

# REPORT ON MACHINERY.

No. 12445

Port of Glasgow

Received at London Office 13 MAR 1894

No. in Survey held at  
Reg. Book.

Date, first Survey 8<sup>th</sup> July 1893 Last Survey 8<sup>th</sup> March 1894

(Number of Visits 41)

on the S. S. John Williams

Tons { Gross 663  
Net 340

Master Turpie Built at Govan By whom built R. Napier & Sons When built 1894

Engines made at Glasgow By whom made R. Napier & Sons when made 1894

Boilers made at Glasgow By whom made R. Napier & Sons when made 1894

Registered Horse Power 80 Owners London Missionary Society Port belonging to London

Nom. Horse Power as per Section 28 95

ENGINES, &c.— Description of Engines Triple Expansion Inverted direct acting No. of Cylinders three  
Diameter of Cylinders 15, 24, 39 Length of Stroke 27 Revolutions per minute 114 Diameter of Screw shaft as per rule 7.3  
Diameter of Tunnel shaft as per rule 6.9 Diameter of Crank shaft journals 8" Diameter of Crank pin 8" Size of Crank webs 6" x 15"  
Diameter of screw 9' 6" Pitch of screw 12' 0" No. of blades 2 State whether moveable Yes Total surface 16.9  
No. of Feed pumps one Diameter of ditto 2 1/2 Stroke 15 Can one be overhauled while the other is at work Yes  
No. of Bilge pumps one Diameter of ditto 3 1/2 Stroke 15 Can one be overhauled while the other is at work Yes  
No. of Donkey Engines three Sizes of Pumps 5/4 x 5 1/2 x 12 Weir duplex 5 1/4 x 5 x 5 duplex 5 x 3 x 4 1/2 automatic feed  
In Engine Room three 2 1/2" In Holds, &c. 2 1/2"

No. of bilge injections one sizes 4" Connected to condenser, or to circulating pump Yes Is a separate donkey suction fitted in Engine room & size yes 3"  
Are all the bilge suction pipes fitted with roses yes Are the roses in Engine room always accessible yes Are the stances on Engine room bulkheads always accessible yes  
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 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  
What pipes are carried through the bunkers Steam to Winches, and Bilge Pumps How are they protected Iron Coverings  
Are all pipes, cocks, valves, and pumps in connection with the machinery and all boiler mountings accessible at all times yes  
Are the bilge suction pipes, cocks, and valves arranged so as to prevent any communication between the sea and the bilges yes  
When were stern tube, propeller, screw shaft, and all connections examined in dry dock before launching Is the screw shaft tunnel watertight apparently  
Is it fitted with a watertight door yes worked from Main Deck

BOILERS, &c.— (Letter for record S.) Total Heating Surface of Boilers 1689  
No. and Description of Boilers One Multitubular Apin drier Working Pressure 175 Tested by hydraulic pressure to 350  
Date of test Can each boiler be worked separately Yes Area of fire grate in each boiler 63 No. and Description of safety valves to each boiler two spring loaded Area of each valve 15.9 Pressure to which they are adjusted 175 lb Are they fitted with easing gear yes Smallest distance between boilers or uptakes and bunkers or woodwork clear Mean diameter of boilers 171"  
Length 10' 3" Material of shell plates Steel Thickness 1 1/8 Description of riveting: circum. seams Lap 2 knots long. seams Double butt 5 R.  
Diameter of rivet holes in long. seams 1 7/16 Pitch of rivets 8 3/4 Lap of plates or width of butt straps 19 1/4  
Per centages of strength of longitudinal joint rivets 88 Working pressure of shell by rules 189 Size of manhole in shell 11 x 18  
Size of compensating ring 1 1/4 No. and Description of Furnaces in each boiler Three Arranged Material Steel Outside diameter 46"  
Length of plain part 36.9" Thickness of plates 3 9/16 Description of longitudinal joint welded No. of strengthening rings Arranged  
Working pressure of furnace by the rules 196 Combustion chamber plates: Material Steel Thickness: Sides 7/32 Back 19/32 Top 7/8 Bottom 7/8  
Pitch of stays to ditto: Sides 8 x 7 1/2 Back 8 x 7 1/4 Top 7 1/2 x 7 1/8 If stays are fitted with nuts or riveted heads Nuts Working pressure by rules 190  
Material of stays Steel area at smallest part 1.99 Area supported by each stay 62 Working pressure by rules 288 End plates in steam space: Material Steel Thickness 9/16 Pitch of stays 15 x 16 1/4 How are stays secured D. Nuts Working pressure by rules 280 Material of stays Steel  
area at smallest part 3 3/8 Area supported by each stay 214 Working pressure by rules 270 Material of Front plates at bottom Steel  
Thickness 7/8 Material of Lower back plate Steel Thickness 7/8 9 1/8 double Greatest pitch of stays 13 1/4 Working pressure of plate by rules 268  
Diameter of tubes 3 1/2 Pitch of tubes 4 7/8 4 3/4 Material of tube plates Steel Thickness: Front 7/8 5/8 double Back 3/4 Mean pitch of stays 10.7  
Pitch across wide water spaces 14 1/2 Working pressures by rules 176 257 Girders to Chamber, tops: Material Steel Depth and thickness of girder at centre 7 1/8 x 2 x 3/4 Length as per rule 30 Distance apart 7 1/4 Number and pitch of Stays in each 3 x 7 1/2  
Working pressure by rules 175 Superheater or Steam chest; how connected to boiler None Can the superheater be shut off and the boiler worked separately  
Diameter Length Thickness of shell plates Material Description of longitudinal joint Diam. of rivet holes Pitch of rivets Working pressure of shell by rules Diameter of flue Material of flue plates Thickness  
If stiffened with rings Distance between rings Working pressure by rules End plates: Thickness How stayed  
Working pressure of end plates Area of safety valves to superheater Are they fitted with easing gear

GLS169-0212



12775 g/s

## DONKEY BOILER—

Description

Blacker Patent. Cylindrical vertical

Made at Manchester

By whom made

James Blacker Engineer

When made

1893 Where fixed in

Shutehold

Working pressure

80

tested by hydraulic pressure to

160

No. of Certificate

1196

Fire grate area

Description of safety valves

Spring

No. of safety valves

400

Area of each

3'98

Pressure to which they are adjusted

80

If fitted with easing gear

yes

If steam from main boilers can

enter the donkey boiler

no

Diameter of donkey boiler

52"

Length

9' 3"

Material of shell plates

Steel

Thickness

3/8"

Description of riveting long. seams

Double rivet

Diameter of rivet holes

13/16"

Whether punched or drilled

Drilled

Pitch of rivets

2 3/4" x 2"

Lap of plating

4"

Per centage of strength of joint

Rivets

450%

Thickness of shell crown plates

3/16"

Radius of do.

—

No. of Stays to do.

2 Gunst

Dia. of stays

—

Diameter of furnace Top

1' 9"

Bottom

2' 11"

Length of furnace

1' 6"

Thickness of furnace plates

9/16"

Description of

joint

Lap

Thickness of furnace crown plates

—

Stayed by

—

Working pressure of shell by rules

82 lbs

Working pressure of furnace by rules

85 lbs

Diameter of uptake

3"

Thickness of uptake plates

7/8"

Thickness of water tubes

—

SPARE GEAR. State the articles supplied:—

As required by the rules, also a Spare propeller

Piston Packing rings, Crank pin brasses, one eccentric shaft strap &amp; spindle and various other items.

The foregoing is a correct description,

Manufacturer.

T. R. Napier & Son  
& W. M. Mearns

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

The Engines &amp; Boiler of this

vessel were built under the conditions of Special Survey and have been securely fitted on board &amp; tested under steam and found satisfactory

The material &amp; workmanship are good and in my opinion the vessel is eligible for the record + L. M. C. 3-94.

One large bilge pump instead of two small ones has been fitted at the Owners request.

It is submitted that  
this vessel is eligible for  
THE RECORD + L.M.C. 3-94W. A.  
15-3-94

Certificate (if required) to be sent to

MACHINERY CERTIFICATE  
WRITTEN

The amount of Entry Fee..

£

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When applied for,

Special

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When received,

Donkey Boiler Fee

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When received,

Travelling Expenses (if any)

£

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When received,

Committee's Minute

FRI 16 MAR 1894

Assigned

+ L.M.C. 3, 94

C. G. Schromeyer

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



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Foundation