

## REPORT ON MACHINERY.

Port of *Glasgow.*

Received at London Office

THUR. 17 MAY 1900

No. in Survey held at *Glasgow.*

Date, first Survey

*3<sup>rd</sup> Novr. '99*

Last Survey

*9. May 1900*Reg. Book. *Supp.*Number of Visits *35*on the *Screw Steamer "The Lady Belle."*Master *Robert Roberts*

Built at

*Paisley*

By whom built

*J. Fullerton & Co.*Tons { Gross *340.94*Net *99.55*When built *1900*Engines made at *Glasgow*

By whom made

*Ross & Dunnean*

When made

*1900*Boilers made at *Glasgow*

By whom made

*Ross & Dunnean*

When made

*1900*

Registered Horse Power

Owners

*G. Farren*Port belonging to *Carnarvon*Horse Power as per Section 28 *83*Is Refrigerating Machinery fitted *No*Is Electric Light fitted *Yes*ENGINES, &c.—Description of Engines *Compound.*No. of Cylinders *Two* No. of Cranks *Two*Dia. of Cylinders *20" - 40"* Length of Stroke *27"* Revs. per minute *140* Dia. of Screw shaft as per rule *8.2*Dia. of Thrust shaft as per rule *7.45* Dia. of Crank shaft journals as per rule *7.87* Dia. of Crank pin *8.8"* Size of Crank webs *5.3 x 11.7* Dia. of thrust shaft underlars *8"* Dia. of screw *9.5"* Pitch of screw *11.0" to 12.0"* No. of blades *4* State whether moveable *Yes* Total surface *27.2 sq. ft.*No. of Feed pumps *2* Diameter of ditto *3.4"* Stroke *13.5"* Can one be overhauled while the other is at work *Yes*No. of Bilge pumps *2* Diameter of ditto *3.4"* Stroke *13.5"* Can one be overhauled while the other is at work *Yes*No. of Donkey Engines *One* Sizes of Pumps *6 x 4 x 6" Worthington* No. and size of Suctions connected to both Bilge and Donkey pumps.Engine Room *Two: 2" dia.* In Holds, &c. *Two: 2" dia.*No. of bilge injections *1* sizes *3.2"* Connected to condenser, or to circulating pump *C.P.* Is a separate donkey suction fitted in Engine room & size *Yes: 2"*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 *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*How are they protected *Good 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 *New vessel* Is the screw shaft tunnel watertight *None*Is it fitted with a watertight door *Yes* worked from *Yes*BOILERS, &c.— (Letter for record *S*) Total Heating Surface of Boilers *1447 sq. ft.* Is forced draft fitted *No*No. and Description of Boilers *One: Cylindrical: Multi-Single End: Working Pressure 120 lb. Tested by hydraulic pressure to 240 lb.*Date of test *6/4/00* Can each boiler be worked separately *Yes* Area of fire grate in each boiler *53 sq. ft.* No. and Description of safety valves toeach boiler *2: Direct Spring* Area of each valve *7.67"* Pressure to which they are adjusted *125 lb.* Are they fitted with easing gear *Yes*Smallest distance between boilers or uptakes and bunkers or woodwork *About 9"* Mean dia. of boilers *13.0"* Length *10.0"* Material of shell plates *Steel*Thickness *1.3"* Range of tensile strength *27-32 tons* Are they welded or flanged *No* Descrip. of riveting: cir. seams *Lap Double long. seams* *Butt Straps*Diameter of rivet holes in long. seams *1.5"* Pitch of rivets *6"* *3"* Lap of plates or width of butt straps *14.5"*Percentages of strength of longitudinal joint rivets *84.2* plate *84.5* Working pressure of shell by rules *125 lb.* Size of manhole in shell *16" x 12"*Size of compensating ring *7" x 7.5"* No. and Description of Furnaces in each boiler *3: plain* Material *Steel* Outside diameter *40"*Length of plain part top *6.45"* Thickness of plates crown *4"* Description of longitudinal joint *Weld.* No. of strengthening rings *particular*Working pressure of furnace by the rules *134 lb.* Combustion chamber plates: Material *Steel* Thickness: Sides *1/2"* Back *1/2"* Top *1/2"* Bottom *3/16"*Pitch of stays to ditto: Sides *8" x 8"* Back *8" x 8"* Top *8" x 8"* If stays are fitted with nuts or riveted heads *Nuts* Working pressure by rules *120 lb.*Material of stays *Steel* Diameter at smallest part *1.5"* Area supported by each stay *64"* Working pressure by rules *120 lb.* End plates in steam space:Material *Steel* Thickness *1.3"* Pitch of stays *16" x 15"* How are stays secured *Washers* Working pressure by rules *131 lb.* Material of stays *Steel*Diameter at smallest part *2.75"* Area supported by each stay *240"* Working pressure by rules *139 lb.* Material of Front plates at bottom *Steel*Thickness *5"* Material of Lower back plate *Steel* Thickness *5"* Greatest pitch of stays *13"* Working pressure of plate by rules *227 lb.*Diameter of tubes *3.2"* Pitch of tubes *4.5" x 4.5"* Material of tube plates *Steel* Thickness: Front *8"* Back *8"* Mean pitch of stays *10.1"*Pitch across wide water spaces *14.5"* Working pressures by rules *131 lb.* *138 lb.* Girders to Chamber tops: Material *Steel* Depth andThickness of girder at centre *6.5" x 1.5"* Length as per rule *29"* Distance apart *8"* Number and pitch of Stays in each *2: 8"*Working pressure by rules *118 lb.* Superheater or Steam chest; how connected to boiler *None* Can the superheater be shut off and the boiler worked

separately

Diameter Length Thickness of shell plates Material Description of longitudinal joint Diam. of rivet

Pitch of rivets Working pressure of shell by rules Diameter of flue Material of flue plates Thickness

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



**DONKEY BOILER—** No. *one*. Description *Vertical with cross water tubes.*  
 Made at *Momemwell* By whom made *John Marshall 16<sup>th</sup>* When made *1900* Where fixed *In Stokehold.*  
 Working pressure *95 lbs* tested by hydraulic pressure to *150 lbs* No. of Certificates *5347* Fire grate area *9.6* Description of safety valves *Direct Spring.*  
 No. of safety valves *1* Area of each *4.9* 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.* Dia. of donkey boiler *4' 6"* Length *9' 6"* Material of shell plates *Steel* Thickness *3/8"* Range of tensile strength *27,320* Descrip. of riveting long. seams *Lap Double.* Dia. of rivet holes *13/16"* Whether punched or drilled *Drilled* Pitch of rivets *2 3/4"*  
 Lap of plating *4"* Per centage of strength of joint Rivets *86* Thickness of shell crown plates *1/2"* Radius of do. *4' 6"* No. of Stays to do. *5*  
 Dia. of stays. *1 1/2"* Diameter of furnace Top *3' 7 1/2"* Bottom *3' 11 1/4"* Length of furnace *3' 9"* Thickness of furnace plates *3/16"* Description of joint *Weld.* Thickness of furnace crown plates *1/2"* Stayed by *5. 1 1/2" dia. Stays* Working pressure of shell by rules *101 lbs*  
 Working pressure of furnace by rules *95 lbs* Diameter of uptake *10 1/2"* Thickness of uptake plates *3/16"* Thickness of water tubes *3/8"*

**SPARE GEAR.** State the articles supplied:— *3 Boiler tubes, 6 Condenser tubes, 6 Joint Rings, 2 main Bearing Bolts, 2 Crank pin Bolts, 2 Crosshead Bolts, 1 Set Coupling Bolts, 1 set Feed & Bilge pump valves, Bolt nuts and 1 set of various sizes.*

The foregoing is a correct description,  
*Loes & Duncan* Manufacturer.

Dates of Survey while building: During progress of work in shops— *1899: Nov. 3, 7, 10, 14, 24, 27. Dec. 1, 7, 12, 19, 21, 28. 1900: Jan. 10, 17. Feb. 2, 13, 22, 26. Mar. 7, 14, 20, 23, 26, 29, 30. Apr. 2, 3, 6, 17, 19, 24, 25. May. 7, 8, 9.*  
 During erection on board vessel — *35.*  
 Total No. of visits *35.*

Is the approved plan of main boiler forwarded herewith *Yes*.  
 " " " donkey " " " *Yes.*

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

*The engines and Boilers of this vessel have been built under special survey and the materials and workmanship are good. When completed they examined under full steam and worked satisfactorily.*

*The machinery is now in good and efficient condition and eligible in my opinion to have the record of **L.M.C.** 5-00. marked in the Society's Register Book.*

It is submitted that  
 the vessel is fit for  
 THE RECORD

+ L.M.C. 5.00. Ues Ligue.

*£* 60.  
*17.5.00* *17.5.00*

The amount of Entry Fee.. £ *1* : : : When applied for.  
 Special *£ 12* : *9* : : *14/5/1900*  
 Donkey Boiler Fee *£ 2* : *2* : :  
 Travelling Expenses (if any) £ : : : *10/10/1900*

*Wm. R. Austin.*  
 Engineer-Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute **FRI. 18 MAY 1900**

Assigned

+ L.M.C. 5.00  
*elect light*

MINISTRY CERTIFICATE  
 WRITTEN.



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