

## REPORT ON MACHINERY.

No. 24559

Port of Glasgow

Received at London Office

TUES. 30 OCT 1906

No. in Survey held at GlasgowDate, first Survey 26 Oct 05 Last Survey 19 Oct 1906

Reg. Book.

(Number of Visits)

on the

S. S. "Galava"

Tons

Gross

Net

When built

1906

Master

Built at Workington

By whom built

R. Williamson & Son(N<sup>o</sup> 193)

Engines made at

Glasgow

By whom made

Ross & Duncan (N<sup>o</sup> 674)

when made

1906

Boilers made at

Glasgow

By whom made

Ross & Duncan (N<sup>o</sup> 1067)

when made

1906

Registered Horse Power

Owners R. Williamson & Son

Port belonging to

Workington

Nom. Horse Power as per Section 28

81

Is Refrigerating Machinery fitted for cargo purposes

No

Is Electric Light fitted

No

## ENGINES, &amp;c.—Description of Engines

No. of Cylinders

2

No. of Cranks

2

Dia. of Cylinders

19" - 38"

Length of Stroke

27"

Revs. per minute

120

Dia. of Screw shaft

as per rule 8.134"

Material of

Iron

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

Yes

Is the after end of the liner made water tight

in the propeller boss See 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

Yes

If two

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

Yes

Length of stern bush

2'-9"

Dia. of Tunnel shaft

as per rule 7.42"

Dia. of Crank shaft journals

as per rule 7.866"

Dia. of Crank pin

8 1/8"

Size of Crank webs

5 1/2" x 11 1/2"

Dia. of thrust shaft under

collars

8 1/8"

Dia. of screw

9'-6"

Pitch of Screw

13'-0"

No. of Blades

4

State whether moveable

No

Total surface

38 sq.

No. of Feed pumps

2

Diameter of ditto

3"

Stroke

13 1/2"

Can one be overhauled while the other is at work

Yes

No. of Bilge pumps

2

Diameter of ditto

3 1/4"

Stroke

13 1/2"

Can one be overhauled while the other is at work

Yes

No. of Donkey Engines

1

Sizes of Pumps

5 1/4" x 3 1/2" x 5" duplex

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

In Engine Room one 2 1/4" & one 2"

In Holds, &amp;c.

Three - 2" holds & one 2"

No. of Bilge Injections

1

sizes

3 1/2"

Connected to

condenser, or to circulating pumpYes

Is a separate Donkey Suction fitted in Engine room &amp; size

one 2"

Are all the bilge suction pipes fitted with roses

Yes

Are the roses in Engine room always accessible

Yes

Are the sluices 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

Hold suction, for heat

How are they protected

Wood casing

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

Dates of examination of completion of fitting of Sea Connections

Before launching

Stern Tube

Screw shaft and Propeller

"

Is the Screw Shaft Tunnel watertight

None

Is it fitted with a watertight door

Yes

worked from

YesBOILERS, &c.—(Letter for record S.)

Manufacturers of Steel

Stewart & Lloyds, L<sup>td</sup>

Total Heating Surface of Boilers

1499 sq.

Is Forced Draft fitted

No

No. and Description of Boilers

One single ended.

Working Pressure

125 lbs

Tested by hydraulic pressure to

250 lbs

Date of test

20.4.06

No. of Certificate

7786.

Can each boiler be worked separately

Yes

Area of fire grate in each boiler

47 sq.

No. and Description of Safety Valves to

each boiler

Two Spring loaded

Area of each valve

6.49 sq.

Pressure to which they are adjusted

125 lbs

Are they fitted with easing gear

Yes

Smallest distance between boilers or uptakes and bunkers or woodwork

2'-6"

Mean dia. of boilers

12'-6"

Length

10'-0"

Material of shell plates

Steel

Thickness

1 3/16"

Range of tensile strength

27-32

Are the shell plates welded or flanged

No

Descrip. of riveting: cir. seams

D. R.

long. seams

J. R. D. B. S.

Diameter of rivet holes in long. seams

1 5/16"

Pitch of rivets

6"

Gap of plates or width of butt straps

14 3/4"

Per centages of strength of longitudinal joint

rivets 84.25plate 84.37

Working pressure of shell by rules

129 lbs

Size of manhole in shell

16" x 12"

Size of compensating ring

6 3/4" x 1 3/16"

No. and Description of Furnaces in each boiler

3 plain

Material

Steel

Outside diameter

37"

Length of plain part

top 76"

Thickness of plates

crown 7 1/32"

Description of longitudinal joint

weld

No. of strengthening rings

13 x 3 x 5 1/2"bottom 74"

Working pressure of furnace by the rules

133 lbs

Pitch of stays to ditto: Sides

7 3/4"

Back

7 3/4"

Top

7 3/4"

If stays are fitted with nuts or riveted heads

nuts

Working pressure by rules

128 lbs

Material of stays

Steel

Diameter at smallest part

1.01"

Area supported by each stay

60 sq.

Working pressure by rules

134 lbs

Material

Steel

Thickness

7/8"

Pitch of stays

16 1/2" x 17 1/2"

How are stays secured

D. nuts & washers

Working pressure by rules

125 lbs

Diameter at smallest part

3.77"

Area supported by each stay

289 sq.

Working pressure by rules

130 lbs

Material of Front plates at bottom

Steel

Thickness

1 1/16"

Material of Lower back plate

Steel

Thickness

5/8"

Greatest pitch of stays

13"

Working pressure of plate by rules

229 lbs

Diameter of tubes

3 1/4"

Pitch of tubes

4 1/4"

Material of tube plates

Steel

Thickness: Front

1 1/16"

Back

2 1/32"

Pitch across wide water spaces

13 1/2"

Working pressures by rules

148 lbs

Girders to Chamber tops: Material

Iron

Depth and

thickness of girder at centre

5 3/4" x 1 3/4"

Length as per rule

27"

Distance apart

7 3/4"

Number and pitch of stays in each

2 x 7 3/4"

Working pressure by rules

129 lbs

Superheater or Steam chest; how connected to boiler

Yes

Can the superheater be shut off and the boiler worked

Yes

separately

Diameter

Yes

Length

Yes

Thickness of shell plates

Yes

Material

Yes

Description of longitudinal joint

Yes

Diam. of rivet

Yes

Pitch of rivets

Yes

Working pressure of shell by rules



# VERTICAL DONKEY BOILER

Manufacturers of Steel

No. \_\_\_\_\_ Description \_\_\_\_\_  
 Made at \_\_\_\_\_ By whom made \_\_\_\_\_ When made \_\_\_\_\_ Where fixed \_\_\_\_\_  
 Working pressure \_\_\_\_\_ tested by hydraulic pressure to \_\_\_\_\_ Date of test \_\_\_\_\_ No. of Certificate \_\_\_\_\_ Fire grate area \_\_\_\_\_ Description of Safety \_\_\_\_\_  
 Valves \_\_\_\_\_ No. of Safety Valves \_\_\_\_\_ Area of each \_\_\_\_\_ Pressure to which they are adjusted \_\_\_\_\_ Date of adjustment \_\_\_\_\_  
 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 \_\_\_\_\_ Plates \_\_\_\_\_  
 Working pressure of shell by rules \_\_\_\_\_ 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 \_\_\_\_\_  
 Working pressure of furnace by rules \_\_\_\_\_ Thickness of furnace crown plates \_\_\_\_\_ Stayed by \_\_\_\_\_  
 Diameter of uptake \_\_\_\_\_ Thickness of uptake plates \_\_\_\_\_ Thickness of water tubes \_\_\_\_\_ Dates of survey \_\_\_\_\_

SPARE GEAR. State the articles supplied:— *Two connecting rod top end bolts & nuts, ditto bottom end, two main bearing bolts one set of coupling bolts, one set of feed and bilge pump valves, one set piston springs, a quantity of assorted bolts & nuts, etc.*

The foregoing is a correct description,

*Ross & Duncan* Manufacturer.

Dates of Survey while building { During progress of work in shops - 1905: Oct 26 Nov 8 16 Dec 9 14 28 1906: Jan 9 16 24 31 Feb 5 21 Mar 8 Apr 20  
 { During erection on board vessel - 1906: Oct 1 5 10 15 19  
 Total No. of visits 19.

Is the approved plan of main boiler forwarded herewith *Yes*  
 " " " donkey " " "

Dates of Examination of principal parts—Cylinders 24-1-06 Slides 24-1-06 Covers 24-1-06 Pistons 24-1-06 Rods 24-1-06  
 Connecting rods 5-2-06 Crank shaft 16-1-06 Thrust shaft 21-2-06 Tunnel shafts 5-2-06 Screw shaft 5-2-06 Propeller 31-1-06  
 Stern tube 31-1-06 Steam pipes tested 12-10-06 Engine and boiler seatings ✓ Engines holding down bolts 6-10-06  
 Completion of pumping arrangements 15-10-06 Boilers fixed 5-10-06 Engines tried under steam 19-10-06  
 Main boiler safety valves adjusted 15-10-06 Thickness of adjusting washers *Port 1 1/32 Starb 1 1/32 full*  
 Material of Crank shaft *Iron* Identification Mark on Do. *674* Material of Thrust shaft *Iron* Identification Mark on Do. *674*  
 Material of Tunnel shafts *Iron* Identification Marks on Do. ✓ Material of Screw shafts *Iron* Identification Marks on Do. *674*  
 Material of Steam Pipes *Copper* Test pressure *250 lbs.*

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

*The engines and boiler of this vessel have been built under special survey the materials and workmanship are of good description, they have been securely fitted on board and satisfactorily tried under steam. It is in my opinion eligible for notation L. M. C. 10, 06 in the Register Book.*

It is submitted that this vessel is eligible for THE RECORD L. M. C. 10.06.

*Resd. H.M.S. 31.10.06 31-10-06*

The amount of Entry Fee. £ 1 : : When applied for. 29 OCT 1906  
 Special £ 11 : 4 :  
 Donkey Boiler Fee £ : : When received. 31.10.06  
 Travelling Expenses (if any) £ : : Due Receipt 29 OCT 1906

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

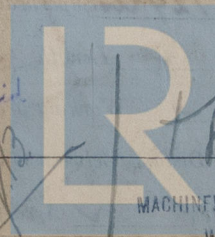
Committee's Minute

FRI. NOV 2 1906

Assigned

*L.M.C. 10.06.*

(Subject to Classification of hull)



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