

REPORT ON MACHINERY.

Port of *Glasgow*

WED. 18 AUG 1897

No. in Survey held at *Glasgow*
Reg. Book.Date, first Survey *1st Oct 1896*

Received at London Office

Last Survey *3rd Aug 1897*

1897.

(Number of Visits)

Gross *2936*Net *1884*

Tons

on the *S.S. "Lynia"*

Master

Built at *Belfast*By whom built *Worthman & Clark & Co.*When built *1894*Engines made at *Glasgow*By whom made *Barclay Curle & Co. Ltd.*when made *1894*Boilers made at *"*By whom made *"*when made *1894*

Registered Horse Power

Owners *Cunard Coy.*Port belonging to *Liverpool*Nom. Horse Power as per Section 28 *344*Is Electric Light fitted *No*

ENGINES, &c.

Description of Engines *Triple*No. of Cylinders *3*No. of Cranks *3*Diameter of Cylinders *24" 40" 66"*Length of Stroke *45"*

Revolutions per minute

Diameter of Screw shaft

as per rule *12.5"*

Diameter of Tunnel shaft

as fitted *12.5"*Diameter of Crank shaft journals *13"*Diameter of Crank pin *13"*Size of Crank webs *8 1/2" x 20"*Diameter of screw *16" 3"*Pitch of screw *14.6"*No. of blades *4*State whether moveable *Yes*Total surface *40.6 ft.*No. of Feed pumps *Two*Diameter of ditto *3 1/4"*Stroke *24"*Can one be overhauled while the other is at work *Yes*No. of Bilge pumps *Two*Diameter of ditto *4 1/2"*Stroke *24"*Can one be overhauled while the other is at work *Yes*No. of Donkey Engines *4*Sizes of Pumps *8 1/2" x 4" x 9" Cameron*

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

In Engine Room *3 - 3"**1 - 8 1/2" x 6" x 4"**2 - 9" x 4" x 18" In Holds, &c. 2 in each 3" as per pumping plan*No. of bilge injections *1*sizes *4"*Connected *Centrifugal* to circulating pumpIs a separate donkey suction fitted in Engine room & size *Yes - 3"*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 *near to*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 *3 x 8" pipes to holds*How are they protected *By 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 *On slip before being launched*Is the screw shaft tunnel watertight *Apparently*Is it fitted with a watertight door *Yes*worked from *Upper platform*

BOILERS, &c.

(Letter for record *S*)Total Heating Surface of Boilers *4425 ft.*Is forced draft fitted *Yes*No. and Description of Boilers *Multitubular**Service tubes*Working Pressure *200 lb.*Is tested by hydraulic pressure to *400 lb.*Date of test *8/6/94*Can each boiler be worked separately *Yes*Area of fire grate in each boiler *56 ft.*

No. and Description of safety valves to

each boiler *Direct Spring (J.S. Grant)*Area of each valve *2 - 8.29*Pressure to which they are adjusted *200 lbs.*

Are they fitted

with easing gear *Yes*

Smallest distance between boilers or uptakes and bunkers or woodwork

Mean diameter of boilers *14.6"*Length *11.6"*Material of shell plates *Steel*Thickness *1 1/2"*Description of riveting: circum. seams *Double*long. seams *Double strap*Diameter of rivet holes in long. seams *1 1/2"*Pitch of rivets *10"*Lap of plates or width of butt straps *Straps 22" x 1 1/2"*

Per centages of strength of longitudinal joint

rivets *89.4%*Working pressure of shell by rules *218 lb.*Size of manhole in shell *16" x 12"*Size of compensating ring *2.4" x 2.8"*No. and Description of Furnaces in each boiler *3 Morrison's*Material *Steel*

Length of plain part

top *4.10 length*

Thickness of plates

crown *1 1/16"*Description of longitudinal joint *Welded*

No. of strengthening rings

Working pressure of furnace by the rules *224*Combustion chamber plates: Material *Steel*Thickness: Sides *1 1/8"*Back *1 1/8"*Top *1 1/8"*Bottom *1 1/8"*Pitch of stays to ditto: Sides *4 1/8"*Back *4 1/8"*Top *4 1/8"*If stays are fitted with nuts or riveted heads *Nuts*Working pressure by rules *269 lb.*Material of stays *Steel*Diameter at smallest part *1 1/2" 1 1/4" 1 3/4"*Area supported by each stay *50"*Working pressure by rules *236 lb.*

End plates in steam space:

Material *Steel*Thickness *1 1/2"*Pitch of stays *14 1/8" x 14 1/8"*How are stays secured *by double nuts*Working pressure by rules *232 lb.*Material of stays *Steel*Diameter at smallest part *2 1/4" = 5" area*Area supported by each stay *204"*Working pressure by rules *216*Material of Front plates at bottom *Steel*Thickness *1 1/8"*Material of Lower back plate *Steel*Thickness *2 1/2" 2 3/4" doubling*Greatest pitch of stays *15" x 6 3/4"*Working pressure of plate by rules *218 lb.*Diameter of tubes *2 1/4"*Pitch of tubes *8" x 8"*Material of tube plates *Steel*Thickness: Front *2 1/2"*Back *1 1/8"*Mean pitch of stays *8"*Pitch across wide water spaces *13 1/4"*Working pressures by rules *260 lb.*Girders to Chamber tops: Material *Steel*

Depth and

thickness of girder at centre *9 1/2" x 3 1/4"*Length as per rule *2' 10"*Distance apart *4 1/8"*Number and pitch of Stays in each *3 - 4 1/8"*

Working pressure by rules

Superheater or Steam chest; how connected to boiler *how*

Can the superheater be shut off and the boiler worked

separately *Yes*

Diameter

Length

Thickness of shell plates

Material

Description of longitudinal joint

Diam. of rivet

holes *Yes*

Pitch of rivets

Working pressure of shell by rules

Diameter of flue

Material of flue plates

Thickness

If stiffened with rings

Distance between rings

Working pressure by rules

End plates: Thickness

How stayed

Working pressure of end plates

Area of safety valves to superheater

Are they fitted with easing gear

Working pressure of end plates

Area of safety valves to superheater

Are they fitted with easing gear

Working pressure of end plates

Area of safety valves to superheater

Are they fitted with easing gear

Working pressure of end plates

DONKEY BOILER— Description *Multitubular*
 Made at *Glasgow* By whom made *Burley & Co. Ltd.* When made *1894* Where fixed *On upper deck*
 Working pressure *90 lbs* Tested by hydraulic pressure to *180 lbs* No. of Certificate *4249* Fire grate area *29 ft* Description of safety valves *Direct Spring*
 No. of safety valves *2* Area of each *6"* Pressure to which they are adjusted *90 lbs* If fitted with easing gear *Yes* If steam from main boilers can enter the donkey boiler *No*
 Diameter of donkey boiler *10 1/2"* Length *9 ft* Material of shell plates *Steel* Thickness *1 1/16"*
 Description of riveting long. seams *Double riv. lap* Diameter of rivet holes *1 1/8"* Whether punched or drilled *Drilled* Pitch of rivets *4"*
 Lap of plating *6 1/8"* Per centage of strength of joint *81.7* Rivets *Comb. Chamber* Ends *4"* Pitch of stays to do *14 x 13*
 Dia. of stays *1 3/4" = 2.06* Diameter of furnace *Top 2' 9" Bottom* Length of furnace *6' 3"* Thickness of furnace plates *3/16"* Description of joint *Belted* Thickness of *back end* plates *9/16"* Stayed by *Screw stays 1/3 1/4" pitch* Working pressure of shell by rules *94 lb*
 Working pressure of furnace by rules *121 lbs* Diameter of uptake *4"* Thickness of uptake plates *1/16" + 9/16"* Stayed by *1 1/2" - 3" dia. 8 1/2" x 2 1/4" pitch*

SPARE GEAR. State the articles supplied:— *One propeller shaft with liners complete & 4 blades 1 pair top & bottom end bushes with bolts. 1 set coupling bolts, holding down bolts. 1 pump rod, 2 valve spindles, 2 main bearing bolts, set of pump valves assortment of springs, bolts nuts & other gear*
 The foregoing is a correct description,

Manufacturer. *BURLEY, CURLE & CO., LTD.*

William F. Bowman

Dates of Survey while building
 During progress of work in shops— *1896 Oct 9, 10, 12, 14, 22, 31. Nov 2, 23, 26. Dec 3, 5, 11, 16, 18, 19, 24. 1897 Jan 18, 21, 28. Feb 1, 3, 11, 14, 22, 23. March 1, 9, 15, 14, 20, 22, 24, 25, 24, 30. April 1, 8, 15, 20, 26, 29. May 4, 8, 12, 14, 18, 21, 22. June 5, 8, 18, 24, 25. July 5, 6, 4, 16, 30. August 6, 13.*
 During erection on board vessel —
 Total No. of visits *61*

General Remarks (State quality of workmanship, opinions as to class, &c.) *These Engines & Boilers are of good workmanship & materials and are now in good order & safe working condition and eligible in our opinion to be noted in the Register Book. L.M.C 8/94*

The Shafting for this vessel was forged by the Darlington Forge Coy & finished by the Engineers here (No report received from the Inspector)

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

L.M.C 8, 97 79

J.S.
18.8.97

7/11
18/8/97

The amount of Entry Fee... £ *3* : "
 Special... £ *34 12* : "
 Donkey Boiler Fee... £ *37* : "
 Travelling Expenses (if any) £ " : "

When applied for, *13/8 94*
 When received, *29/8/97*

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

Committee's Minute *FRI 20 AUG 1897*

Assigned

L.M.C 8, 94 70



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