

# REPORT ON MACHINERY.

No. 3111

No. in Survey held at *Belfast*  
Reg. Book.

Date, first Survey *Sept 27/84*

Received at London Office

WEDNES. 14

1885

Last Survey *7 Jan 1883*  
(Number of Visits *11*)

Tons *285.26*  
*134.53*

Master *Thomas Wilson* Built at *Belfast*

By whom built *McAlvaine Lewis & Co Ltd*

When built *1884*

Engines made at *Belfast*

By whom made *McAlvaine Lewis & Co Ltd*

when made *1884*

Boilers made at *"*

By whom made *"*

when made *1884*

Registered Horse Power *60*

Owners *Alexander King*

Port belonging to *Belfast*

## ENGINES, &c.—

Description of Engines *Compound Inverted Surface Condensing*

Diameter of Cylinders *19.36*

Length of Stroke *30*

No. of Rev. per minute *80*

Point of Cut off, High Pressure *1/2 stroke*

Low Pressure *1/2 stroke*

Diameter of Screw shaft *6 3/4*

Diam. of Tunnel shaft *6 1/2*

Diam. of Crank shaft journals *6 3/4*

Diam. of Crank pin *6 3/4*

size of Crank web *7 1/2 x 4 3/4*

Diameter of screw *9 - 6*

Pitch of screw *14-3 (mean)*

No. of blades *4*

state whether moveable *yes*

total surface *28.5 sq ft*

No. of Feed pumps *One*

diameter of ditto *3*

Stroke *13 1/2*

Can one be overhauled while the other is at work *✓*

No. of Bilge pumps *One*

diameter of ditto *3*

Stroke *13 1/2*

Can one be overhauled while the other is at work *✓*

Where do they pump from *engine room fore and after holds*

No. of Donkey Engines *One*

Size of Pumps *3 dia x 6" stroke*

Where do they pump from *Sea ballast tanks*

Are all the bilge suction pipes fitted with roses *yes*

Are the roses always accessible *yes*

Are the sluices on Engine room bulkheads always accessible *yes*

No. of bilge injections *One*

and sizes *3 dia*

Are they connected to condenser, or to circulating pump *Circulating Pump*

How are the pumps worked *by levers from piston rod*

Are all connections with the sea direct on the skin of the ship *yes*

Are they Valves or Cocks *Valves*

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 *above*

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*

How are the pipes carried through the bunkers *none*

How are they protected *✓*

Are all pipes, cocks, valves, and pumps in connection with the machinery accessible at all times *yes*

Are the pipes, cocks, and valves arranged so as to prevent an unintentional connection between the sea and the bilges *yes*

When were stern tube, propeller, screw shaft, and all connections examined in dry dock *before launching*

## BOILERS, &c.—

Number of Boilers *One*

Description *Cylindrical Tubular*

Whether Steel or Iron *Steel*

Working Pressure *85 lbs*

Tested by hydraulic pressure to *170 lbs*

Date of test *26th Nov 1884*

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 superheater*

Area of square feet of fire grate surface in each boiler *36*

Description of safety valves *Spring*

No. to each boiler *Two*

Area of each valve *9.67 sq ft*

Are they fitted with easing gear *yes*

No. of safety valves to superheater *✓*

area of each valve *✓*

Smallest distance between boilers and bunkers or woodwork *9"*

Diameter of boilers *11-6"*

Description of riveting of shell long. seams *double butt lap*

circum. seams *lap single rivet*

Thickness of shell plates *7/16*

Whether punched or drilled *drilled*

pitch of rivets *3 1/4*

Lap of plating *13 plates 1 1/2 wide*

Working pressure of shell by rules *88.5 lbs*

size of manholes in shell *16 x 12*

No. of Furnaces in each boiler *Two*

diameter *37"*

length, top *6-0*

bottom *8-0*

thickness of plates *1/2*

description of joint *double butt lap with 2 girths if rings are fitted*

length between rings *✓*

working pressure of furnace by the rules *100.9 lbs*

combustion chamber plating, thickness, sides *1/2*

back *1/2*

top *1/2*

Stays to ditto, sides *9 1/2 x 9*

back *9 1/2 x 9*

top *9 1/2 x 9*

If stays are fitted with nuts or riveted heads *nuts*

working pressure of plating by *✓*

Diameter of stays at smallest part *1 1/4*

working pressure of ditto by rules *86.3 lbs*

end plates in steam space, thickness *7/8*

Stays to ditto *13 3/4 x 13*

how stays are secured *double nut, pin washers*

working pressure by rules *92 lbs*

Front plates at bottom, thickness *9/16*

Back plates, thickness *9/16*

pitch of stays *about 11"*

working pressure by rules *93.7 lbs*

Diameter of tubes *3"*

pitch of tubes *4 1/4*

thickness of tube *✓*

How stayed *Stay tubes*

pitch of stays *2 3/4 x 12 3/4*

width of water spaces *1 1/4*

Description of Superheater or Steam chest *✓*

length *✓*

thickness of plates *✓*

description of longitudinal joint *✓*

diam. of rivet holes *✓*

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 the blow off cocks fitted with a spigot and brass covering plate *✓*

How are the pipes 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 *✓*

Superheater or steam chest; how connected to boiler *✓*

How stayed *✓*




**DONKEY BOILER** Description *Cylindrical Vertical with Firebox*  
Made at *Belfast* by whom made *MacIlwaine Lewis & Co. Ltd* when made *1893* where fixed in *Hotel*  
Working pressure *53 lb* tested by hydraulic pressure to *106 lb* No. of Certificate *97* fire grate area *12 1/2 sq ft* description of safety  
valves *Spring* No. of safety valves *one* area of each *7 sq ft* if fitted with easing gear *yes* if steam from main boilers can  
enter the donkey boiler *no* diameter of donkey boiler *4-9* length *8-9* description of riveting *Lap seams Lap & butt joint*  
Thickness of shell plates *3/4 (steel)* diameter of rivet holes *1 3/16* whether punched or drilled *drilled* pitch of rivets *2 1/2* lap of plating *4/8*  
per centage of strength of joint *67.5* thickness of crown plates *7/16* stayed by *by uptake only*  
Diameter of furnace, top *4-5* bottom *5-0* length of furnace *5-0* thickness of plates *3/8* description of joint *Lap & butt riveted*  
Thickness of furnace crown plates *7/16* stayed by *uptake only* working pressure of shell by rules *88.7 lb*  
Working pressure of furnace by rules *53 lb* diameter of uptake *13 1/2 (mean)* thickness of plates *7/16* thickness of water tubes *3/8*

**SPARE GEAR.** State the articles supplied:—*2 Coupling rod, top end bolts & nuts 2 Coupling  
rod bottom end bolts & nuts 2 Main bearing bolts 1 set Coupling bolts  
1 Feed & Bridge Valve 1 set piston Springs 1 Piston Rods  
a quantity of assorted bolts & nuts & pieces of iron.*

The foregoing is a correct description,  
*MacILWAINE, LEWIS & CO., LIMITED* Manufacturer.

*Richards* DIRECTOR

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

*Material and workmanship good and satisfactory.  
The machinery and Boiler of this vessel are in good order  
and safe working condition and in my opinion, eligible to  
have the certification  Lloyd's M.C. 1-83 recorded in the Society's  
Register Book.*

*It is submitted that this  
vessel is eligible to have  
the certification & should  
be recorded M.C. 1-83*

The amount of Entry Fee .. £ 1 : 0 : 0 received by me,  
Special .. £ 9 : 0 : 0  
Donkey Boiler Fee .. £ - : - : -  
Certificate (if required) .. £ gratis : *13-1-1895*  
To be sent as per margin.  
(Travelling Expenses, if any, £ 8-10-0)

Committee's Minute

FRIDAY 16 JAN 1895

+ *MacIlwaine*

*Duncan Ritchie*  
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.