

REPORT ON MACHINERY.

15888

No. 10008

Port of Glasgow

THURS 24 JULY 1890

No. in Survey held at Glasgow

Date, first Survey 11th Oct^r 1889 Last Survey 15th July 1890

Reg. Book.

(Number of Visits 54)

877 on the

S. S. Strathallan

Tons } Gross 2,276.11
Not 1,488.76

Master

Built at Greenock By whom built Russell & Co

When built 1890

Engines made at Glasgow

By whom made Jas. Howden & Co when made 1890

Boilers made at Glasgow

By whom made Jas. Howden & Co when made 1890

Registered Horse Power 220.

Owners Burrell & Son

Port belonging to Glasgow

ENGINES, &c.—

Description of Engines *Triple Expansion* No. of Cylinders *Three*

Diam. of Cylinders *22 1/2, 35 1/2 & 58 1/2* Length of Stroke *39* Rev. per minute *70* Point of Cut off, High Pressure *Var* Low Pressure *var.*

Diameter of Screw shaft *11 1/2* Diam. of Tunnel shaft *11* Diam. of Crank shaft journals *11 1/2* Diam. of Crank pin *11 1/2* size of Crank webs *built*

Diameter of screw *14-6* Pitch of screw *16 to 17 ft.* No. of blades *4* state whether moveable *sol* total surface *66 sq ft*

No. of Feed pumps *2* diameter of ditto *3* Stroke *19* Can one be overhauled while the other is at work *yes*

No. of Bilge pumps *2* diameter of ditto *4 1/2* Stroke *19* Can one be overhauled while the other is at work *yes*

Where do they pump from *All compartments*

No. of Donkey Engines *Two* Size of Pumps *10" x 12" x 9"* Where do they pump from *Notable, Sea,*
tanks & bilges *Feed - 8" x 6" x 5"*

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 *—*

No. of bilge injections *One* and sizes *5 1/2* Are they connected to condenser or to circulating pump *yes*

How are the pumps worked *by levers off L.P. Crosshead*

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 *—*

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 *See Greenock Report attached*

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 *Howden's Forced Draught* Material *Steel* Letter (for record) *S.*

Working Pressure *160 lbs* Tested by hydraulic pressure to *320 lbs.* Date of test *9th June 1890*

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 *45* Description of safety valves *d. spring* No. to each boiler *two*

Area of each valve *—* 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 *13'-0"*

Length of boilers *11'-6"* description of riveting of shell long. seams *d. butt str.* circum. seams *d. riv lap* Thickness of shell plates *1 1/8" full*

Diameter of rivet holes *15/32* whether punched or drilled *drilled* pitch of rivets *7 1/16* Lap of plating *16 1/2" butt str.*

Per centage of strength of longitudinal joint *85.2* working pressure of shell by rules *160 lbs* size of manholes in shell *12" x 16"*

Size of compensating rings *McKeils.* No. of Furnaces in each boiler *3.* Description of Furnaces *plain flanged*

Outside diameter *39"* length *8'20"* thickness of plates *17/32* description of joint *welded* if rings are fitted *yes*

Greatest length between rings *23"* working pressure of furnace by the rules *160 lbs* combustion chamber plating, thickness, sides *9/16"* back *9/16"* top *9/16"*

Pitch of stays to ditto, sides *8"* back *7 3/4"* top *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 1/2" x 1 5/8"* working pressure of ditto by rules *160 lbs* and plates in steam space, thickness *1"*

Pitch of stays to ditto *15 1/4" x 15 1/4"* how stays are secured *d. nuts* working pressure by rules *160 lbs* diameter of stays at smallest part *2 5/8" d. bar* working pressure by rules *160 lbs* Front plates at bottom, thickness *3/4"* Back plates, thickness *3/4"*

Pitch of stays *—* working pressure by rules *—* Diameter of tubes *2 1/2"* pitch of tubes *3 1/16"* thickness of tube *3/4"* back *4/16"* how stayed *stayed* pitch of stays *7 5/8"* width of water spaces *6"*

Superheater or Steam chest *—* length *—* thickness of plates *—* description of longitudinal joint *—* diam. of rivet holes *—*

working pressure of shell by rules *—* diameter of flue *—* thickness of plates *—* If stiffened with rings *—*

working pressure by rules *—* end plates of superheater, or steam chest; thickness *—* how stayed *—*

Superheater or steam chest; how connected to boiler *—*

Lloyd's Register Foundation GRK 315-0015

DONKEY BOILER— Description *Multitubular Steel*
 Made at *Glasgow* by whom made *Jas. Howden & Coy* when made *1890* where fixed *Stoke hold*
 Working pressure *80 lbs* tested by hydraulic pressure to *160 lbs* No. of Certificate *2781* fire grate area *20 sq ft* description of valves *direct spring* No. of safety valves *one* area of each *8.29* if fitted with easing gear *yes* if steam from main boilers enter the donkey boiler *no* diameter of donkey boiler *8'-6"* length *8'-0"* description of riveting *single & double*
 Thickness of shell plates *17/32* diameter of rivet holes *15/16* whether punched or drilled *drill* pitch of rivets *3 1/2* lap of plating *4 1/2*
 per centage of strength of joint *73* thickness of ~~shell~~ ^{end} plates *9/16* stayed by *1 3/4" stay pitched 15 x 13*
 Diameter of furnace, top *31"* bottom *—* length of furnace *5-9"* thickness of plates *7/16* description of joint *butt str.*
 Thickness of furnace crown plates *—* stayed by *—* working pressure of shell by rules *86*
 Working pressure of furnace by rules *90 lbs* diameter of uptake *—* thickness of plates *—* thickness of water tubes *—*

SPARE GEAR. State the articles supplied:— *Propeller shaft complete. One length crank shaft. Top and bottom end brasses and bolts. Main bearing & coupling bolts. Feed and bilge pump valves seats. Bolts, nuts & iron etc.*
 The foregoing is a correct description,
 Manufacturer. *Jas. Howden & Coy*

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 on board the vessel in a satisfactory manner. The machinery is now in my opinion eligible for the notation: + R.M. 6-7-90 in the Society's Register Book.*

It is submitted that this result is eligible to have + R.M. 7-90 recorded
J. G. M.
24/7/90

The amount of Entry Fee .. £ *2* : ✓ : ✓ received by me,
 Special .. £ *31* : ✓ : ✓
 Donkey Boiler Fee .. £ : ✓ : ✓
 Certificate (if required) .. £ : ✓ : ✓ *24/7/90*
 To be sent as per margin.

J. G. M.
 Engineer Surveyor to Lloyd's Register of British & Foreign Steamships

Committee's Minute *FBI 25 JULY 1890* **TUES 29 JULY 1890**
+ Lmb 7/90