

# REPORT ON MACHINERY.

4276

No. 5662 Port of Dundee Received at London Office THURS. 5 OCT 1891  
 No. in Survey held at Dundee Date, first Survey Jan'y 21<sup>st</sup> Last Survey Oct 10<sup>th</sup> 1891  
 Reg. Book. S. S. "Golfer" (Number of Visits 21)  
 on the S. S. "Golfer" Tons { Gross 346  
 Master Webster Built at Aberdeen By whom built Messrs J. Guthrie & Sons & Co When built 1891  
 Engines made at Dundee By whom made Messrs Guthrie & Sons when made 1891  
 Boilers made at Dundee By whom made Messrs Guthrie & Sons when made 1891  
 Registered Horse Power 50 Owners Mr. Robert Thomson Port belonging to London

## ENGINES, &c.—

Description of Engines Triple expansion - Surface condensing No. of Cylinders Three  
 Diam. of Cylinders 12" - 18" - 30" Length of Stroke 21" Rev. per minute 58 Point of Cut off, High Pressure 58 Low Pressure 58  
 Diameter of Screw shaft 6 1/4 Diam. of Tunnel shaft 6" Diam. of Crank shaft journals 6 1/4 Diam. of Crank pin 6 1/4 size of Crank webs 4 1/4 + 12 3/4  
 Diameter of screw 8' - 0" Pitch of screw 10' - 0" No. of blades 4 state whether moveable no total surface 23.6 sq  
 No. of Feed pumps 1 diameter of ditto 2 1/4 Stroke 12 Can one be overhauled while the other is at work ✓  
 No. of Bilge pumps 1 diameter of ditto 2 1/4 Stroke 12 Can one be overhauled while the other is at work ✓  
 Where do they pump from all bilges & discharge overboard  
 No. of Donkey Engines 1 Size of Pumps 5" - 2 3/4" x 6" Where do they pump from sea, bilges, ballast  
discharge overboard, boiler & fore peak & condenser  
 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 1 and sizes 3" Are they connected to condenser, or to circulating pump circulating pumps  
 How are the pumps worked by levers from L.P. engine  
 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  
 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 never  
 Is the screw shaft tunnel watertight access only and fitted with a sluice door ✓ worked from ✓

## BOILERS, &c.—

No. of Boilers 1 Description Circular multitubular Material Steel tubes of iron Letter (for record) (S)  
 Working Pressure 160 lbs Tested by hydraulic pressure to 320 lbs Date of test July 2<sup>nd</sup> 1891  
 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 30 Description of safety valves spring No. to each boiler 2  
 Area of each valve 3.94 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 12 ins Diameter of boilers 10' - 6"  
 Length of boilers 10' - 0" description of riveting of shell long. seams double butt 2 1/2 row circum. seams double riv lap Thickness of shell plates 15/16  
 Diameter of rivet holes 1 1/16 whether punched or drilled drilled pitch of rivets 4 1/16" Lap of plating 16 3/8"  
 Per centage of strength of longitudinal joint 85% working pressure of shell by rules 164 lbs size of manholes in shell 18 x 17"  
 Size of compensating rings 2 1/2 x 4 x 4 3/4 No. of Furnaces in each boiler 2 Description of Furnaces plain - one ring  
 Outside diameter 37 3/8" length 6' - 6" thickness of plates 7/16" description of joint double butt if rings are fitted one  
 Greatest length between rings 3' - 5" working pressure of furnace by the rules 161 combustion chamber plating, thickness, sides 9/16" back 9/16" top 9/16"  
 Pitch of stays to ditto, sides 7 3/4" back 7 3/4" top 7 3/4" If stays are fitted with nuts or riveted heads nuts working pressure of plating by rules 161 Diameter of stays at smallest part 1 1/2 x 1 1/4" working pressure of ditto by rules 163 end plates in steam space, thickness 39/32 doubling 39/32  
 Pitch of stays to ditto 15 3/4 x 15 1/2" how stays are secured double nuts working pressure by rules 160 lbs diameter of stays at smallest part 2 3/8" working pressure by rules 163 lbs Front plates at bottom, thickness 4/16 doubling 3/16 Back plates, thickness 3/16 doubling 3/16  
 Greatest pitch of stays ✓ working pressure by rules ✓ Diameter of tubes 3 1/4" pitch of tubes 5 1/4 x 4 7/8" thickness of tube plates, front 39/32 doubling 39/32 back 39/32 how stayed stay tubes pitch of stays 10 1/2 x 9 1/4" width of water spaces 11 1/4"  
 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 ✓



4276 Alm

**DONKEY BOILER—** Description *Vertical with two cross tubes*  
 Made at *Aberdeen* by whom made *Messrs Blackie & Co.* when made *1891* where fixed *Stokehold*  
 Working pressure *80* tested by hydraulic pressure to *160 lbs* No. of Certificate *108* fire grate area *11 sq ft* description of safety  
 valves *direct spring* No. of safety valves *one* area of each *7.0 sq ft* fitted with easing gear *yes* if steam from main boiler  
 enter the donkey boiler *No* diameter of donkey boiler *4.6* length *10 ft* description of riveting *Vertical dbl riv*  
 Thickness of shell plates *3/8* diameter of rivet holes *1 1/8* whether punched or drilled *drilled* pitch of rivets *2 3/4* lap of plating *4 1/2*  
 per centage of strength of joint *70%* thickness of crown plates *9/16* stayed by *uptake and four 1 1/2 stays*  
 Diameter of furnace, top *3.9* bottom *3.10 1/2* length of furnace *5.5* thickness of plates *1/2* description of joint *dbl riv lap*  
 Thickness of furnace crown plates *1/2* stayed by *as above* working pressure of shell by rules *98*  
 Working pressure of furnace by rules *87 lbs* diameter of uptake *11* thickness of plates *3/8* thickness of water tubes *3/8*

**SPARE GEAR.** State the articles supplied:— *2 connecting rod top end bolts: 2 connecting rod bottom end bolts: 2 main bearing bolts: 6 coupling bolts 2 main feed check valve two main feed valves two bilge pump valves set of high pressure piston springs 2 high pressure piston springs*

The foregoing is a correct description,

*Gairney Brothers & Co* Manufacturer.

**General Remarks** (State quality of workmanship, opinions as to class, &c. *The machinery of this vessel has been built under special survey in accordance with the approved plans sent herewith - The main boiler is constructed of steel which has been tested at the steel works by one of the City's Surveyors and the certificates test are annexed. The safety valves of main & donkey boilers have been set to work pressure of 160 lbs and 80 lbs respectively. The engines have been seen running under steam with satisfactory result. Materials and workmanship are good. The machinery is in good condition and safe working order and the vessel is in our opinion eligible to be classed with the certification LMC-10-91*

$$\frac{1}{2} \left( \frac{30^2 \times 121}{100} + \frac{800}{15} \right) = 147 \text{ HP}$$

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

Special .. £ 8 : - : -

Donkey Boiler Fee .. £ 2 : 2 : -

Certificate (if required) .. £ : : Oct 14 1891

To be sent as per margin.

(Travelling Expenses, if any, £ )

Committee's Minute TUES. 20 OCT 1891

TUES. 24 NOV 1891

TUES. 8 DEC 1891

*Harry Clarke & L. Minnamarsh*  
 Engineers Surveyors to Lloyd's Register of British & Foreign Shipping.

Lloyd's Register  
 Foundation