

REPORT ON MACHINERY.

No. 8929

Port of Glasgow

THURS 27 DEC 1889

No. in Survey held at Glasgow

Date, first Survey 3rd Sept^r Last Survey 12th Dec^r 1888

Reg. Book.

(Number of Visits 11)

1112 on the S. S. "Australia"

Tons

Master Built at Glasgow By whom built John Elder & Coy When built 1845

Engines made at Glasgow By whom made " " " when made 1845-

Boilers made at " By whom made Lairfield Shipbuilding & Engineering Coy when made at San Francisco

Registered Horse Power 500 Owners W. G. Irwin

Port belonging to Honolulu

ENGINES, &c.—

Description of Engines New Cylinders & Boilers for Tripling sent to San Francisco S. S. No 3-7. 86

Diameter of Cylinders 29" 4 1/2" 7 1/2" Length of Stroke 57" No. of Rev. per minute Point of Cut off, High Pressure Low Pressure 1.1 M C 8. 86

Diameter of Screw shaft Diam. of Tunnel shaft Diam. of Crank shaft journals Diam. of Crank pin size of Crank webs

Diameter 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

Where do they pump from

No. of Donkey Engines Size of Pumps Where do they pump from

Are all the bilge suction pipes fitted with roses Are the roses always accessible Are the sluices on Engine room bulkheads always accessible

No. of bilge injections and sizes Are they connected to condenser, or to circulating pump

How are the pumps worked

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 accessible at all times

Are the pipes, cocks, and valves arranged so as to prevent an unintentional connection 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 and fitted with a sluice door worked from

BOILERS, &c.—

Number of Boilers Description Round Horizontal Whether Steel or Iron Steel

Working Pressure 160 lbs Tested by hydraulic pressure to Date of test

Description of superheating apparatus or steam chest None

Can each boiler be worked separately Can the superheater be shut off and the boiler worked separately

No. of square feet of fire grate surface in each boiler Description of safety valves No. to each boiler

Area of each valve Are they fitted with easing gear No. of safety valves to superheater area of each valve

Are they fitted with easing gear Smallest distance between boilers and bunkers or woodwork Diameter of boilers 14' 4"

Length of boilers 16' 4 1/2" description of riveting of shell long. seams double butt strap circum. seams double riveted Thickness of shell plates 1 1/4"

Diameter of rivet holes 1 1/4" whether punched or drilled Drilled pitch of rivets 8 3/16" Lap of plating Straps 16" x 1 1/2"

Per centage of strength of longitudinal joint 83 3/4 working pressure of shell by rules 160 lbs size of manholes in shell

Size of compensating rings Doubling plates fitted No. of Furnaces in each boiler

Outside diameter 3' 7" length, top 6' 4 1/2" bottom thickness of plates 1 3/32 description of joint Corrugated if rings are fitted

Greatest length between rings working pressure of furnace by the rules 160 lbs combustion chamber plating, thickness, sides 9/16 full back top 9/16 full

Pitch of stays to ditto, sides 7/8 x 7/8 back top 7/8 x 7/8 If stays are fitted with nuts or riveted heads nuts working pressure of plating by

rules 160 lbs Diameter of stays at smallest part 1 1/4" 99 effect area working pressure of ditto by rules 169 lbs end plates in steam space, thickness 1 1/2"

Pitch of stays to ditto 1 1/4 x 1 1/4 how stays are secured by double nuts working pressure by rules 142 lbs diameter of stays at

smallest part 2 1/2" working pressure by rules Front plates at bottom, thickness 1 3/16 Back plates, thickness

Greatest pitch of stays working pressure by rules Diameter of tubes 3 1/4" pitch of tubes 4 3/8 x 4 3/8 thickness of tube

plates, front 1 3/16 back 2 9/32 how stayed by tubes pitch of stays 8 3/4 x 1 3/4 width of water spaces about 6'

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 end plates of superheater, or steam chest; thickness how stayed

Superheater or steam chest; how connected to boiler

GLS156-0382

8929 Gls

DONKEY BOILER— 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
valves _____ No. of safety valves _____ area of each _____ if fitted with easing gear _____ if steam from main boiler
enter the donkey boiler _____ diameter of donkey boiler _____ length _____ description of riveting _____
Thickness of shell plates _____ diameter of rivet holes _____ whether punched or drilled _____ pitch of rivets _____ lap of plating _____
per centage of strength of joint _____ thickness of crown plates _____ stayed by _____
Diameter of furnace, top _____ bottom _____ length of furnace _____ thickness of 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 plates _____ thickness of water tubes _____

SPARE GEAR. State the articles supplied:—

The foregoing is a correct description,

Manufacturer.

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

New Cylinders and Pistons, also the whole of the boiler ^{plating} which has been put together ready for riveting have been prepared by the Fairfield Shipbuilding & Engineering Coy. and forwarded to San Francisco to be riveted and finished at that Port. It is stated that Riveting Machinery is being sent out from this Country to do the work.

The materials and workmanship as far as completed are of good description.

It is submitted that these cylinders pistons & boilers as far as completed should be approved of subject to their being finished & fitted on board in a satisfactory manner.

Md.

27.12.88

The amount of Entry Fee .. £ : : received by me,

Special .. £ 10: 10: -

Donkey Boiler Fee .. £ : :

Certificate (if required) .. £ : :

To be sent as per margin.

(Travelling Expenses, if any, £)

Committee's Minute

FRIDAY 28 DEC 1888

Note

Write J F seo

Report to James 28/12/88.

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

Clyde District

Lloyd's Register
Foundation