

REPORT ON MACHINERY.

No. 4107

Port of Belfast

No. in Survey held at Belfast
Reg. Book.

Date, first Survey Dec 10th 1891 Last Survey May 28th 1892
(Number of Visits 22)

Received at London Office

1 JUN 92

on the Steel Twin Screw Steamer "Lord Erne"
Master James Dunn Built at Belfast By whom built Harland & Wolff Ltd
Engines made at Belfast By whom made Harland & Wolff Ltd
Boilers made at Belfast By whom made Harland & Wolff Ltd
Registered Horse Power 418 Owners Irish Shipowners Co. Ltd. Port belonging to Belfast
Nom. Horse Power as per Section 28 418

Tons { Gross 5609
Net 3647
When built 1892

when made 1892-5
when made 1892-5

ENGINES, &c.— Description of Engines Triple Expansion, Twin Screws No. of Cylinders Six
Diameter of Cylinders 19"; 31"; 52" Length of Stroke 42" Revolutions per minute 80 Diameter of Screw shaft as per rule 10 1/4"
Diameter of Tunnel shaft as per rule 9 3/4" Diameter of Crank shaft journals 11" Diameter of Crank pin 11" Size of Crank webs 8 x 14 1/2" shaped
Diameter of screw 13" 9" Pitch of screw 17" 6" No. of blades 3 State whether moveable yes Total surface 50 sq ft each
No. of Feed pumps 2 Diameter of ditto 4 1/4" Stroke 24" Can one be overhauled while the other is at work yes One on each engine
No. of Bilge pumps 2 Diameter of ditto 5" Stroke 24" Can one be overhauled while the other is at work yes
No. of Donkey Engines Three Sizes of Pumps Caruthers duplex 4 x 2 1/2 x 5" No. and size of Suctions connected to both Bilge and Donkey pumps
In Engine Room Three 3" dia Watson's Westminster 10 x 10 x 10" In Holds, &c. No 1 hold 3". No 2 hold two 2 1/2". No 3 hold two 2 1/2". No 4 hold one 3"
No. of bilge injections 2 sizes 5" Connected to condenser, or to circulating pump circ. p. Is a separate donkey suction fitted in Engine room & size 2 1/2" dia
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 valves & cocks
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
That pipes are carried through the bunkers Bilge pipes How are they protected 2" 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 examined before launching Is the screw shaft tunnel watertight yes
Is it fitted with a watertight door yes worked from upper deck

BOILERS, &c.— (Letter for record S.) Total Heating Surface of Boilers 7276
No. and Description of Boilers Two double ended Working Pressure 180 Tested by hydraulic pressure to 360
Date of test 18-2-92 Can each boiler be worked separately yes Area of fire grate in each boiler 98 1/2 No. and Description of safety valves to
each boiler Two. Cockburn's patent Area of each valve 11.04" Pressure to which they are adjusted 180 Are they fitted
with casing gear yes Smallest distance between boilers or uptakes and bunkers or woodwork 4 feet Mean diameter of boilers 13' 0"
Length 17' 0" Material of shell plates steel Thickness 1 1/32 Description of riveting: circum. seams trib. Ends double long. seams Double butt str.
Diameter of rivet holes in long. seams 1 3/8 Pitch of rivets 9" & 4 1/2" Lap of plates or width of butt straps 1' 8 1/2" x 1"
Percentages of strength of longitudinal joint 95 1/2 Working pressure of shell by rules 181 Size of manhole in shell 16" x 12"
No. of compensating ring 2 7' x 2' 3' 1/32 No. and Description of Furnaces in each boiler 6 Tipped flues Material steel Outside diameter 3' 2 1/2"
Length of plain part top ribs spaced Thickness of plates crown 1/2" Description of longitudinal joint welded No. of strengthening rings 9 ribs
Working pressure of furnace by the rules 192 Combustion chamber plates: Material steel Thickness: Sides 1 1/32 Back 5/8 Bottom 3/4"
Pitch of stays to ditto: Sides 7 3/4 Back 7 1/4 Top 8 1/8 x 7 1/4 Are stays fitted with nuts or riveted heads nutted inside Working pressure by rules 203
Material of stays steel Diameter at smallest part 1 3/8 Area supported by each stay 63 Working pressure by rules 188 End plates in steam space:
Material steel Thickness 1 1/16 Pitch of stays 17" x 18" How are stays secured doub. nut & large washers Working pressure by rules 196 Material of stays steel
Diameter at smallest part 2 7/8 Area supported by each stay 306 Working pressure by rules 206 Material of Front plates at bottom steel
Thickness 13/16 Material of Lower back plate ✓ Thickness ✓ Greatest pitch of stays as appr Working pressure of plate by rules 180
Diameter of tubes 3 1/4" Pitch of tubes 4 1/2" Material of tube plates steel Thickness: Front 7/8 Back 3/4" Mean pitch of stays 9 ins
Pitch across wide water spaces 14 1/2" Working pressures by rules 180 Girders to Chamber tops: Material WT Low Depth and
Thickness of girder at centre 5 1/2 x 1 3/4 Length as per rule 37 3/4 Distance apart 8" cen. 8 1/8 ins Number and pitch of Stays in each 4 pitch 7 3/4
Working pressure by rules 180 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
Pitch of rivets ✓ Working pressure of shell by rules ✓ Diameter of flue ✓ Material of flue plates ✓ Thickness ✓
Fitted with rings ✓ Distance between rings ✓ Working pressure by rules ✓ End plates: Thickness ✓ How stayed ✓
King plates ✓ Area of safety valves to superheater ✓ Are they fitted with easing gear ✓

DONKEY BOILER—

Description

Auxiliary boiler used for donkey purposes.

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. in

No. of safety valves

Area of each

Pressure to which they are adjusted

If fitted with easing gear

If steam from main boilers

Reg. Book

enter the donkey boiler

Diameter of donkey boiler

Length

Material of shell plates

Thickness

Description of riveting long seams

Diameter of rivet holes

Whether punched or drilled

Pitch of rivets

aster

Lap of plating

Per centage of strength of joint

Rivets

Thickness of shell crown plates

Radius of do.

No. of Stays to do.

agines m

Dia. of stays.

Diameter of furnace Top

Bottom

Length of furnace

Thickness of furnace plates

Description

ilers ma

joint

Thickness of furnace crown plates

Stayed by

Working pressure of shell by rules

gistered

Working pressure of furnace by rules

Diameter of uptake

Thickness of uptake plates

Thickness of water tubes

m. Hors

SPARE GEAR. State the articles supplied:— 2 cast iron propeller blades. Air & oil pump rods. Set valves for air, oil, feed & bilge pumps. Valve spindles & neck bushes for M.P. & I.P. 6 pump ring bolts. 2 main bearings. 2 top end con. rod bolts. Set bottom end bolts. Set coupling bolts. 8 propeller studs & nuts. 4 rings M.P. piston. 2 rings I.P. piston. 1 ring P. piston. 3 safety valve springs. 3 cyl. escape springs. 1 feed escape spring. 1/2 set furnace bars. 12 bolts to

The foregoing is a correct description,

Harland & Wolff Ltd. Manufacturer.

General Remarks

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

The machinery of this vessel has

been built under special survey throughout. The boilers are made as shown on the enclosed photographs & have been inspected during construction and tested as the Rules require.

The boiler steel was tested at the Steel works.

Each separate length of main steam pipe has been tested by water to double the working pressure.

The safety valves are all adjusted to lift at 180 lbs pressure per sq. inch. & the engines were worked under full steam for 24 hours on the 28th inst with good results.

The vessel is lighted throughout by electricity, particulars of the installation will be forwarded shortly.

The machinery in my opinion renders the vessel eligible for the record of + L.M.C. 5.92 in the Register Book.

Certificate (if required) to be sent to

The amount of Entry Fee..

£ 3 : 0 0

When applied for,

Special

£ 40 : 18 0

31 May 92

Donkey Boiler Fee

£ : : :

When received,

Travelling Expenses (if any) £

: : : :

4/6/92

A. L. Jones

Engineer Surveyor to Lloyd's Register of British & Foreign Ship

Committee's Minute

FRI 3 JUN 1892

Assigned

+ L.M.C. 5.92



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