

# REPORT ON MACHINERY.

Port of Belfast Received at London Office MUN. FEB 24 1902

No. in Survey held at Belfast Date, first Survey \_\_\_\_\_ Last Survey \_\_\_\_\_ 19  
 Reg. Book. S.P.S. Walmer Castle (Number of Visits \_\_\_\_\_)

on the \_\_\_\_\_ Tons { Gross 12545  
 Net 6463

Master \_\_\_\_\_ Built at Belfast By whom built Harland & Wolff L<sup>ds</sup> When built 1902

Engines made at Belfast By whom made Harland & Wolff L<sup>ds</sup> when made 1902

Boilers made at \_\_\_\_\_ By whom made \_\_\_\_\_ when made \_\_\_\_\_

Registered Horse Power \_\_\_\_\_ Owners Union Castle Mail S.S. Coy L<sup>ds</sup> Port belonging to London

Nom. Horse Power as per Section 28 2040 Is Refrigerating Machinery fitted No Is Electric Light fitted Yes

**ENGINES, &c.—Description of Engines** No. of Cylinders \_\_\_\_\_ No. of Cranks \_\_\_\_\_

Dia. of Cylinders \_\_\_\_\_ Length of Stroke \_\_\_\_\_ Revs. per minute \_\_\_\_\_ Dia. of Screw shaft \_\_\_\_\_ Lgth. of stern bush \_\_\_\_\_

Dia. of Tunnel shaft \_\_\_\_\_ Dia. of Crank shaft journals \_\_\_\_\_ Dia. of Crank pin \_\_\_\_\_ Size of Crank webs \_\_\_\_\_ Dia. of thrust shaft under collars \_\_\_\_\_

Dia. of screw \_\_\_\_\_ Pitch of screw \_\_\_\_\_ No. of blades \_\_\_\_\_ State whether moveable \_\_\_\_\_ Total surface \_\_\_\_\_

No. of Feed pumps \_\_\_\_\_ Diameter of ditto \_\_\_\_\_ Stroke \_\_\_\_\_ Can one be overhauled while the other is at work \_\_\_\_\_

No. of Bilge pumps \_\_\_\_\_ Diameter of ditto \_\_\_\_\_ Stroke \_\_\_\_\_ Can one be overhauled while the other is at work \_\_\_\_\_

No. of Donkey Engines \_\_\_\_\_ Sizes of Pumps \_\_\_\_\_ No. and size of Suctions connected to both Bilge and Donkey pumps \_\_\_\_\_

In Engine Room \_\_\_\_\_ In Holds, &c. \_\_\_\_\_

No. of bilge injections \_\_\_\_\_ sizes \_\_\_\_\_ Connected to condenser, or to circulating pump \_\_\_\_\_ Is a separate donkey suction fitted in Engine room & size \_\_\_\_\_

Are all the bilge suction pipes fitted with roses \_\_\_\_\_ Are the roses in Engine room always accessible \_\_\_\_\_ Are the sluices on Engine room bulkheads always accessible \_\_\_\_\_

Are all connections with the sea direct on the skin of the ship \_\_\_\_\_ Are they Valves or Cocks \_\_\_\_\_

Are they fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates \_\_\_\_\_ Are the discharge pipes above or below the deep water line \_\_\_\_\_

Are they each fitted with a discharge valve always accessible on the plating of the vessel \_\_\_\_\_ Are the blow off cocks fitted with a spigot and brass covering plate \_\_\_\_\_

What pipes are carried through the bunkers \_\_\_\_\_ How are they protected \_\_\_\_\_

Are all pipes, cocks, valves, and pumps in connection with the machinery and all boiler mountings accessible at all times \_\_\_\_\_

Are the bilge suction pipes, cocks, and valves arranged so as to prevent any communication between the sea and the bilges \_\_\_\_\_

When were stern tube, propeller, screw shaft, and all connections examined in dry dock \_\_\_\_\_ Is the screw shaft tunnel watertight \_\_\_\_\_

Is it fitted with a watertight door \_\_\_\_\_ worked from \_\_\_\_\_

**BOILERS, &c.—** (Letter for record S) Total Heating Surface of Boilers 5600 sq ft Is forced draft fitted No

No. and Description of Boilers Two Single End Working Pressure 216 lbs Tested by hydraulic pressure to 432 lbs

Date of test 9-4-01 Can each boiler be worked separately Yes Area of fire grate in each boiler 5600 sq ft No. and Description of safety valves to each boiler Two direct Spring Pressure to which they are adjusted 216 lbs Are they fitted with easing gear Yes

Smallest distance between boilers or uptakes and bunkers 18" Mean dia. of boilers 14'-2" Length 11'-0" Material of shell plates Steel

Thickness 1 7/16" Range of tensile strength 28-32 Are they welded or flanged No Descrip. of riveting: cir. seams Lap & Double seams Butt & Double

Diameter of rivet holes in long. seams 1 7/16" Pitch of rivets 10" Lap of plates or width of butt straps 22 3/8"

Per centages of strength of longitudinal joint \_\_\_\_\_ rivets \_\_\_\_\_ plate \_\_\_\_\_ Working pressure of shell by rules 247 lbs Size of manhole in shell 16" x 12"

Size of compensating ring McNeill No. and Description of Furnaces in each boiler 3-Mansuon Material Steel Outside diameter 44 1/2"

Length of plain part \_\_\_\_\_ top \_\_\_\_\_ bottom \_\_\_\_\_ Thickness of plates \_\_\_\_\_ crown \_\_\_\_\_ bottom \_\_\_\_\_ Description of longitudinal joint Weld No. of strengthening rings 27 on C.C. Mansuon

Working pressure of furnace by the rules 238 lbs Combustion chamber plates: Material Steel Thickness: Sides 5" Back 5" Top 5" Bottom 5"

Pitch of stays to ditto: Sides 7 1/2" x 7 1/2" Back 8 1/2" x 7 1/2" Top 7 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" x 1 1/2" Area supported by each stay 61 1/2" Working pressure by rules 191 lbs End plates in steam space: Material Steel Thickness 1" Pitch of stays 16 1/2" x 15 1/2" How are stays secured Nuts & Rivets Working pressure by rules 224 lbs Material of stays Steel

Diameter at smallest part 2 1/2" x 2 1/2" Area supported by each stay 248 sq" Working pressure by rules 242 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 12 1/2" Working pressure of plate by rules 271 lbs

Diameter of tubes 2 1/2" Pitch of tubes 4" x 4" Material of tube plates Steel Thickness: Front 1 1/2" Back 1 1/2" Mean pitch of stays 8" x 8"

Pitch across wide water spaces 14" Working pressures by rules 370 lbs with 3" Double Chamber tops: Material Steel Depth and thickness of girder at centre 8 1/2" (7 x 2) Length as per rule 29" Distance apart 7 1/2" Number and pitch of Stays in each 3-7 1/2"

Working pressure by rules 216 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 - -

During erection on board vessel - -

Total No. of visits

Is the approved plan of main boiler forwarded herewith

" " " donkey " " "

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

Material of screw shaft Is the screw shaft fitted with a continuous liner the whole length of the stern tube

Is the after end of the liner made water tight in the propeller boss If the liner is in more than one length are the joints burned

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

Certificate (if required) to be sent to  
(The Surveyors are requested not to write on or below the space for Committee's Minute.)

The amount of Entry Fee. . . . . £	:	:	When applied for,
Special - . . . . . £	:	:	.....19.....
Donkey Boiler Fee . . . . . £	:	:	When received,
Travelling Expenses (if any) £	:	:	.....19.....

Committee's Minute TUES. FEB 25 1902  
Assigned

*R. F. Russell*  
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.



Port of

No. in Reg. Book

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