

## REPORT ON MACHINERY.

Port of Greenock

SAT. 2 APR 1898

Received at London Office

18

main book.

ness

of rivets

to do.

Descr

rules

Craw

ch

pin

eter of Tunnel shaft

eter of screw

f Feed pumps

f Bilge pumps

f Donkey Engines

Engine Room

f bilge injections

all the bilge suction pipes fitted with roses

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

they fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates

they each fitted with a discharge valve always accessible on the plating of the vessel

t pipes are carried through the bunkers

all pipes, cocks, valves, and pumps in connection with the machinery and all boiler mountings accessible at all times

the bilge suction pipes, cocks, and valves arranged so as to prevent any communication between the sea and the bilges

n were stern tube, propeller, screw shaft, and all connections examined in dry dock

fitted with a watertight door

in

and Description of Boilers

of test 1.10.97

boiler

easing gear

gth 10' 6"

meter of rivet holes in long. seams

centages of strength of longitudinal joint

of compensating ring

length of plain part

orking pressure of furnace by the rules

ch of stays to ditto

aterial of stays

aterial

iameter at smallest part

ickness

iameter of tubes

itch across wide water spaces

ickness of girder at centre

orking pressure by rules

eparately

les

stiffened with rings

orking pressure of end plates

Port of GreenockDate, first Survey 23<sup>rd</sup> May 1896 Last Survey 30<sup>th</sup> March 1898(Number of Visits 196)Gross 7902.80Net 4167.30When built 1897.8when made 1897.8when made 1897.Survey held at Greenockon the Screw Steamer "Arabia"Built at GreenockBy whom built Baird & Co. (Lim<sup>d</sup>)s made at GreenockBy whom made Baird & Co. (Lim<sup>d</sup>)s made at doBy whom made do doered Horse Power 2500Owners Peninsular & Oriental S.S. Co.Port belonging to GreenockHorse Power as per Section 28 1355Is Electric Light fitted yes

NES, &amp;c.—Description of Engines

No. of Cylinders

No. of Cranks

eter of Cylinders

Length of Stroke

Revolutions per minute

Diameter of Screw shaft

eter of Tunnel shaft

Diameter of Crank shaft journals

Diameter of Crank pin

Size of Crank webs

eter of screw

Pitch of screw

No. of blades

State whether moveable

Total surface

f Feed pumps

Diameter of ditto

Stroke

Can one be overhauled while the other is at work

f Bilge pumps

Diameter of ditto

Stroke

Can one be overhauled while the other is at work

f Donkey Engines

Sizes of Pumps

No. and size of Suctions connected to both Bilge and Donkey pumps

Engine Room

In Holds, &amp;c.

f bilge injections

sizes

Connected to condenser, or to circulating pump

Is a separate donkey suction fitted in Engine room &amp; size

all the bilge suction pipes fitted with roses

Are the roses in Engine room always accessible

Are the sluices on Engine room bulkheads always accessible

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

Are they Valves or Cocks

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

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

t pipes are carried through the bunkers

How are they protected

all pipes, cocks, valves, and pumps in connection with the machinery and all boiler mountings accessible at all times

the bilge suction pipes, cocks, and valves arranged so as to prevent any communication between the sea and the bilges

n were stern tube, propeller, screw shaft, and all connections examined in dry dock

Is the screw shaft tunnel watertight

fitted with a watertight door

worked from

Donkey Boiler

in

(Letter for record

Total Heating Surface of Boilers 1668Is forced draft fitted noand Description of Boilers One Cylindrical MultitubularWorking Pressure 170 lbTested by hydraulic pressure to 340 lb

of test 1.10.97 Can each boiler be worked separately

Area of fire grate in each boiler 53

No. and Description of safety valves to

boiler Two direct springArea of each valve 5.94Pressure to which they are adjusted 170 lb

Are they fitted

easing gear yesSmallest distance between boilers or uptakes and bunkers or woodwork 26Mean diameter of boilers 14' 3"

gth 10' 6"

Material of shell plates SteelThickness 1 3/8"Description of riveting: circum. seams Lap double buttlong. seams 20 straps, doublemeter of rivet holes in long. seams 1 5/16"Pitch of rivets 8 1/2" x 4 1/4"Lap of plates or width of butt straps 19" straps

centages of strength of longitudinal joint

rivets 92Working pressure of shell by rules 182 lbSize of manhole in shell 16" x 12"of compensating ring 28 x 1 3/8"No. and Description of Furnaces in each boiler Three SuspensionMaterial SteelOutside diameter 43"

length of plain part

top

bottom

Thickness of plates

crown

bottom

Description of longitudinal joint weldedNo. of strengthening rings Two bottomorking pressure of furnace by the rules 190 lbCombustion chamber plates: Material SteelThickness: Sides 9/16"Back 9/16"Top 2 1/8"Bottom 1 1/8"ch of stays to ditto: Sides 8 x 7 1/8"Back 8 x 8"Top 8 1/2 x 9"If stays are fitted with nuts or riveted heads nutsWorking pressure by rules 170 to 183aterial of stays SteelDiameter at smallest part 1 1/8"Area supported by each stay 52 lb 5 1/2"Working pressure by rules 170 to 230

End plates in steam space:

aterial SteelThickness 1 1/8"Pitch of stays 16 x 17 x 16 1/2"How are stays secured double nutsWorking pressure by rules 170 lbMaterial of stays Steel wireiameter at smallest part 1 1/8"Area supported by each stay 280 lbWorking pressure by rules 170 lbMaterial of Front plates at bottom Steelickness 1 3/8"Material of Lower back plate SteelThickness 1 3/8"Greatest pitch of stays 11"Working pressure of plate by rules 188 lbMean pitch of stays 11 x 12 1/2"iameter of tubes 3 1/2"Pitch of tubes 4 3/4 x 4 3/4"Material of tube plates SteelThickness: Front 3/4"Back 3/4"Mean pitch of stays 11 x 12 1/2"itch across wide water spaces 15"Working pressures by rules 201 lbGirders to Chamber tops: Material Steel

Depth and

ickness of girder at centre 8 1/2" x 3 1/4"Length as per rule 31"Distance apart 8 1/2"Number and pitch of Stays in each Two 9"orking pressure by rules 174 1/2 lb

Superheater or Steam chest; how connected to boiler

Can the superheater be shut off and the boiler worked

eparately

Diameter

Length

Thickness of shell plates

Material

Description of longitudinal joint

Diam. of rivet

les

Pitch of rivets

Working pressure of shell by rules

Diameter of flue

Material of flue plates

Thickness

How stayed

stiffened with rings

Distance between rings

Working pressure by rules

End plates: Thickness

How stayed

orking pressure of end plates

Area of safety valves to superheater

Are they fitted with easing gear

Working pressure of end plates

Area of safety valves to superheater

Are they fitted with easing gear

Working pressure of end plates

Area of safety valves to superheater

Are they fitted with easing gear

Working pressure of end plates

Area of safety valves to superheater

Are they fitted with easing gear

Working pressure of end plates

Area of safety valves to superheater

Are they fitted with easing gear

Lloyd's Register  
Foundation

GRK 340-0162



**DONKEY BOILER—** Description

Made at \_\_\_\_\_ By whom made \_\_\_\_\_

Working pressure \_\_\_\_\_ tested by hydraulic pressure to \_\_\_\_\_ No. of Certificate \_\_\_\_\_ When made \_\_\_\_\_ Where fixed \_\_\_\_\_

No. of safety valves \_\_\_\_\_ Area of each \_\_\_\_\_ Pressure to which they are adjusted \_\_\_\_\_ Fire grate area \_\_\_\_\_ Description of safety valves \_\_\_\_\_

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 \_\_\_\_\_

Lap of plating \_\_\_\_\_ Per centage of strength of joint \_\_\_\_\_ Rivets \_\_\_\_\_ Thickness of shell crown plates \_\_\_\_\_ Radius of do. \_\_\_\_\_ No. of Stays to \_\_\_\_\_

Dia. of stays \_\_\_\_\_ Diameter of furnace Top \_\_\_\_\_ Bottom \_\_\_\_\_ Length of furnace \_\_\_\_\_ Thickness of furnace plates \_\_\_\_\_

joint \_\_\_\_\_ Thickness of furnace crown plates \_\_\_\_\_ Stayed by \_\_\_\_\_

Working pressure of furnace by rules \_\_\_\_\_ Diameter of uptake \_\_\_\_\_ Thickness of uptake plates \_\_\_\_\_ Working pressure of shell by rules \_\_\_\_\_

Thickness of water tubes \_\_\_\_\_

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

The foregoing is a correct description,  
 \_\_\_\_\_  
 Manufacturer.

FOR CAIRD AND COMPANY, LIMITED.  
*William McIntosh*  
 SECRETARY

Dates { During progress of  
 of Survey { work in shops - -  
 while { During erection on  
 building { board vessel - -  
 Total No. of visits

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

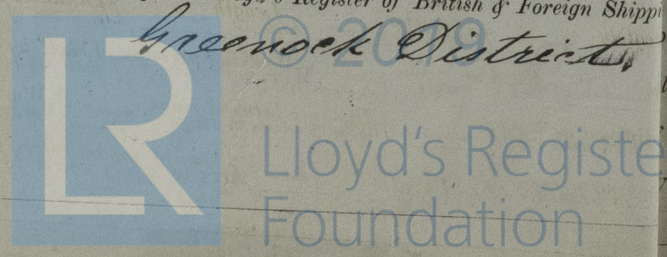
The amount of Entry Fee.. £ : :  
 Special .. .. £ : :  
 Donkey Boiler Fee .. .. £ : :  
 Travelling Expenses (if any) £ : :  
 When applied for, ..18.....  
 When received, ..18.....

Committee's Minute

TUES. 5 APR 1893

Assigned

*A. B. Heron*  
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping  
 Greenock District



Certificate (if required) to be sent to  
 (The Surveyors are requested not to write on or below the space for Committee's Minute.)