

and on the starboard side - 20 intercostal keelson plates renewed.
2 butt straps to bottom plating renewed in flat of bottom. A bulkhead shifted in the after part of the vessel. and a bulkhead forward which was stopped at the lower deck has now been extended to the upper deck. Plates $\frac{5}{16}$ - 2 stiffeners $2\frac{1}{2} \times 2\frac{1}{2} \times \frac{5}{16}$. 30 inches apart. Double frame angle iron to the bulkheads.

14 plates of the top of ballast tank renewed on the port side and 11 plates renewed on the starboard side. The oak waterway around the edge of ballast tank renewed and renewed with P. Pine - 2 angle iron stanchions supporting top of ballast tank renewed with angle iron $3 \times 3 \times \frac{1}{2}$.

18 reverse frames renewed on the port and 19 on the starboard side. 9 additional reverse frames fitted as compensation for partially wasted frames on the starboard and 5 on the port side. 5 doubling plates fitted to sheerstrake on the port side and 6 on the starboard side - each being about five feet in length. 4 doubling plates fitted to sheerstrake - each about 8 feet long on the starboard and 5 on the port side.

Five new beams fitted in tween decks each $4 \times 3 \times \frac{1}{2}$. Vertical stringers renewed in tween decks all around the vessel - on the inside - with plates $15 \times \frac{5}{16}$. 7 plates on the starboard side of bow and 6 on the port side renewed with $\frac{3}{8}$ and $\frac{7}{16}$ plates - 1 plate renewed on each side of stern - $\frac{3}{8}$ thick. Upper deck stringer renewed all round the ship with plates $30 \times \frac{7}{16}$. All the tie plate renewed $9 \times \frac{7}{16}$. Deck plates fitted under windles $\frac{7}{16}$. P. Pine half beams fitted each side - also 3 new whole beams fitted. A forecabin built - 20 ft in length. every frame continued to the top - plating $\frac{3}{8}$ thick.

Subways new, of iron, $\frac{3}{16}$ - with stanchions at intervals of 6 feet. A new fitted as per sketch approved - and attached hereto. with 6 partial bulkheads of iron, stiffening the side plating as shown. See Sec^y letter of 7 July 1882.

The main hatchway is continued in accordance with approved sketch - attached hereto - (see Sec^y letter 6 April 1882) - bunker bulkheads $\frac{1}{4}$ - Stiffeners $2\frac{1}{2} \times 30$ apart. Shaft tunnel bulkhead. $\frac{3}{8} \times \frac{1}{4}$ plate - stiffeners $1\frac{1}{2} \times 3 \times \frac{3}{8}$ - 4.

Upper deck - new - of $\frac{3}{8}$ Teak - Straps of Yellow Pine - 3 and forecabin all of $2\frac{1}{2}$ P. Pine. Vessel port new cemented - Chain cables now supplied 120 fms - 18 - Bower - $2\frac{1}{2} \times 2\frac{1}{2} \times \frac{1}{2}$ Test No 10991 - Netherton 14/12. Signed 1884.

60 fms $\frac{3}{4}$ - Stream - $6 \times 15 \times 0$ Test No 10978 - " " " "

Ballast tanks tested with water pressure due to the height of light water mark - All waste and spars new - The thicknesses of plating are as stated in my letter of 14th January 1882.

L. Hearle
M. Lloyd

REPORT ON MACHINERY.

No. 478
No. in Survey held at Bristol & Cardiff Date, first Survey 5th June 1882
Reg. Book. 258 on the Iron S.S. "Geelong" late Thomas Powell Last Survey 3rd October 1882
Master James Byrne O'Callaghan Built at Bristol When built 1856
Engines made at Bristol By whom made G. K. Stott & Co when made 1882
Boilers made at " By whom made " when made 1882
Registered Horse Power 99 Owners W. Howard Smith jun. Port belonging to Melbourne.

ENGINES, &c. - Vertical Compound Condensing.
Description of Engines
Diameter of Cylinders 24×46 Length of Stroke 30 No. of Rev. per minute 85 Point of Cut off, High Pressure $\frac{5}{8}$ Low Pressure $\frac{5}{8}$
Diameter of Screw shaft 8 Diameter of Tunnel shaft $8\frac{1}{4}$ Diameter of Crank shaft journals 8 Diameter of Crank pin $8\frac{1}{2}$ size of Crank webs $9\frac{1}{2} \times 6$
Diameter of screw $9\frac{1}{2}$ Pitch of screw 15 No. of blades 4 state whether moveable No total surface 32
No. of Feed pumps 2 diameter of ditto $3\frac{1}{2}$ Stroke 15 Can one be overhauled while the other is at work Yes
No. of Bilge pumps 2 diameter of ditto $3\frac{1}{2}$ Stroke 15 Can one be overhauled while the other is at work Yes
Where do they pump from Engine Room & both holds
No. of Donkey Engines 2 Size of Pumps $7\frac{1}{2} \times 8$ & 10×8 Where do they pump from Engine Room, both holds, Tanks, feeding the boiler through condenser and on deck.
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 $4\frac{1}{2}$ Are they connected to condenser, or to circulating pump Condenser.
How are the pumps worked by lever
Are all connections with the sea direct on the skin of the ship Yes Are they Valves or Cocks One valve & cocks -
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 19th August 1882
Is the screw shaft tunnel watertight Yes and fitted with a sluice door Yes worked from deck.

BOILERS, &c. - Steel One Description Circular tubular
Working Pressure 90 lb p. sq. inch Tested by hydraulic pressure to 180 lb p. sq. inch Date of test 11th August 1882.
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 60 Description of safety valves Spring valves
No. to each boiler 2 area of each valve 15.9 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 6
Diameter of boilers $13\frac{1}{2}$ Length of boilers $9\frac{1}{2}$ description of riveting of shell long. seams double butt lap circum. seams Lap joint double riv.
Thickness of shell plates $13\frac{1}{16}$ diameter of rivet holes $1\frac{1}{16}$ whether punched or drilled drilled pitch of rivets $4\frac{1}{2}$
Lap of plating double butt lap per centage of strength of longitudinal joint 76 working pressure of shell by rules 90 lb.
Size of manholes in shell 10×12 size of compensating rings $5\frac{1}{4} \times 5\frac{1}{8}$
No. of Furnaces in each boiler 3 outside diameter $3\frac{1}{4}$ length, top $6\frac{1}{2}$ bottom $9\frac{1}{2}$
Thickness of plates $\frac{1}{2}$ description of joint single butt lap d. if rings are fitted Yes greatest length between rings $6\frac{1}{2}$
Working pressure of furnace by the rules 124
Combustion chamber plating, thickness, sides $\frac{1}{2}$ back $\frac{1}{2}$ top $\frac{1}{2}$
Pitch of stays to ditto sides $7\frac{1}{2} \times 7\frac{1}{2}$ back $7\frac{1}{2} \times 7\frac{1}{2}$ top $7\frac{1}{2}$
If stays are fitted with nuts or riveted heads Nuts working pressure of plating by rules 135
Diameter of stays at smallest part $1\frac{1}{8}$ working pressure of ditto by rules 112
End plates in steam space, thickness $\frac{3}{4}$ pitch of stays to ditto 15×13 how stays are secured by nuts & washers
Working pressure by rules 90 diameter of stays at smallest part $2\frac{1}{8}$ working pressure by rules 94
Front plates at bottom, thickness $\frac{1}{16}$ Back plates, thickness $\frac{1}{16}$ greatest pitch of stays $7\frac{1}{2}$ working pressure by rules

Register
Foundation

Diameter of tubes $3\frac{1}{2}$ " pitch of tubes $4\frac{3}{4} \times 4\frac{3}{4}$ " thickness of tube plates, front $11/16$ " back $11/16$ "
 How stayed stay tubes pitch of stays $14\frac{1}{2} \times 14\frac{1}{2}$ " width of water spaces
 Diameter of Superheater or Steam chest length
 Thickness of plates description of longitudinal joint 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 How stayed
 Superheater or steam chest; how connected to boiler

DONKEY BOILER— Description *Vertical cylindrical.*
 Made at *Gateshead* By whom made *Garre, Aspinwall & Gurney* when made *1882.*
 Where fixed *Storehouse* working pressure *70 lb per sq inch* Tested by hydraulic pressure to *140 lb per sq inch* No. of Certificate *27*
 Fire grate area *12^{sq}* Description of safety valves *Spring valves* No. of safety valves *One* area of each *9.67^{sq}*
 If fitted with easing gear *Yes* If steam from main boilers can enter the donkey boiler *No*
 Diameter of donkey boiler *4^{ft} 9ⁱⁿ* length *10^{ft} 6ⁱⁿ* description of riveting *double riv.*
 thickness of shell plates *7/16ⁱⁿ* diameter of rivet holes *3/4ⁱⁿ* whether punched or drilled *punched*
 pitch of rivets *3ⁱⁿ* lap of plating *3ⁱⁿ* per centage of strength of joint *68*
 thickness of crown plates *1/2ⁱⁿ* stayed by *four vertical stays*
 Diameter of furnace, top *3^{ft} 5ⁱⁿ 1/4* bottom *4^{ft} 1ⁱⁿ* length of furnace *5^{ft} 8ⁱⁿ*
 thickness of plates *1/2ⁱⁿ* description of joint *single riveted lap joint*
 thickness of furnace crown plates *1/2ⁱⁿ* stayed by *four vertical stays*
 Working pressure of shell by rules *78* working pressure of furnace by rules *112^{lb}*
 diameter of uptake *12ⁱⁿ* thickness of plates *3/8ⁱⁿ* thickness of water tubes *3/8ⁱⁿ*

The foregoing is a correct description,

C. M. Stothert & Co. Manufacturer.

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

The material and workmanship of this vessel's Engines and Boilers are good. Engines and boiler have been constructed under special survey. The Steelplates of the main boiler have been tested at the Steelworks by one of the Society's Surveyors. The spring safety valves of main boiler and donkey boiler have been tested under steam, and the accumulation of steam under full firing for 15 minutes was found not to exceed 3 percent of working pressure. The Engines worked well, indicating a good vacuum.

We are of opinion that the Machinery is entitled to the Notification *+ Lloyd's M. C. 10. 82* in the Registerbook.

The amount of Entry Fee £2 : - : received by me,

Special £14 : 17 : 7/10/82

Certificate (if required) .. £ : *Gratis* 18

To be sent as per margin.

(Travelling Expenses, if any, £3. 8/9.)

Committee's Minute

Friday, 13th October, 1882

R. E. Aspinwall & George Stoddall
Engineers for Lloyd's Register of British & Foreign Shipping.