

# REPORT ON MACHINERY.

4466

No. 146

No. in Survey held at Reg. Book.

Dundee

Date, first Survey 29/9/81

Last Survey 14<sup>th</sup> March 1882

(Received in London Office RECEIVED 10th MAR. 82.)

on the

I.S.S. "Casino"

Tons 274.47  
425.24

Master A.G. Wilson

Built at Dundee

When built March 1882

Engines made at Dundee

By whom made Gourlay Bros when made " 1882

Boilers made at do

By whom made do " " when made 1882

Registered Horse Power 65 Owners

T.B. Nicoll

Port belonging to Sydney

## ENGINES, &c.—

Description of Engines Direct acting Compound Inlet Cross surface Condensing

Diameter of Cylinders 21" 36" Length of Stroke 24" No. of Rev. per minute 90 Point of Cut off, High Pressure 1/2 Low Pressure 1/2

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 4 3/4 x 8 1/4

Diameter of screw 9" 6" Pitch of screw 9" 6" No. of blades 4 state whether moveable Sol total surface 24 feet

No. of Feed pumps one diameter of ditto 4 1/2" Stroke 5" Can one be overhauled while the other is at work c

No. of Bilge pumps one diameter of ditto 4 1/2" Stroke 5" Can one be overhauled while the other is at work c

Where do they pump from all compartments

No. of Donkey Engines one Size of Pumps 5" x 5" x 3" Where do they pump from sea tank all -

Compartments = to boilers thro ship side and on Deck

Are all the bilge suction pipes fitted with roses yes Are the roses always accessible yes when vessel not load Are the sluices on Engine room bulkheads always accessible yes

No. of bilge injections one and sizes 2" Are they connected to condenser, or to circulating pump circulating

How are the pumps worked Air and circulating direct from piston crosshead - bilge and feed from pin in end of crank shaft

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 c

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 before launch 21/2/82

Is the screw shaft tunnel watertight yes and fitted with a sluice door yes worked from top of cylinders

## BOILERS, &c.—

Number of Boilers one Description steel Circular Tubular

Working Pressure 70 lbs Tested by hydraulic pressure to 140 lbs Date of test 11<sup>th</sup> January 1882

Description of superheating apparatus steam chest Horizontal Domb

Can each boiler be worked separately c Can the superheater be shut off and the boiler worked separately c

Area of square feet of fire grate surface in each boiler 39 feet Description of safety valves Direct spring load S.B. & Co

No. of safety valves to each boiler two area of each valve 9.62"² Are they fitted with easing gear yes

No. of safety valves to superheater c area of each valve c are they fitted with easing gear c

Smallest distance between boilers and bunkers or woodwork 6"

Diameter of boilers 12" 0" Length of boilers 8" 9" description of riveting of shell long. seams Lap-Hebble N circum. seams Lap D.R.

Thickness of shell plates 7/8" diameter of rivet holes 1" whether punched or drilled drilled pitch of rivets 4 3/16"

No. of plating 7 1/2" & 4 1/2" per centage of strength of longitudinal joint 76% working pressure of shell by rules 75 lbs

No. of manholes in shell 19" x 13" size of compensating rings 4" x 4" x 3/4"

No. of Furnaces in each boiler three outside diameter 36" 32" length, top 6" 0" bottom 6" 0"

Thickness of plates 7/16" description of joint Butt D.R. if rings are fitted no greatest length between rings c

Working pressure of furnace by the rules 79 lbs

Combustion chamber plating, thickness, sides 7/16" back 7/16" top 7/16"

Thickness of stays to ditto sides 8 3/4" x 8 3/4" back 8 3/4" x 8 3/4" top round

Are stays fitted with nuts or riveted heads Nuts both ends working pressure of plating by rules 71 lbs

Diameter of stays at smallest part 1 3/2" round sides 1 15/32" B.T. working pressure of ditto by rules 4868 lbs

Thickness of plates in steam space, thickness 1/30" pitch of stays to ditto 18 1/2" x 15" how stays are secured thro ends & nuts

Working pressure by rules 86 lbs diameter of stays at smallest part 2 3/16" working pressure by rules 5096 lbs

Thickness of plates at bottom, thickness 9/16" Back plates, thickness 9/16" greatest pitch of stays 13" x 8 1/2" working pressure by rules 6383 lbs

DUP 107-0280

Diameter of tubes  $3\frac{1}{2}$ " pitch of tubes  $4\frac{3}{4}$ " thickness of tube plates, front  $\frac{4}{16}$ " back  $\frac{4}{16}$ "  
 How stayed *tubes nuts* pitch of stays  $14\frac{1}{2} \times 14\frac{1}{2}$ " width of water spaces  $1\frac{1}{2}$ "  
 Diameter of ~~Superheater~~ Steam chest  $3\cdot 0$ " length  $7\cdot 0$ "  
 Thickness of plates  $\frac{7}{16}$ " description of longitudinal joint *Lap D.R.* diameter of rivet holes  $\frac{3}{4}$ " pitch of rivets  $2\frac{1}{2}$ "  
 Working pressure of shell by rules  $70\%$   $192\text{ lbs}$  Diameter of flue  $\text{---}$  thickness of plates  $\text{---}$   
 If stiffened with rings  $\text{---}$  distance between rings  $\text{---}$  Working pressure by rules  $\text{---}$   
 End plates of ~~superheater~~ steam chest; thickness  $\frac{4}{16}$ " How stayed *by 3 bolt stays the ends 1\frac{15}{16} dia.*  
~~Superheater~~ steam chest; how connected to boiler *by two malleable necks riveted to shells*

**DONKEY BOILER**— Description *one round vertical cross tube in fire box*  
 Made at *Dundee* By whom made *Gourlay Bros. Co* when made *March 1882*  
 Where fixed *Stikehold* working pressure  $50\text{ lbs}$  Tested by hydraulic pressure to  $100\text{ lbs}$  No. of Certificate  $155$   
 Fire grate area  $12\text{ feet}$  Description of safety valves *Direct S.L.* No. of safety valves *one* area of each  $7\text{ sq.}$   
 If fitted with easing gear *yes* If steam from main boilers can enter the donkey boiler *no*  
 Diameter of donkey boiler  $4\cdot 8$ " length  $8\cdot 3$ " description of riveting *Lap Double riveted*  
 thickness of shell plates  $\frac{7}{16}$ " diameter of rivet holes  $\frac{3}{4}$ " whether punched or drilled *punched*  
 pitch of rivets  $2\frac{7}{8}$ " lap of plating  $3\frac{7}{8}$ " per centage of strength of joint  $80\%$   
 thickness of crown plates  $\frac{1}{2}$ " stayed by *4 gusset stays from sides to top*  
 Diameter of furnace, top  $3\cdot 6$ " bottom  $3\cdot 10$ " length of furnace  $4\cdot 6$ "  
 thickness of plates  $\frac{3}{8}$ " description of joint *Lap single riveted*  
 thickness of furnace crown plates  $\frac{7}{16}$ " stayed by *dished*  
 Working pressure of shell by rules  $81\text{ lbs}$  working pressure of furnace by rules  $68\text{ lbs}$   
 diameter of uptake  $13\frac{3}{4}\text{ in}$  thickness of plates  $\frac{7}{16}$ " thickness of water tubes  $\frac{5}{16}$ "

The foregoing is a correct description,  
*Gourlay Bros. Co.* Manufacturer.

General Remarks (State quality of workmanship, opinions as to class, &c. *The boilers and machinery*)  
 of this vessel have been built in accordance with the requirements of the Rules, and to plans of boilers submitted for the Committee's approval dated 3/10/81. The material and workmanship are of the best description. The safety valves have been tested by steam and set to a working pressure of 70 lbs per square inch, and the machinery seen at work and all found satisfactory, and in my opinion are in good & safe working order, and eligible to be entered into the Register Book with the distinctive mark  
 \* Lloyd's M. B. <sup>in red</sup> 14.3.82.

*It is submitted that this vessel is eligible to have the notation M.B. recorded  
 J.M. 17/3/82*

The amount of Entry Fee  $\text{---}$  £ 2 : 0 : 0 received by me,  
 Special  $65\text{/-}$  .. £ 9 : 15 : 0  
 Certificate (if required) .. £ : 2 : 6 15.0 1882  
 To be sent as per margin.  
 (Travelling Expenses, if any, £ )  
 Committee's Minute *Friday, March, 17th, 1882*

*John Sturrock*  
 Marine Surveyor to Lloyd's Register of British & Foreign Shipping.  
 Dundee District

*Lloyd's*