

# REPORT ON MACHINERY.

NO. 14464

Port of

Glasgow

MON. JUN 8 1896

No. in Survey held at

Glasgow

Date, first Survey 12<sup>th</sup> Dec 1895

Received at London Office

Last Survey 2<sup>nd</sup> June 1896

Reg. Book.

on the

S. A. Countess

(Number of Visits 33)

Gross 1619

Net 209

When built 1896

Master R. Hughes

Built at

Glasgow

By whom built

Mackie & Thomson

When built 1896

Engines made at

Glasgow

By whom made

Muir & Houston, Leim?

when made 1896

Boilers made at

Glasgow

By whom made

Muir & Houston, Leim?

when made 1896

Registered Horse Power

Owners

Kellam Adam

Port belonging to

Glasgow

Nom. Horse Power as per Section 28 111

## ENGINES, &c.—

Description of Engines

Triple Expansion, Direct Acting of Cylinders

Three

Diameter of Cylinders

17"-27"-43"

Length of Stroke

33"

Revolutions per minute

98

Diameter of Screw shaft

as per rule 8"

Diameter of ~~Shaft~~ as fitted

9"

Diameter of Crank shaft journals

9"

Diameter of Crank pin

9"

Size of Crank webs

11" x 5"

Diameter of screw

10 1/2"

Pitch of screw

14 ft

No. of blades

Four

State whether moveable

Solid

Total surface

44 sq ft

No. of Feed pumps

Two

Diameter of ditto

2 1/2"

Stroke

16 1/2"

Can one be overhauled while the other is at work

Yes

No. of Bilge pumps

Two

Diameter of ditto

3 1/2"

Stroke

16 1/2"

Can one be overhauled while the other is at work

Yes

No. of Donkey Engines

One

Size of Pumps

4 1/2" x 2 1/2" x 4"

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

In Engine Room

Three - 2 1/2"

6" x 4" x 6"

In Holds, &c.

Two - 2"

No. of bilge injections

One

size

3 1/2"

Connected to condenser, or to circulating pump

Yes

Is a separate donkey suction fitted in Engine room & size

Yes

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

None fitted

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 & tank suction

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

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

Before launching

the screw shaft

tunnel watertight

No tunnel

Is it fitted with a watertight door

Yes

worked from

Yes

## BOILERS, &c.—

(Letter for record I)

Total Heating Surface of Boilers

1730 sq ft

No. and Description of Boilers

One - Single Ended

Working Pressure

160 lbs

Tested by hydraulic pressure to 320 lbs

Date of test

18-4-96

Can each boiler be worked separately

Yes

Area of fire grate in each boiler

5 1/2 sq ft

Description of safety valves to

each boiler

Two - Direct Spring

Area of each valve

5.94"

Pressure to which they are adjusted

165 lbs

Are they fitted

with easing gear

Yes

Smallest distance between boilers or uptakes and bunkers or woodwork

12"

Mean diameter of boilers

14'-6"

Length

10'-6"

Material of shell plates

Steel

Thickness

3/8"

Description of riveting: circum. seams

Lap

Butt

Butt

Butt

Butt

Butt

Butt

Butt

Butt

Butt

Diameter of rivet holes in long. seams

1 1/8"

Pitch of rivets

7 1/4"

Lap of plates

18"

width of butt straps

18"

Per centages of strength of longitudinal joint

100%

Working pressure of shell by rules

162 lbs

Size of manhole in shell

16" x 12"

Size of compensating ring

McNeil

No. and Description of Furnaces in each boiler

Three

Material

Steel

Outside diameter

44 1/2"

Length of plain part

top

bottom

Thickness of plates

crown

bottom

3/8"

Description of longitudinal joint

Weld

No. of strengthening rings

Yes

Working pressure of furnace by the rules

170 lbs

Combustion chamber plates: Material

Steel

Thickness: Sides

9/16"

Back

9/16"

Top

9/16"

Bottom

1 1/8"

Pitch of stays to ditto: Sides

8" x 8"

Back

8" x 8"

Top

8" x 7 1/2"

If stays are fitted with nuts or riveted heads

Nuts

Working pressure by rules

170 lbs

Material of stays

Steel

Diameter at smallest part

1 1/2"

Area supported by each stay

64 sq ft

Working pressure by rules

181 lbs

End plates in steam space:

Material

Steel

Thickness

3/8"

Pitch of stays

5" x 15"

How are stays secured

Nuts & Washers

Working pressure by rules

161 lbs

Material of stays

Steel

Diameter at smallest part

2 1/8"

Area supported by each stay

225 sq ft

Working pressure by rules

168 lbs

Material of Front plates at bottom

Steel

Thickness

3/4"

Greatest pitch of stays

13"

Diameter of tubes

3 1/4"

Pitch of tubes

4 1/2" x 4 1/2"

Material of tube plates

Steel

Thickness: Front

7/8"

Back

7/8"

Mean pitch of stays

9"

Pitch across wide water spaces

15"

Working pressures by rules

213 lbs

Girders to Chamber tops: Material

Iron

Depth and

thickness of girder at centre

12" x (1 1/2" x 2")

Length as per rule

12"

Distance apart

7 1/2"

Working pressure by rules

220 lbs



**DONKEY BOILER—**

Description

*Vertical, Blake Patent.*

Made at *Stockton* By whom made *Capt. Turner & Co. Ltd.* When made *1896* Where fixed *Stockton*  
 Working pressure *80 lbs* tested by hydraulic pressure to *160 lbs* No. of Certificate *1264* Fire grate area *12 1/2* Description of safety valves *Direct Spring*  
 No. of safety valves *One* Area of each *2 1/4* Pressure to which they are adjusted *80 lbs* If fitted with easing gear *Yes* If steam from main boilers can enter the donkey boiler *No* Diameter of donkey boiler *5' 0"* Length *10' 0"* Material of shell plates *Steel* Thickness *7/16"*  
 Description of riveting long. seams *Lap Double* Diameter of rivet holes *1 1/8"* Whether punched or drilled *Drilled* Pitch of rivets *2 1/8"*  
 Lap of plating *4 1/2"* Per centage of strength of joint *97* Rivets *9* Thickness of shell crown plates *5/16"* Radius of do. *2' 9"* No. of Stays to do *None*  
 Dia. of stays. *1 1/8"* Diameter of furnace Top *1' 8 1/2"* Bottom *1' 8"* Length of furnace *2' 9"* Thickness of furnace plates *5/16"* Description of joint *Lap Single* Thickness of furnace crown plates *5/16"* Stayed by *1 1/8" stay g. Pitch 9"* Working pressure of shell by rules *108 lbs*  
 Working pressure of furnace by rules *97 lbs* Diameter of uptake *2 1/4"* Thickness of uptake plates *5/16"* Thickness of water tubes *1/4"*

**SPARE GEAR.** State the articles supplied:— *Two connecting rod top end bolts rivets: two bottom end do. do. two main bearing bolts: set coupling bolts: feed & bilge pump valves: bolts nuts: iron etc. Spare pump roller.*

*The foregoing is a correct description,*  
*Wm. Stinson & Co. Manufacturer.*

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

*The machinery of this vessel has been constructed under Special Survey. It has been securely fitted on board, and satisfactorily worked under steam. In my opinion it is eligible to have record in the Register Book + L.M.C. 6-96*

*Appended are two forging Reports on Shifting.*

*It is submitted that this vessel is eligible for THE RECORD*

*L.M.C. 6.96.*

*W.S.*  
*8.6.96*

*W.S.*  
*8.6.96.*

*Large handwritten signature/initials.*

Certificate (if required) to be sent to *Glasgow*

The amount of Entry Fee..	£ 2 : "	When applied for,
Special .. .. .	£ 16 : 13	2/6/96
Donkey Boiler Fee .. .. .	£ " : "	When received,
Travelling Expenses (if any) £	" : "	5/6/96

*R. J. Baverle*  
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute

Assigned

*+ L.M.C. 6.96.*

