

REPORT ON MACHINERY.

9797

No. 9494

Port of Glasgow.

WED 20 APRIL 1890

Received at London Office

No. in Survey held at

Glasgow

Date, first Survey

22nd Jan 1889

Last Survey

26th Apr. 1890

Reg. Book.

(Number of Visits 93)

on the

S. S. "Brazilian"

Tons

Gross 3804
Net 2085

Master

A. G. Whyte

Built at

Glasgow

By whom built

D. W. Henderson & Co

When built

1890

Engines made at

Glasgow

By whom made

D. W. Henderson & Co

when made

1890

Boilers made at

Glasgow

By whom made

D. W. Henderson & Co

when made

1890

Registered Horse Power 350

Owners

J. & A. Allan

Port belonging to

Glasgow.

ENGINES, &c.—

Description of Engines

Triple Expansion

No. of Cylinders

Three

Diam. of Cylinders

24", 40" & 66"

Length of Stroke

48"

Rev. per minute

40.

Point of Cut off, High Pressure

Var. Low Pressure Var.

Diameter of Screw shaft

13 1/4"

Diam. of Tunnel shaft

12 1/4"

Diam. of Crank shaft journals

13 1/4"

Diam. of Crank pin

13 1/4"

size of Crank webs

Built

Diameter of screw

16'-6"

Pitch of screw

16'-0"

No. of blades

4.

state whether moveable

Yes

total surface

82 ft²

No. of Feed pumps

2.

diameter of ditto

4"

Stroke

24"

Can one be overhauled while the other is at work

Yes

No. of Bilge pumps

2.

diameter of ditto

4"

Stroke

24"

Can one be overhauled while the other is at work

Yes

Where do they pump from

All compartments.

No. of Donkey Engines

Three

Size of Pumps

Feed 4 1/2" x 8"

Where do they pump from

Holbeck, sea tanks

and bilges

Are all the bilge suction pipes fitted with roses

Yes

Are the roses always accessible

Yes

Are the sluices on Engine room bulkheads always accessible

Yes

No. of bilge injections

One

and sizes

6"

Are they connected to condenser, or to circulating pump

Yes

How are the pumps worked

by levers off L.P. engine

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

None

How are they protected

—

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

Yes

Are the pipes, cocks, and valves arranged so as to prevent an unintentional connection between the sea and the bilges

Yes

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

on stocks before launching

Is the screw shaft tunnel watertight

Yes

and fitted with a sluice door

Yes

worked from upper platform

BOILERS, &c.—

No. of Boilers

Two

Description

Howdens draughtless

Material

Steel

Letter (for record)

S.

Working Pressure

160 lbs.

Tested by hydraulic pressure to

320 lbs.

Date of test

27th December 1889

Description of superheating apparatus or steam chest

None

Can each boiler be worked separately

Yes

Can the superheater be shut off and the boiler worked separately

—

No. of square feet of fire grate surface in each boiler

50.

Description of safety valves

direct spring

No. to each boiler

two

Area of each valve

11.04"

Are they fitted with easing gear

Yes

No. of safety valves to superheater

—

area of each valve

—

Are they fitted with easing gear

—

Smallest distance between boilers and bunkers

or woodwork

15"

Diameter of boilers

14'-0"

Length of boilers

11'-0"

description of riveting of shell long. seams

d. butt str.

circum. seams

d. riv. lap

Thickness of shell plates

1 1/4"

Diameter of rivet holes

1 5/16"

whether punched or drilled

drilled

pitch of rivets

8 1/2" + 4 1/4"

Lap of plating

7 1/8"

straps 2 1/2"

Percentage of strength of longitudinal joint

84.55

working pressure of shell by rules

160 lbs.

size of manholes in shell

12" x 16"

Size of compensating rings

28" x 24" x 1 1/4"

No. of Furnaces in each boiler

Three

Description of Furnaces

Purvis patent

Outside diameter

43 1/2"

length

8'-0"

thickness of plates

7/8"

description of joint

welded

if rings are fitted

—

Greatest length between rings

—

working pressure of furnace by the rules

185 lbs.

combustion chamber plating, thickness, sides

1/2" x 9/16"

Pitch of stays to ditto, sides

6 7/8"

back

6 7/8"

top

6 7/8" x 7 1/4"

stays are fitted with nuts or riveted heads

nuts

working pressure of plating by

rules

rules

160 lbs.

Diameter of stays at smallest part

1 1/2" x 1 1/4"

working pressure of ditto by rules

160 lbs.

and plates in steam space, thickness

3/4"

Pitch of stays to ditto

14 1/2" x 14 1/2"

how stays are secured

d. nuts

working pressure by rules

160 lbs.

diameter of stays at

smallest part

2 3/4"

bars

working pressure by rules

160 lbs.

Front plates at bottom, thickness

3/4"

Back plates, thickness

1 3/16"

Greatest pitch of stays

—

working pressure by rules

—

Diameter of tubes

2 1/2"

pitch of tubes

3 1/16" + 3 1/4"

thickness of tube

—

width of water spaces

6 1/2" - 7"

Diameter of Superheater or Steam chest

—

length

—

thickness of plates

—

description of longitudinal joint

—

diam. of rivet holes

—

Pitch of rivets

—

working pressure of shell by rules

—

diameter of flue

—

thickness of plates

—

If stiffened with rings

—

Distance between rings

—

working pressure by rules

—

9797 lb

DONKEY BOILER— Description *Horizontal return tube*Made at *Glasgow* by whom made *J. W. Henderson & Co* when made *1890* where fixed *upper deck*Working pressure *50 lbs.* tested by hydraulic pressure to *100 lbs.* No. of Certificate *2626* fire grate area *21 sq. ft.* description ofvalves *direct spring* No. of safety valves *2* area of each *7"* if fitted with easing gear *yes* if steam from main boilerenter the donkey boiler *no* diameter of donkey boiler *7'-6"* length *8'-0"* description of riveting *lap*Thickness of shell plates *7/16* diameter of rivet holes *3/4"* whether punched or drilled *drill* pitch of rivets *2 3/4"* lap of plates *4 1/2*per centage of strength of joint *62.5* thickness of ~~cover~~ *end* plates *9/16* stayed by *stays 1 1/2" dia*Ex-Diameter of furnace, top *27 3/4"* bottom *—* length of furnace *5'-7"* thickness of plates *3/8"* description of joint *welded*Thickness of furnace crown plates *—* stayed by *—* working pressure of shell by rules *6*Working pressure of furnace by rules *80 lbs.* diameter of uptake *—* thickness of plates *—* thickness of ~~water~~ tubes *3 1/2" dia*SPARE GEAR. State the articles supplied:— *One thrust shaft. Propeller blades & studs.**Air circulating pump rods. Main bearing & coupling bolts**Top and bottom end bolts & brasses. Feed and bilge pump**Valves. Feed pump plunger. Bolts, nuts & iron assorted*

The foregoing is a correct description,

David W. Henderson Manufacturer.General Remarks (State quality of workmanship, opinions as to class, &c. *The above mentioned**engines and boilers have been built under**Special Survey and are now completed**onboard in a satisfactory manner.**This machinery is now in our opinion**eligible to the notation: **L.M.C. 4.90***

It is submitted that
 this vessel is eligible to
 have + L.M.C. 4.90 recorded

M.H.
 30.4.90

The amount of Entry Fee .. £ *3* : : received by me,Special .. £ *34* : *10* : -

Donkey Boiler Fee .. £ : : -

Certificate (if required) .. £ : : - *29/4/1890*

To be sent as per margin.

(Travelling Expenses, if any, £)

Committee's Minute

FRIDAY 2 MAY 1890

+ L.M.C. 4/90

Engineer Surveyor to Lloyd's Register of British & Foreign Ships

*Clyde District*Lloyd's Register
Foundation