

# REPORT ON MACHINERY.

Port of *London*

MON. JAN. 27 1902

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

Date, first Survey *23<sup>rd</sup> Jan 1902*

Received at London Office

Last Survey *23<sup>rd</sup> Jan 1902*

(Number of Visits *12*)

Tons { Gross *1219*  
Net *656*

When built *1885-1*

*239* on the *New Donkey Boiler for S.S. Electric*

Master *A. Grey*

Built at *Glasgow*

By whom built *A. Napier & Sons*

Engines made at *Glasgow*

By whom made *A. Napier & Sons*

when made *1885-1*

Boilers made at *do*

By whom made *do*

when made *1885-1*

Registered Horse Power *220*

Owners *Eastern Telegraph Co. Ltd*

Port belonging to *London*

om. Horse Power as per Section 28

Is Refrigerating Machinery fitted *No*

Is Electric Light fitted *Yes*

## ENGINES, &c.—Description of Engines

No. of Cylinders			No. of Cranks		
No. of Cylinders	Length of Stroke	Revs. per minute	Dia. of Screw shaft	as per rule	Lgth. of stern bush
Dia. of Tunnel shaft	Dia. of Crank shaft journals	Dia. of Crank pin	Size of Crank webs	Dia. of thrust shaft under	
Blades	Dia. 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		
No. of Donkey Engines	Sizes of Pumps	No. and size of Suctions connected to both Bilge and Donkey pumps			
In Engine Room					
No. of bilge injections	sizes	Connected to condenser, or to circulating pump	Is a separate donkey suction fitted in Engine room & size		
Are 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		
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 and all boiler mountings accessible at all times					
Are the bilge suction pipes, cocks, and valves arranged so as to prevent any communication 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		
Is it fitted with a watertight door			worked from		

## BOILERS, &c.—

(Letter for record

Total Heating Surface of Boilers *296 ft*

Is forced draft fitted *No.*

No. and Description of Boilers	<i>One Tubular Donkey Boiler</i>		Working Pressure	<i>85 lb</i>	Tested by hydraulic pressure to	<i>170 lb</i>
Date of test	<i>24/1/02</i>	Can each boiler be worked separately	Area of fire grate in each boiler		<i>16 ft</i>	No. and Description of safety valves to
No. of boiler	<i>One Spring</i>	Area of each valve	<i>9.62 ft</i>	Pressure to which they are adjusted	<i>85 lb</i>	Are they fitted with easing gear
Smallest distance between boilers or uptakes and bunkers or woodwork		<i>12"</i>	Mean dia. of boilers	<i>8.0</i>	Length	<i>7.5</i>
Thickness	<i>1/2</i>	Range of tensile strength	<i>29.32</i>	Are they welded or flanged	<i>No</i>	Material of shell plates
Diameter of rivet holes in long. seams	<i>7/8</i>	Pitch of rivets	<i>3 3/8</i>	Descrip. of riveting: cir. seams	<i>2 1/2</i>	long. seams
Per centages of strength of longitudinal joint	<i>77 1/2</i>	Working pressure of shell by rules	<i>85 lb</i>	Size of manhole in shell	<i>16 x 12</i>	
Size of compensating ring	<i>26 x 24 x 1/4</i>	No. and Description of Furnaces in each boiler	<i>One Plain</i>		Material	<i>S</i>
Length of plain part	<i>4.0</i>	Thickness of plates	<i>3/4</i>	Description of longitudinal joint	<i>D.B. Str. S Rivd</i>	No. of strengthening rings
Working pressure of furnace by the rules	<i>106 lb</i>	Combustion chamber plates: Material	<i>S</i>	Thickness: Sides	<i>1/2</i>	Back
Pitch of stays to ditto: Sides	<i>9 x 9</i>	Back	<i>10 3/8 x 10 3/8</i>	Top	<i>10 x 7</i>	If stays are fitted with nuts or riveted heads
Material of stays	<i>Steel</i>	Diameter at smallest part	<i>1 1/16</i>	Area supported by each stay	<i>100 ft</i>	Working pressure by rules
Material	<i>S</i>	Thickness	<i>3/4</i>	Pitch of stays	<i>17 1/2</i>	How are stays secured
Diameter at smallest part	<i>2</i>	Area supported by each stay	<i>167 ft</i>	Working pressure by rules	<i>90 lb</i>	Material of stays
Thickness	<i>3/4</i>	Material of Lower back plate	<i>S</i>	Thickness	<i>3/4</i>	Greatest pitch of stays
Diameter of tubes	<i>3</i>	Pitch of tubes	<i>5 5/8</i>	Material of tube plates	<i>S</i>	Thickness: Front
Pitch across wide water spaces	<i>11 1/4</i>	Working pressures by rules	<i>110 lb</i>	Girders to Chamber tops: Material	<i>S</i>	Depth and
Thickness of girder at centre	<i>4 1/2 x 1 3/4</i>	Length as per rule	<i>1.9</i>	Distance apart	<i>10</i>	Number and pitch of Stays in each
Working pressure by rules	<i>92 lb</i>	Superheater or Steam chest; how connected to boiler	<i>None</i>	Can the superheater be shut off and the boiler worked		
Material	<i>S</i>	Length	<i>10</i>	Thickness of shell plates	<i>3/4</i>	Description of longitudinal joint
Pitch of rivets	<i>1 1/2</i>	Working pressure of shell by rules	<i>110 lb</i>	Diameter of flue	<i>11 1/2</i>	Material of flue plates
Stiffened with rings	<i>No</i>	Distance between rings	<i>10</i>	Working pressure by rules	<i>110 lb</i>	End plates: Thickness
Working pressure of end plates	<i>92 lb</i>	Area of safety valves to superheater	<i>10</i>	Are they fitted with easing gear		



## DONKEY BOILER—

No.

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

Pressure to which they are adjusted

If fitted with easing gear

If steam from main boilers can

enter the donkey boiler

Dia. of donkey boiler

Length

Material of shell plates

Thickness

Range of tensile

strength

Descrip. of riveting long. seams

Dia. of rivet holes

Whether punched or drilled

Pitch of rivets

Lap of plating

Per centage of strength of joint

Rivets

Thickness of shell crown plates

Radius of do.

No. of Stays to do.

Dia. of stays.

Diameter of furnace Top

Bottom

Length of furnace

Thickness of furnace 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 uptake plates

Thickness of water tubes

SPARE GEAR. State the articles supplied:—

The foregoing is a correct description,

Manufacturer.

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

From 31<sup>st</sup> October 1901 until 24<sup>th</sup> December 1901.  
 From 1<sup>st</sup> to 22<sup>nd</sup> January 1902.

Is the approved plan of main boiler forwarded herewith

## General Remarks

(State quality of workmanship, opinions as to class, &amp;c.)

" " " donkey " " " yes.  
 This Boiler has been built under  
 Special Survey. The material and workmanship are good and  
 Satisfactory.

Material of screw shaft

Is the screw shaft fitted with a continuous liner the whole length of the stern tube

Is the after end of the liner made water tight in the propeller boss

If the liner is in more than one length are the joints burned

If the liner does not fit tightly at the part between the bearings in the stern tube, is the space charged with a plastic material insoluble in water and non-corrosive

If two liners are fitted, is the shaft lapped or protected between the liners

This Boiler has been tested by Water Pressure to 170 lb per sq. in. and found good. The following mark was stamped on Boiler:—  
 No 475. Lloyd's Test 170 lb. D.R. 24-12-01.  
 A further Report will be sent in this case when the Special Survey on Machinery is completed.

S.S. No 1 due 12.00  
 RS due 1.01

Submitted action in this case be deferred awaiting the report on the completion of the test.

C.M.  
 28.1.02

J.S.  
 29.1.02

The amount of Entry Fee. . . £ : : When applied for.  
 Special . . . . . £ : : 27/1 1902  
 Donkey Boiler Fee . . . £ 2 : 2 : When received.  
 Travelling Expenses (if any) £ : : 25/1 1902

D. Ritchie

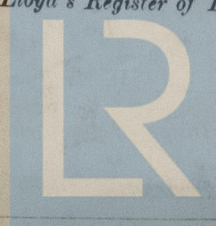
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute

FRI. FEB 7 1902

Assigned

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



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