

# REPORT ON MACHINERY.

5894

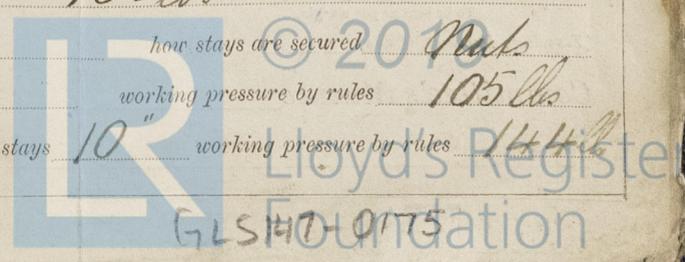
No. 5894 (Received at London Office 26 Nov. 82)  
 No. in Survey held at Glasgow. Date, first Survey Feb. 8<sup>th</sup> Last Survey Oct 24<sup>th</sup> 1882  
 Reg. Book. on the Screw Steamer "Kauaiti" Tons 430.35  
285.51  
 Master J. Patterson Built at Paisley When built 1882  
 Engines made at Paisley By whom made Fleming & Ferguson when made 1882  
 Boilers made at do By whom made do when made 1882  
 Registered Horse Power 70 Owners Gibson Ferrier Esq<sup>r</sup> Port belonging to Dunedin

**ENGINES, &c.—**

Description of Engines Inverted Direct acting, Compound, Surface condensing.  
 Diameter of Cylinders 20 + 40" Length of Stroke 30" No. of Rev. per minute 60 Point of Cut off, High Pressure 5/8 Low Pressure 5/8  
 Diameter of Screw shaft 7" Diameter of Tunnel shaft 6 3/4" Diameter of Crank shaft journals 7" Diameter of Crank pin 7" size of Crank webs 8 1/2 x 4 1/2  
 Diameter of screw 10-0" Pitch of screw 13-0" No. of blades Four state whether moveable Yes total surface 22 sq ft  
 No. of Feed pumps One diameter of ditto 3 1/2" Stroke 15" Can one be overhauled while the other is at work —  
 No. of Bilge pumps One diameter of ditto 3 1/2" Stroke 15" Can one be overhauled while the other is at work —  
 Where do they pump from Bilges & Holds  
 No. of Donkey Engines One & hand Size of Pumps Each 4 pump 10 inch Where do they pump from Yanks, sea, Bilges, Holdwell & Holds.  
 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 3 1/2" Are they connected to condenser, or to circulating pump Circulating  
 How are the pumps worked By levers from Low Engine  
 Are all connections with the sea direct on the skin of the ship No 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 ~~below~~ the deep water line yes  
 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 Before launching.  
 Is the screw shaft tunnel watertight yes and fitted with a sluice door yes worked from Engine room level with deck.

**BOILERS, &c.—**

Number of Boilers One Description Cylindrical Multitubular.  
 Working Pressure 80 lbs Tested by hydraulic pressure to 160 lbs Date of test Sept<sup>r</sup> 21<sup>st</sup> 1882  
 Description of ~~heating apparatus~~ steam chest Vertical  
 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 54 sq ft Description of safety valves Direct acting springs.  
 No. to each boiler Two area of each valve 15.9 sq ins 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~~ 10"  
 Diameter of boilers 12-0 Length of boilers 9-0 description of riveting of shell long. seams Double butt. circum. seams Double lap.  
 Thickness of shell plates 13/16" diameter of rivet holes 1 3/16" whether punched or drilled Punched pitch of rivets 4 3/4"  
 Lap of plating 10" butt lap per centage of strength of longitudinal joint 75 working pressure of shell by rules 80 lbs.  
 Size of manholes in shell 17 1/2 x 13 1/2" size of compensating rings 4 1/2 x 3/4"  
 No. of Furnaces in each boiler Three outside diameter 3-1" length, top 5-9" bottom 8-3"  
 Thickness of plates 7/16" description of joint Butt. if rings are fitted yes greatest length between rings 5-9"  
 Working pressure of furnace by the rules 81 lbs  
 Combustion chamber plating, thickness, sides 1/2" back 1/2" top 1/2"  
 Pitch of stays to ditto sides 8" back 8" top 10 x 7"  
 If stays are fitted with nuts or riveted heads Both. working pressure of plating by rules 80 lbs.  
 Diameter of stays at smallest part 1 3/8" screw. working pressure of ditto by rules 105 lbs.  
 End plates in steam space, thickness 3/4" pitch of stays to ditto 15" how stays are secured 20 Nuts  
 Working pressure by rules 89 lbs diameter of stays at smallest part 2 1/4" working pressure by rules 105 lbs  
 Front plates at bottom, thickness 3/4" Back plates, thickness 3/4" greatest pitch of stays 10" working pressure by rules 144 lbs



Form No. 8-3710 (80) 2000.

5894 gls

Diameter of tubes  $3\frac{1}{4}$ " pitch of tubes  $4\frac{1}{2}$ " thickness of tube plates, front  $\frac{3}{4}$ " back  $\frac{5}{8}$ "  
 How stayed *Tubes & ribs* pitch of stays  $15 \times 9$ " width of water spaces  $5$ "  
 Diameter of ~~Superheater or~~ Steam chest  $2-0$ " length  $3-0$ "  
 Thickness of plates  $\frac{1}{2}$ " description of longitudinal joint *Welded* diameter 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  $\frac{1}{2}$ " How stayed —  
 Superheater or steam chest; how connected to boiler *Riveted*

**DONKEY BOILER**— Description *Upright cylindrical*  
 Made at *Gateshead* By whom made *Blake, Chapman & Gurney* when made *Tested September 14<sup>th</sup> 1882*  
 Where fitted *In workshop* working pressure  $80$  lbs Tested by *Hydraulic* pressure to  $160$  lbs No. of Certificate *977*  
 Fire grate area  $16$  sq ft Description of safety valves *Direct spring* No. of safety valves *One* area of each  $9.6$  sq ins  
 If fitted with easing gear *Yes* If steam from main boilers can enter the donkey boiler *No*  
 Diameter of donkey boiler  $5-06$ " length  $9-0$ " description of riveting *Double, lap*  
 thickness of shell plates  $\frac{1}{2}$ " diameter of rivet holes  $\frac{7}{8}$ " whether punched or drilled *Punched*  
 pitch of rivets  $3\frac{1}{4}$ " lap of plating  $4\frac{1}{8}$ " per centage of strength of joint  $73$   
 thickness of crown plates  $\frac{9}{16}$ " stayed by *Dished & 5 stays*  
 Diameter of furnace, top  $4-2\frac{1}{2}$ " bottom  $4-8$ " length of furnace  $3-10$ "  
 thickness of plates  $\frac{9}{16}$ " description of joint *Single Lap*  
 thickness of furnace crown plates  $\frac{9}{16}$ " stayed by *As above*  
 Working pressure of shell by rules  $85$  lbs working pressure of furnace by rules  $80$  lbs  
 diameter of uptake  $14$ " thickness of plates  $\frac{3}{8}$ " thickness of water tubes  $\frac{3}{8}$ "

The foregoing is a correct description,  
*Fleming & Ferguson* Manufacturer.

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

*These Engines & Boilers have been constructed under special survey, they are of good material & workmanship they have been satisfactorily fitted on board & tested under steam. I am therefore of opinion that they are eligible to be classed "LLOYD'S L.C." 10-82 in the Register Book.*

*Submitted that this vessel is eligible to have Lloyd's L.C. 10-82*  
*W 7.11*

The amount of Entry Fee .. £  $2 : 0 : 0$  received by me,  
 Special *W.C.* .. £  $10 : 10 : 0$   
 Certificate (if required) .. £ *Coates 3/11* 1882  
 To be sent as per margin.  
 (Travelling Expenses, if any, £ ..)

*Walter E. Robinson*  
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute *Tuesday 7th November 1882*

*+ L.M.C.*

