

REPORT ON MACHINERY.

No. 6605.

MUR. 6 MAY 1909

Port of Belfast Received at London Office
 No. in Survey held at Belfast Date, first Survey 25 Aug 1908 Last Survey 29 April 1909
 Reg. Book. B. Hallina (Number of Visits 65)
 on the B. Hallina Tons Gross 3213 Net 1611
 Master Belfast Built at Belfast By whom built Holland & Wolff L. When built 1909
 Engines made at Belfast By whom made Holland & Wolff L. when made 1909
 Boilers made at Belfast By whom made Holland & Wolff L. when made 1909
 Registered Horse Power 643 Owners Irish Locomotive & Engineering Co. Ltd. Port belonging to Bushy
 Nom. Horse Power as per Section 28 643 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

ENGINES, &c.—Description of Engines Quadruple Expansion No. of Cylinders 4 No. of Cranks 4
 Dia. of Cylinders 24 1/2 - 35 - 50 - 73 Length of Stroke 54 Revs. per minute 87 Dia. of Screw shaft 14 1/2 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 If two
 liners are fitted, is the shaft lapped or protected between the liners Yes Length of stern bush 5 - 1/2
 Dia. of Tunnel shaft 13 - 7/8 Dia. of Crank shaft journals 14 - 3/4 Dia. of Crank pin 15 1/2 Size of Crank web 27 3/4 x 10 3/4 Thrust shaft under
 collars 15 Dia. of screw 16 - 3 Pitch of Screw 19 - 3 No. of Blades 4 State whether moveable Yes Total surface 76 sq ft.
 No. of Feed pumps 1 and 2 Mains Diameter of ditto 5 1/4 Stroke 30 Can one be overhauled while the other is at work Yes
 No. of Bilge pumps 2 Diameter of ditto 5 Stroke 30 Can one be overhauled while the other is at work Yes
 No. of Donkey Engines 6 Sizes of Pumps General 9 x 6 x 10, Water 8 x 8 x 10, 2.7 gals 10 1/2 x 8 x 2 1/2, 7 Water 4 x 4 x 10, Crap wheel 3 x 3 1/2 x 4 No. and size of Suctions connected to both Bilge and Donkey pumps
 In Engine Room 4 - 3" & 2 - 2 1/2" Holds, &c. 5 - 3"
 No. of Bilge Injections 1 Sizes 9 1/2 Connected to condenser, or to circulating pump Yes Are the bilge suction pipes fitted with roses Yes
 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 Below
 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 Five Lock sustains 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 19-3-04 of Stern Tube 14-3-04 Screw shaft and Propeller 14-3-09
 Is the Screw Shaft Tunnel watertight Yes Is it fitted with a watertight door Yes worked from Upper deck.

BOILERS, &c.—(Letter for record A(S)) Manufacturers of Steel B. Calville Sans L.
 Total Heating Surface of Boilers 9690 sq ft Forced Draft fitted Yes No. and Description of Boilers 3 - Single End Cylind
 Working Pressure 215 lbs Tested by hydraulic pressure to 430 lbs Date of test 12-2-09 No. of Certificate 417
 Can each boiler be worked separately Yes Area of fire grate in each boiler 75.3 sq ft No. and Description of Safety Valves to
 each boiler Two - Direct Opening of each valve 9.62 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 about 18 in Mean dia. of boilers 16 - 2 Length 11 - 9 Material of shell plates Steel
 Thickness 1 3/4 Range of tensile strength 29-33 Are the shell plates welded or flanged No Descrip. of riveting: cir. seams Lap & double
 long. seams Butt & double Diameter of rivet holes in long. seams 1 1/4 Pitch of rivets 10 Lap of plates or width of butt straps 24
 Per centages of strength of longitudinal joint 102.0 Working pressure of shell by rules 251 lbs Size of manhole in shell 16 x 12
 Size of compensating ring No. Nuts No. and Description of Furnaces in each boiler 4 - Mansions Material Steel Outside diameter 45 1/2
 Length of plain part 10 Thickness of plates 3 1/2 Description of longitudinal joint Weld No. of strengthening rings 27 on
 Working pressure of furnace by the rules 236 lbs Combustion chamber plates: Material Steel Thickness: Sides 3 1/2 Back 5 Top 3 1/2 Bottom 7
 Pitch of stays to ditto: Sides 8 x 8 Back 8 x 7 1/2 Top 9 1/2 x 7 If stays are fitted with nuts or riveted heads Nuts inside Working pressure by rules 221 lbs
 Material of stays Steel Diameter at smallest part 1 1/2 Area supported by each stay 64 sq in Working pressure by rules 247 lbs Head plates in steam space:
 Material Steel Thickness 1 1/2 Pitch of stays 8 1/2 x 15 1/2 How are stays secured Nuts Working pressure by rules 215 lbs Material of stays Steel
 Diameter at smallest part 2 1/2 Area supported by each stay 291 3/4 Working pressure by rules 252 lbs Material of Front plates at bottom Steel
 Thickness 7/8 Material of Lower back plates Steel Thickness 7/8 Greatest pitch of stays 12 3/4 Working pressure of plate by rules 234 lbs
 Diameter of tubes 2 1/2 Pitch of tubes 3 1/2 x 3 1/2 Material of tube plates Steel Thickness: Front 7/8 Back 3/4 Mean pitch of stays 7 1/2 x 7 1/2
 Pitch across wide water spaces 13 3/4 Working pressures by rules 349 lbs Girders to Chamber tops: Material Iron Depth and
 thickness of girder at centre 10 1/2 x (8 x 2) length as per rule 33 Distance apart 9 1/2 Number and pitch of stays in each 3 - 7
 Working pressure by rules 219 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

W1529-0088

Lloyd's Register Foundation

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 _____ Stayed by _____

Diameter of uptake _____ Thickness of uptake plates _____ Thickness of water tubes _____ Dates of survey _____

SPARE GEAR. State the articles supplied:— *Raw pellen shaft complete, 2 Luongo blades; saw crank pin bushes; 2 sets cross head masses; set piston rings for each cylinder; circulating pump impeller & spindle; air pump and bucket; air pump head valve, 2 truss. valves etc; 50 condenser tubes; 15 boiler tubes; 2 spare*

The foregoing is a correct description, *plan for auxiliaries, & all plan to Lloyd's Rules*
to Harland & Wolff Ltd Manufacturer.

Dates of Survey while building: During progress of work in shops— *1908, Aug 25, Sep 21, 23, Oct 5, 7, 15, 21, 27, 30, Nov 7, 11, 13, 18, 20, 23, 25*

During erection on board vessel— *27 Dec 1, 4, 8, 11, 16, 18, 22, Jan 5, 11, 15, 19, 22, 25, 29 up to 29 April 1909*

Total No. of visits *65* Is the approved plan of main boiler forwarded herewith *Yes*

Dates of Examination of principal parts—Cylinders *25-11-08* Covers *do* Pistons *do* Rods *do*

Connecting rods *23-3-09* Crank shaft *4-10-08* Tunnel shafts *28-12-09* Propeller *4-3-09*

Stern tube *17-2-09* Steam pipes tested *14-4-09* Engines and boiler seatings *6-4-09* Engines holding down bolts *16-4-09*

Completion of pumping arrangements *17/4/09* Boilers fixed *1-4-09* Engines tried under steam *21-4-09*

Main boiler safety valves adjusted *21-4-09* Thickness of adjusting washers *11-13/32*

Material of Crank shaft *Steel* Identification Mark on Do. *LLOYDS* Material of Thrust shaft *do* Identification Mark on Do. *do*

Material of Tunnel shafts *do* Identification Marks on Do. *do* Material of Screw shafts *do* Identification Marks on Do. *do*

Material of Steam Pipes *Steel* Test pressure *645 lbs*

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

The machinery of this vessel has been constructed under Special Survey, and is of good material and workmanship throughout, on trials under steam, the engines and boilers worked satisfactorily in every respect.

In my opinion it is eligible for record + L.M.C. 4.09 with notation "Forced Draft" and "Electric Light"

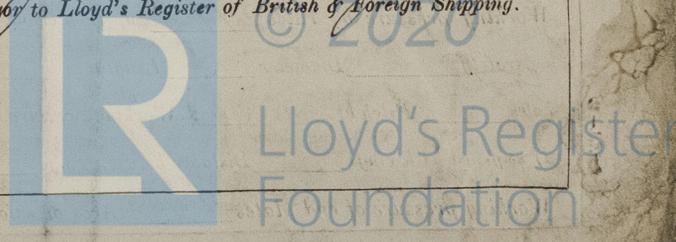
It is submitted that this vessel is eligible for THE RECORD. + L.M.C. 4.09

F.D. Elec. Light. 7.5.09

H.D.
1/5/09.

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

Certificate (if required) to be sent to Lloyd's Office



VERY CERTIFICATE WRITTEN.