

REPORT ON MACHINERY.

3499

No. 3499

Port of Belfast

17 NOV 88

Received at London Office

No. in Survey held at

Belfast

Date, first Survey 21st July

Last Survey 14th Nov. 1888

Reg. Book.

305 on the Iron Screw Steamer "William Finde"

Number of Visits 20

Gt. 115.18
Tons 6.340.39
Wt. 277

Master S. Higgins Built at Belfast

By whom built Worsman, Clark & Co. When built 1880

Engines made at Belfast

By whom made J. Rowan & Son, Ltd. when made 1880

Boilers made at Belfast

By whom made MacLuraine, Lewis, Ltd. when made 1888

Registered Horse Power 60

Owners William Finde

Port belonging to Belfast

ENGINES, &c.—

Description of Engines

Compound Surface Condensing

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

one new

Size of Pumps

6" x 6" cyl. 3" pump

Where do they pump from

all bilges, Sea, hotwell

and boiler and ballast tanks

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.—

Number of Boilers

One

Description

Cir. Multi-² S. Ended

Whether Steel or Iron

Steel

Working Pressure

100 lbs.

Tested by hydraulic pressure to

200 lbs.

Date of test

12th October 1888.

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

Area of square feet of fire grate surface in each boiler

492

Description of safety valves

D. Cockburn's

No. to each boiler 2

Area of each valve

9.625 sq. in.

Are they fitted with easing gear

Yes

No. of safety valves to superheater

area of each valve ✓

Are they fitted with easing gear

Smallest distance between boilers and bunkers or woodwork

12 inches

Diameter of boiler 13'-0"

Length of boiler

9-6

Description of riveting of shell long. seams

13. st. 3.66

circum. seams

Lap. 4. 3.66

Thickness of shell plates

3/4"

Diameter of rivet holes

7/8"

whether punched or drilled

drilled

pitch of rivets

5 1/2"

Lap of plating

15 1/4" x 5/8" B.S.

Percentage of strength of longitudinal joint

84 1/2%

working pressure of shell by rules

101 lbs.

size of manholes in shell

16" x 12"

in end plate transverse

3

No. of compensating rings

27" x 27" x 9/16"

Steel plate

No. of Furnaces in each boiler

3

Inside diameter

37"

length, top

6-6"

bottom

8-1"

thickness of plates

17/32"

description of joint

Welded

if rings are fitted

no

Least length between rings

✓

working pressure of furnace by the rules

113 lbs.

combustion chamber plating, thickness, sides

5"

back

5"

top

5"

Thickness of stays to ditto, sides

8 1/4"

back

8 1/4"

top

8 1/4" x 8"

If stays are fitted with nuts or riveted heads

nuts in boxes

working pressure of plating by

rules

101 lbs.

Diameter of stays at smallest part

1 1/8"

Thickness of stays to ditto

15" x 15 1/4"

how stays are secured

2 nuts + 10" x 9/16"

working pressure by rules

99.5 lbs.

diameter of stays at

smallest part

1.93" steel

working pressure by rules

123 lbs.

Front plates at bottom, thickness

5/8"

Least pitch of stays

12 1/2"

working pressure by rules

100 lbs.

Diameter of tubes

3 1/4"

pitch of tubes

4 1/2" x 4 1/4"

thickness of tube

1/16"

Thickness of plates, front

1/16"

back

1/16"

how stayed

stay tubes

pitch of stays

13 1/4" x 9"

width of water spaces

5"

diam. of rivet holes

5/16"

Diameter of Superheater or Steam chest

✓

length

✓

thickness of plates

description of longitudinal joint

✓

If stiffened with rings

✓

how stayed

✓

No. of rivets

✓

working pressure of shell by rules

✓

diameter of flue

thickness of plates

end plates of superheater, or steam chest; thickness

✓

Superheater or steam chest; how connected to boiler

✓

✓

Distance between rings

✓

working pressure by rules

✓

end plates of superheater, or steam chest; thickness

Superheater or steam chest; how connected to boiler

✓

✓

✓

✓

✓

Lloyd's Register Foundation

BEL-55-0102

DONKEY BOILER— Description *Old vertical boiler still in use*
 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,

Mac. Gorman & Co. Manufacturer. of New Main boiler.

General Remarks (State quality of workmanship, opinions as to class, &c. *A new main boiler has been constructed for and fitted on board this steamer, to the foregoing scantings; in accordance with the tracing accompanying this report, the Secretary's dated 9th May 88, the Rules of the Society and to the satisfaction of the undersigned.*

The material & workmanship in the above boiler were good and satisfactory the steel was tested as required & the boiler tested under hydraulic pressure.

In addition to the above when the vessel was placed in graving dock the propeller was taken off; the shaft drawn taken to shop and tried up in lathe and a new propeller (mixture of steel & cast iron) fitted; all the sea cocks and valves were opened out & reground where necessary; the bilges were thoroughly cleaned out bilge boxes and pipes examined; the cylinders, slide valve casings, condenser, main & donkey pumps were opened out; the cylinders pistons and slide valves were taken to shop and carefully overhauled pistons, valve faces & slide valves machined; new bilge pump chest and valves fitted; half (lower) condenser tubes drawn, cleaned and repacked; the crank & tunnel shafts stripped and examined; the donkey boiler opened out & examined internally & externally.

When all the repairs had been satisfactorily accomplished, the machy was tried under steam giving entire satisfaction, the safety valves were adjusted to 100 lbs. on main and 40 lbs on donkey boiler.

The machinery having been put in a good efficient & safe working condition; I would therefore respectfully ^{recommend} that the present notification be retained viz. **+ L.M.C (11.88)** and in addition that the new boiler be noted thus **+ N.B. 88** in the Register Book.

It is submitted that this vessel is eligible to have + L.M.C 11.88 + N.B. 88 recorded

The amount of Entry Fee .. £ : : received by me,
 Special .. £ 3 : 3 : 0 14th Nov } Jm.
 Main Donkey Boiler Fee .. £ 4 : 4 : 0 13th Nov }
 Certificate (if required) .. £ : 2/6 : 13th 14th Nov 1888
 To be sent as per margin.
 (Travelling Expenses, if any, £)

James Claxton M.D.
 Engineer-Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute

20 NOV 1888

+ L.M.C 11/88 + N.B. 88

