

1908 JUN 2

Port of Belfast Received at London Office 19
No. in Survey held at Belfast Date, first Survey 19 April 1907 Last Survey 14 June 1908
Reg. Book. J.P.S. Vehicles (Number of Visits 79)
Master Belfast Built at Belfast By whom built Holland & Wolff L^o When built 1908
Engines made at Belfast By whom made " when made "
Boilers made at " By whom made " when made "
Registered Horse Power 1075 Owners Geo. Champean & Co L^o Port belonging to Murphy
Nom. Horse Power as per Section 28 1075 Is Refrigerating Machinery fitted for cargo purposes Yes Is Electric Light fitted Yes

ENGINES, &c.—Description of Engines Two Recip. Quadruple Expansion Cylinders 8 No. of Cranks 8
Dia. of Cylinders 23"-34"-48"-69" Length of Stroke 51" Revs. per minute 78 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 61"
Dia. of Tunnel shaft 13.0" Dia. of Crank shaft journals 13.65" Dia. of Crank pin 14 1/2" Size of Crank web 26 1/2" x 10 1/2" Dia. of thrust shaft under collars 14 1/2" Dia. of screw 16"-6" Pitch of Screw 19'-0" No. of Blades 3 State whether moveable Yes Total surface 72 sq ft.
No. of Feed pumps 1 Diameter of ditto 5 1/2" Stroke 28" 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 6 Sizes of Pumps Wash 7x12, General 10 1/2 x 7 x 12, Suction 4 x 5 x 12, Hold, &c. 12 x 12 x 7 1/2, Laundry 8 x 6 x 8, Water 5 1/2 x 4 x 5 No. and size of Suctions connected to both Bilge and Donkey pumps 10-3 1/2" 1-3" 4-2 1/2"
In Engine Room 4-3 1/2" 3-2 1/2" 2-3" No. of Bilge Injections 2 sizes 8" Connected to condenser, or to circulating pump Pumps as a separate Donkey Suction fitted in Engine room & size 2-4"
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 None
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 All pipes carried thru pipe tunnel How are they protected Iron tunnel
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 18-12-07 of Stern Tube 18-12-07 Screw shaft and Propeller 18-12-07
Is the Screw Shaft Tunnel watertight Stated to be Is it fitted with a watertight door Yes worked from Engine Room top platform

BOILERS, &c.—(Letter for record 3) Manufacturers of Steel H. Calville & Sons Glasgow
Total Heating Surface of Boilers 14460 sq ft Is forced draft fitted No No. and Description of Boilers 3 Double End Cyl.
Working Pressure 215 lbs Tested by hydraulic pressure to 430 lbs Date of test 20-12-07 No. of Certificate 408
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 3 Relief Springs Area of each valve 9.62 sq in Pressure to which they are adjusted 215 lbs Are they fitted with easing gear Yes
Smallest distance between boilers on supports and bunkers on woodwork 16" Mean dia. of boilers 15'-6" Length 19'-0" Material of shell plates Steel
Thickness 1 1/2" Range of tensile strength 29-22 tons Are the shell plates welded or flanged No Descrip. of riveting: cir. seams Lap Riv. long. seams Butt Lap Riv. Diameter of rivet holes in long. seams 1 1/2" Pitch of rivets 10" or width of butt straps 2 3/4"
Per centages of strength of longitudinal joint 90.6 Working pressure of shell by rules 250 lbs Size of manhole in shell 16" x 12"
Size of compensating ring McNeil's No. and Description of Furnaces in each boiler 6-Mannison Material Steel Outside diameter 49 1/2"
Length of plain part 6" Thickness of plates 3 1/2" Description of longitudinal joint Weld No. of strengthening rings 8 to an
Working pressure of furnace by the rules 242 lbs Combustion chamber plates: Material Steel Thickness: Sides 5" Back 5" Top 5" Bottom 1 1/2" x 1 3/16"
Pitch of stays to ditto: Sides 7 1/2" x 7 1/2" Back 7 1/2" x 7 1/2" Top 8 1/2" x 7 1/2" If stays are fitted with nuts or riveted heads Nuts inside Working pressure by rules 217 lbs
Material of stays Steel Diameter at smallest part 1 1/2" / 1 5/8" Area supported by each stay 65 1/2 sq in Working pressure by rules 224 lbs End plates in steam space: Material Steel Thickness 1 1/2" Pitch of stays 18" x 15 1/2" How are stays secured Nuts & Washers Working pressure by rules 215 lbs Material of stays Steel
Diameter at smallest part 3" Area supported by each stay 279 sq in Working pressure by rules 263 lbs Material of Front plates at bottom Steel
Thickness 14-15" Material of Lower back plate " Thickness " Greatest pitch of stays " Working pressure of plate by rules "
Diameter of tubes 3" Pitch of tubes 4 1/4" x 4 1/4" Material of tube plates Steel Thickness: Front 5" Back 13/16" x 29/32" Mean pitch of stays 8 1/2" x 8 1/2"
Pitch across wide water spaces 14 1/4" Working pressures by rules 326 lbs with 5/8" girders Chamber tops: Material Steel Depth and thickness of girder at centre 8 1/2" x (5/8" x 2) Length as per rule 49 3/8" Distance apart 8 1/2" Number and pitch of stays in each 6-7 1/2"
Working pressure by rules As above Heater 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 _____

Working pressure tested by hydraulic pressure to _____ Date of test _____ When made _____ Where fixed _____

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:— *Propeller shaft, piston rods, guide shoe, eccentric strap, feed pump plunger, lift pump plunger, air pump bucket rod, & foot valve, H.P. valve spindle & P. do. spindle & impeller for circulating pump, air pump bucket rod, sets connecting rod brasses, top & bottom, 6 propeller blades, sets piston rings for all cyls. etc. all from Lloyds Register*

The foregoing is a correct description, *Harland & Wolff* Manufacturer.

Dates of Survey while building: During progress of work in shops— 1907. April 15, 24, 26. May 2, 7, 10, 15, 16, 21, 23, 29. June 1, 7, 25. July 3, 11, 25. During erection on board vessel— 30. Aug 2, 7. Sep. 3, 10, 21, 30. Oct. 7, 11, 14, 22, 28, 29. up to 1st June 1908. Total No. of visits 79

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

Dates of Examination of principal parts—Cylinders _____ " " " donkey " " " " " "

Connecting rods *1-1-08* Crank shaft *21-11-07* Tunnel shafts *30-11-07* Pistons *to* Rods _____

Stern tube *21-11-07* Steam pipes tested *14/3/08* Engine and boiler seatings *24-2-08* Engines holding down bolts *20-2-08*

Completion of pumping arrangements *14-4-08* Boilers fixed *13-3-08* Engines tried under steam *14-3-08*

Main boiler safety valves adjusted *14-3-08* Thickness of adjusting washers *11-13/32*

Material of Crank shaft *I. 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 *W. Swan & Solid drawn steel* Test pressure *640 lbs.*

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

The machinery of this vessel has been constructed under Special Survey, and in accordance with the Rules. The workmanship, and the materials, are of good description throughout, and an trial under steam, the machinery worked satisfactorily. In my opinion, it is eligible to have record L.M.C. 6-08 with notation Electric Light, & Refrigerating Machinery.

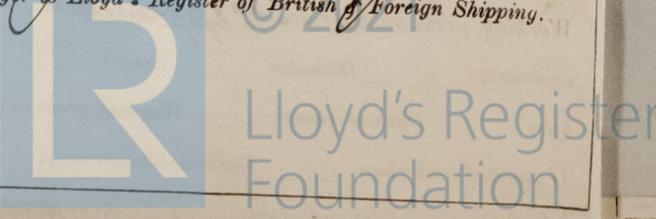
It is submitted that this vessel is eligible for THE RECORD. L.M.C. 6.08. ELEC. LIGHT. REF. MCHS.

Certificate (if required) to be sent to _____

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|--------------------------------|-----------|-------------------|
| The amount of Entry Fee.. | £ 3 : - | When applied for, |
| Special | £ 73 : 15 | 20-5-08 |
| Donkey Boiler Fee | £ : : | When received, |
| Travelling Expenses (if any) £ | : : | 10-6-08 |

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

Committee's Minute
Assigned



MACHINERY CERTIFICATE WRITTEN