

REPORT ON MACHINERY.

3212

No. 3212

No. in Survey held at *Belfast*

Reg. Book.

Date, first Survey *9th Aug 1885* Last Survey *20th April 1886*

Received at London Office

18

Design the *Donkey Boiler of the S.S. Saint Fillans* *440 N 186* Tons *2007.87*

Master *Belfast* Built at *Belfast* By whom built *Harland & Wolff* When built *1886*

Engines made at *Belfast* By whom made *Harland & Wolff* when made *1886*

Boilers made at *Belfast* By whom made *Harland & Wolff* when made *1886*

Registered Horse Power

Owners

Port belonging to

ENGINES, &c.—

Description of Engines

Diameter of Cylinders Length of Stroke No. of Rev. per minute Point of Cut off, High Pressure Low Pressure
Diameter of Screw shaft Diam. of Tunnel shaft Diam. of Crank shaft journals Diam. of Crank pin size of Crank webs
Diameter 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
Where do they pump from
No. of Donkey Engines Size of Pumps Where do they pump from

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

No. of bilge injections and sizes Are they connected to condenser, or to circulating pump

How are the pumps worked

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 accessible at all times

Are the pipes, cocks, and valves arranged so as to prevent an unintentional connection 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 and fitted with a sluice door worked from

BOILERS, &c.—for Steam Engines, &c.

Number of Boilers *one* Description *Cylindrical Multi-tubular* Whether Steel or Iron *Steel*
Working Pressure *60 lbs* Tested by hydraulic pressure to *120 lbs* Date of test *8th January 1886*

Description of superheating apparatus or steam chest *none fitted*

Can each boiler be worked separately Can the superheater be shut off and the boiler worked separately

No. of square feet of fire grate surface in each boiler Description of safety valves No. to each boiler

Area of each valve Are they fitted with easing gear No. of safety valves to superheater area of each valve

Are they fitted with easing gear Smallest distance between boilers and bunkers or woodwork Diameter of boilers *8-6*

Length of boilers *9-0* description of riveting of shell long. seams *lap & double rivet* circum. seams *lap & double rivet* Thickness of shell plates *1/2*

Diameter of rivet holes *7/8* whether punched or drilled *drilled* pitch of rivets *3.023* Lap of plating *4 1/4*

Per centage of strength of longitudinal joint *68* working pressure of shell by rules *71.6 lbs* size of manholes in shell *15 x 12*

Size of compensating rings *27 x 24 x 1/2* No. of Furnaces in each boiler *two*

Outside diameter *30 7/8* length, top *5-9* bottom *8-0* thickness of plates *7/16* description of joint *double rivet* if rings are fitted *no*

Greatest length between rings working pressure of furnace by the rules *69.4 lbs* combustion chamber plating, thickness, sides *7/16* back *7/16* top *7/16*

Pitch of stays to ditto, sides *9 1/4 x 9 1/4* back *9 1/4 x 8 1/2* top *9 1/4 x 9 1/4* If stays are fitted with nuts or riveted heads *nuts* working pressure of plating by

rules *63 lbs* Diameter of stays at smallest part *1.2* working pressure of ditto by rules *82.4 lbs* and plates in steam space, thickness *5/8*

Pitch of stays to ditto *16 1/2 x 16 1/2* how stays are secured *double rivet* working pressure by rules *58.7 lbs* diameter of stays at

smallest part *2 1/4* working pressure by rules *87.7 lbs* Front plates at bottom, thickness *5/8* Back plates, thickness *5/8*

Greatest pitch of stays *about 12* working pressure by rules *97.2 lbs* Diameter of tubes *3/4* pitch of tubes *4 1/2 x 4 1/2* thickness of tube

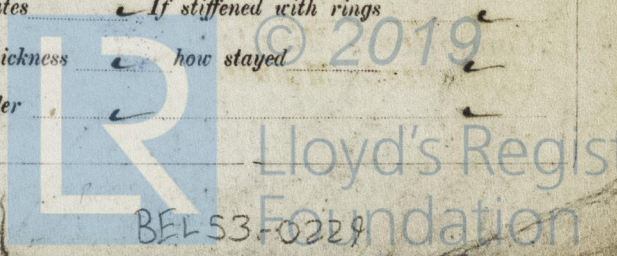
plates, front *5/8* back *5/8* how stayed *stay tube* pitch of stays *12 3/4 x 8 1/2* width of water spaces *1 1/4*

Diameter of Superheater or Steam chest length thickness of plates description of longitudinal joint diam. of rivet holes

Pitch of rivets working pressure of shell by rules diameter of flue thickness of plates If stiffened with rings

Distance between rings working pressure by rules end plates of superheater, or steam chest; thickness how stayed

Superheater or steam chest; how connected to boiler



3212 Abm

DONKEY BOILER— 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 _____ if fitted with easing gear _____ if steam from main boilers can
enter the donkey boiler _____ diameter of donkey boiler _____ length _____ description of riveting _____
Thickness of shell plates _____ diameter of rivet holes _____ whether punched or drilled _____ pitch of rivets _____ lap of plating _____
per centage of strength of joint _____ thickness of crown plates _____ stayed by _____
Diameter of furnace, top _____ bottom _____ length of furnace _____ thickness of 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 plates _____ thickness of water tubes _____

SPARE GEAR. State the articles supplied:—

The foregoing is a correct description,

W. and M. J. J. Manufacturer.

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

The material and workmanship of this boiler so far as the same has been surveyed by me is good and satisfactory. P. Aitken.

This auxiliary boiler has been completed in accordance with the approved tracing and rules; the material & workmanship are good and satisfactory; the boiler was tested both under hydraulic and steam pressures and gave entire satisfaction.

M 25/5/86

The amount of Entry Fee .. £ : : received by me,

Special £ : :

Donkey Boiler Fee £ : :

Certificate (if required) .. £ : : 18

To be sent as per margin.

(Travelling Expenses, if any, £)

Committee's Minute

TUESDAY 25 MAY 1885

James Maxton
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.



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Foundation