

# REPORT ON MACHINERY.

No. 6639

Received at London Office THURSDAY 11 SEPT 1884

No. in Survey held at Glasgow

Date, first Survey 24<sup>th</sup> May

Last Survey 4<sup>th</sup> Sept. 1884

Reg. Book.

(Number of Visits 21)

Tons 281 1/8

on the

Screw Steamer "Queen"

Master J. Logan

Built at Glasgow

By whom built

R. Napier & Sons

When built 1854.

Engines made at

Dundee

By whom made

H. B. Thompson

when made

Boilers made at

Glasgow

By whom made

Lees, Anderson & Co

when made

1884.

Registered Horse Power

58.

Owners

H. McIlwraith

Port belonging to

Dundee.

## ENGINES, &c.—

Description of Engines

Compound Inverted Direct Acting.

Diameter of Cylinders

20"x136"

Length of Stroke

22 1/2"

No. of Rev. per minute

30

Point of Cut off, High Pressure

Var Low Pressure

Diameter of Screw shaft

6 1/2"

Diam. of Tunnel shaft

6"

Diam. of Crank shaft journals

6 1/2"

Diam. of Crank pin

6"

size of Crank webs

5"x7 3/4"

Diameter of screw

8 ft.

Pitch of screw

11'-9"

No. of blades

4

state whether moveable

Yes

total surface

25 ft.

No. of Feed pumps

One

diameter of ditto

2 1/2"

Stroke

22 1/2"

Can one be overhauled while the other is at work

Yes

No. of Bilge pumps

One

diameter of ditto

2 1/2"

Stroke

22 1/2"

Can one be overhauled while the other is at work

Yes

Where do they pump from

All Compartments.

No. of Donkey Engines

One

Size of Pumps

3" dia 6" stroke

Where do they pump from

all Compartments

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

2 1/2"

Are they connected to condenser, or to circulating pump

Cir pump.

How are the pumps worked

Direct from crossheads.

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

Yes

Are they Valves or Cocks

both.

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

about

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

What pipes are carried through the bunkers

None

How are they protected

Yes

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

30<sup>th</sup> June 1884 & subsequently.

Is the screw shaft tunnel watertight

Not tunnel

fitted with a sluice door

Yes

worked from

Yes

## BOILERS, &c.—

Number of Boilers

One

Description

Round Horizontal

Whether Steel or Iron

steel (part)

Working Pressure

70 lbs.

Tested by hydraulic pressure to

140 lbs.

Date of test

9<sup>th</sup> June 1884.

Description of superheating apparatus or steam chest

None

Can each boiler be worked separately

Yes

Can the superheater be shut off and the boiler worked separately

Yes

No. of square feet of fire grate surface in each boiler

34 ft.

Description of safety valves

d. spring

No. to each boiler

Two

Area of each valve

8.3"

Are they fitted with easing gear

Yes

No. of safety valves to superheater

Yes

area of each valve

Yes

Are they fitted with easing gear

Yes

Smallest distance between boilers and bunkers or woodwork

9"

Diameter of boilers

11'-0"

Length of boilers

9'-6"

description of riveting of shell long. seams

double butt and weld.

circum. seams

double lap.

Thickness of shell plates

1/8" iron

Diameter of rivet holes

7/8"

whether punched or drilled

rim.

pitch of rivets

4"

Lap of plating

Bates 11"

Per centage of strength of longitudinal joint

70 for weld

working pressure of shell by rules

70 lbs.

size of manholes in shell

18"x13"

Size of compensating rings

3/4" ring 6" broad

No. of Furnaces in each boiler

Two.

Outside diameter

36 7/8"

length, top

6'-0"

bottom

9'-0"

thickness of plates

7/16"

Description of joint

welded

if rings are fitted

L. drive

Greatest length between rings

6'-0"

working pressure of furnace by the rules

77 lbs.

combustion chamber plating, thickness, sides

7/16"

back

7/16"

top

Pitch of stays to ditto, sides

8 1/2"x8 1/2"

back

8 1/2"x8 1/2"

top

8 1/2"x8 1/2"

If stays are fitted with nuts or riveted heads

Nuts.

working pressure of plating by

rules

75 lbs.

Diameter of stays at smallest part

1.14"

working pressure of ditto by rules

83 lbs.

end plates in steam space, thickness

3/4"

steel

pitch of stays

9"x13 1/2"

Pitch of stays to ditto

14"x14"

how stays are secured

d. nuts

working pressure by rules

70 lbs.

diameter of stays at

smallest part

2 1/4"

working pressure by rules

86 lbs.

Greatest pitch of stays

3/4"

working pressure by rules

Yes

Diameter of tubes

3 1/4"

pitch of tubes

4 1/2"

thickness of tube

plates, front

3/4"

plates, front

3/4"

back

5/8"

how stayed

S. tubes

pitch of stays

9"x13 1/2"

width of water spaces

6"

diam. of rivet holes

Diameter of Superheater or Steam chest

Yes

length

thickness of plates

Yes

description of longitudinal joint

Yes

diam. of rivet holes

Yes

If stiffened with rings

Yes

Distance between rings

Pitch of rivets

Yes

working pressure of shell by rules

Yes

diameter of flue

Yes

thickness of plates

Yes

Yes

Yes

Yes

Distance between rings

Distance between rings

Yes

working pressure by rules

Yes

end plates of superheater, or steam chest; thickness

Yes

Yes



**DONKEY BOILER**— Description

6639-96  
 Made at *Gateshead* by whom made *Clarke, Chapman & Co* when made *1884* where fixed *Stoke hold*.  
 Working pressure *50 lbs* tested by hydraulic pressure to *100 lbs* No. of Certificate *1402* fire grate area *10 ft.* description of safety valves *air spring* No. of safety valves *one* area of each *7* if fitted with easing gear *yes* if steam from main boilers can enter the donkey boiler *no* diameter of donkey boiler *4'-6"* length *9'-0"* description of riveting *lap double*  
 Thickness of shell plates *3/8"* diameter of rivet holes *3/4"* whether punched or drilled *no* pitch of rivets *3"* lap of plating *3 7/8"*  
 per centage of strength of joint *72* thickness of crown plates *3/8"* stayed by *4 stays 1 1/8" diameter*  
 Diameter of furnace, top *3'-2"* bottom *3'-10"* length of furnace *6'-0"* thickness of plates *3/8"* description of joint *single lap*.  
 Thickness of furnace crown plates *3/8"* stayed by *as above* working pressure of shell by rules *100 lbs*.  
 Working pressure of furnace by rules *65 lbs*. diameter of uptake *12"* thickness of plates *7/16"* thickness of water tubes *3/8"*

**SPARE GEAR.** State the articles supplied:—

*No new spare gear has been fitted as the usual amount of spare bolts, nuts and valves are on board*

The foregoing is a correct description,  
*Lies, Anderson & Co* Manufacturers.

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

*This vessel has been fitted with new main and donkey boilers of the above dimensions made under special survey. The sea cocks have been shifted from bottom to upper turn of bilge. The propeller shaft drawn and fitted with a new propeller. The whole of the machinery has been overhauled and examined. In my opinion the machinery is now in a good and efficient working condition and eligible to be noted in the Register Book.*

*\* N.B. 84. L.M.C.B. 84.*

*It is submitted that this vessel is eligible to have the classification in B 4, 8 4 + N.B. 84 recorded*

*11/9/84*

The amount of Entry Fee .. £ .. : received by me,  
 Special *Damage* £ *4 4 0* 9/9/84  
 Donkey Boiler Fee .. £ *4 4 0* 5/9/84  
 Certificate (if required) .. £ .. : *2 6* 18  
 To be sent as per margin.  
 (Travelling Expenses, if any, £ .. : .. :)

**Committee's Minute**

*12th Sept 1884*

*Lies, Anderson & Co*  
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

*Glasgow*  
 Lloyd's Register Foundation