

Port of

Belfast

WED. 20 DEC 1905

Received at London Office

19

No. in Survey held at
Reg. Book.
on theBelfast
MalakandDate, first Survey Feb. 24th Last Survey Feb. 14th 1905

(Number of Visits 50)

Gross 7653
Net 4928

Master Built at Belfast By whom built Harland & Wolff Ltd When built 1905

Engines made at Belfast By whom made Harland & Wolff Ltd when made 1905

Boilers made at " By whom made " when made "

Registered Horse Power Owners J. F. Brocklebank Port belonging to Liverpool

Nom. Horse Power as per Section 28 685 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

ENGINES, &c.—Description of Engines Simple Lever Quadruple Co. of Cylinders 4 No. of Cranks 4
Dia. of Cylinders 26½-39½-56-78½ Length of Stroke 54 Revs. per minute 71 Dia. of Screw shaft as per rule 15.03 Material of I. Stab
as fitted 16.4 screw shaft)
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 ✓ If two
liners are fitted, is the shaft lapped or protected between the liners ✓ Length of stern bush 64
Dia. of Tunnel shaft as per rule 14.57 Dia. of Crank shaft journals as per rule 15.29 Dia. of Crank pin 16 Size of Crank webs 21½x16 of thrust shaft under
collars 15½ Dia. of screw 18½ Pitch of screw 20-0 No. of blades 4 State whether moveable Yes Total surface 95½ sq ft.
No. of Feed pumps 3 Diameter of ditto 5½ Stroke 30 Can one be overhauled while the other is at work ✓
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 2 Sizes of Pumps 1-2½ 2-2½ No. and size of Suctions connected to both Bilge and Donkey pumps
In Engine Room 4-3½ 1-2½ In Holds, &c. 9-8½ 6-2½

No. of bilge injections 1 sizes 9½ Connected to condenser, or to circulating pump Pump separate donkey suction fitted in Engine room & size Yes-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 None How are they protected ✓
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 screw shaft tunnel watertight Stated Yes
Is it fitted with a watertight door Yes worked from Engine Room to Platform.

BOILERS, &c.—(Letter for record 9.) Total Heating Surface of Boilers 4212 sq ft. forced draft fitted No
No. and Description of Boilers 2 Double End Cyl. Working Pressure 215 lbs Tested by hydraulic pressure to 430 lbs
Date of test 13-10-05 in each boiler be worked separately Yes Area of fire grate in each boiler 577 sq ft. No. and Description of safety valves 10
each boiler 3-11½ lbs 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 About 40 Mean dia. of boilers 14-5½ Length 18-9 Material of shell plates Steel
Thickness ½ Range of tensile strength 29-32 Are they welded or flanged No Descrip. of riveting: cir. seams Lap Riv. long. seams Butts Riv. double
Diameter of rivet holes in long. seams 1½ Pitch of rivets 10 Lap of plates or width of butt straps 22½
Per centages of strength of longitudinal joint rivets 98.2 Working pressure of shell by rules 246 lbs Size of manhole in shell 16"x12"
plate 84.3
Size of compensating ring 9" Neils No. and Description of Furnaces in each boiler 6-11½ lbs Material Steel Outside diameter 46½
Length of plain part top 4 Thickness of plates crown 3½ Description of longitudinal joint Weld No. of strengthening rings 4 T. & C.
bottom 11 Thickness of plates bottom 3½
Working pressure of furnace by the rules 244 lbs Combustion chamber plates: Material Steel Thickness: Sides ½ Back ½ Top ½ Bottom ½
Pitch of stays to ditto: Sides 7½x4 Back ✓ Top 7½x7½ stays are fitted with nuts or riveted heads Nuts in stays Working pressure by rules 216 lbs
Material of stays Steel Diameter at smallest part 7½x1½ Area supported by each stay 54½ Working pressure by rules 218 lbs
Material Steel Thickness 1½ Pitch of stays 16x14½ How are stays secured Nuts & Washers Working pressure by rules 200 lbs Material of stays Steel
Diameter at smallest part 2½x2½ supported by each stay 232 sq Working pressure by rules 240 lbs Material of Front plates at bottom Steel
Thickness ½ Material of Lower back plate ✓ Thickness Greatest pitch of stays ✓ Working pressure of plate by rules ✓
Diameter of tubes 2½ Pitch of tubes 4x4 Material of tube plates Steel Thickness: Front ½ Back ½ Mean pitch of stays 8x8
Pitch across wide water spaces 14 Working pressures by rules 338 lbs with 10 lbs to Chamber tops: Material Iron Depth and
thickness of girder at centre 9x(8x2) Length as per rule 49½ Distance apart 7½ Number and pitch of Stays in each 6-7½
Working pressure by rules 298 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

DONKEY BOILER— No. ✓ Description

Made at _____ By whom made _____ When made _____ Where fixed _____
 Working pressure _____ tested by hydraulic pressure to _____ No. of Certificate _____ Fire grate area _____ Description of safety valves _____
 No. of safety valves _____ Area of each _____ Pressure to which they are adjusted _____ 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 _____ 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 _____ Thickness of furnace crown plates _____ Stayed by _____ Working pressure of shell by rules _____
 Working pressure of furnace by rules _____ Diameter of uptake _____ Thickness of uptake plates _____ Thickness of water tubes _____

SPARE GEAR. State the articles supplied:—

The foregoing is a correct description,

Harland & Wolff Ltd Manufacturer.

Dates of Survey while building { During progress of work in shops— } Feb. 2, 7, 14, 17, 23, 31 April 4, 7, 11, 14, 19 May 4, 9, 12, 26, 31 June 2, 5, 15, 21
 { During erection on board vessel— } 23, 30 July 6 Aug. 4, 9, 11, 15, 21, 24, 28, 31 Sep. 6, 8, 12, 14, 19, 26 Oct. 3, 4 Nov. 1, 5 Dec. 14th
 Total No. of visits 50

Is the approved plan of main boiler forwarded herewith Yes

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

The machinery of this vessel has been built under Special Survey, and in accordance with the Rules. The workmanship, and the materials used are of good description, and on trial under steam in Belfast Lough, the machinery worked satisfactorily. In my opinion it is eligible for record of Survey & L.M.C. 12-05.

It is submitted that this vessel is eligible for THE RECORD L.M.C. 12.05 ELEC. LIGHT.

Ind
20.12.05

The amount of Entry Fee. . £ 3 : - :
 Special £ 54 : 5 :
 Donkey Boiler Fee £ : :
 Travelling Expenses (if any) £ : :
 Committee's Minute

FRI. 22 DEC 1905

Assigned

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

MACHINERY CERTIFICATE
 WRITTEN

+ L.M.C. 12.05
 Elec. light



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