 $\frac{1}{2}$ " x 10"

2 Main engine Centrifugal Circulating pumps, with two engines to each pump.

In this vessel, as in the sister vessel Marmora - an "Emergency" Dynamo is fitted on the Hurricane deck, to be used only, if ever required, in times of emergency, for lighting the navigation lights, alleyway lights, & officers cabins lights etc.

A Report on the Electric Light installation will be forwarded later.

R. J. Beveridge