

# REPORT ON MACHINERY.

6317

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No. 6314  
 No. in Survey held at Glasgow Date, first Survey 1<sup>st</sup> May Last Survey Nov<sup>r</sup> 13<sup>th</sup> 1883  
 Reg. Book. — on the Screw Steamer "Enterpe" (Number of Visits 13) 1446.48  
 Tons 489.85  
 Master J. S. Tonkin Built at Glasgow By whom built A. Stephen & Sons When built 1883  
 Engines made at Glasgow By whom made A. Stephen & Sons when made 1883  
 Boilers made at D<sup>r</sup> By whom made D<sup>r</sup> when made 1883  
 Registered Horse Power 180 Owners The Enterpe Steam Ship Co<sup>y</sup> Ltd. Port belonging to Cardiff

**ENGINES, &c.—**  
 Description of Engines Inverted Direct acting Compound Surface Condensing.  
 Diameter of Cylinders 32 + 60 Length of Stroke 39 No. of Rev. per minute 55 Point of Cut off, High Pressure 20 Low Pressure 20  
 Diameter of Screw shaft 10 1/2 Diam. of Tunnel shaft 10 Diam. of Crank shaft journals 10 1/2 Diam. of Crank pin 11 size of Crank webs 12 1/2 x 7  
 Diameter of screw 14-6 Pitch of screw 17-11 No. of blades Four state whether moveable Yes total surface 44 1/2 sq ft  
 No. of Feed pumps Two diameter of ditto 3 1/2 Stroke 24 Can one be overhauled while the other is at work Yes  
 No. of Bilge pumps Two diameter of ditto 3 1/2 Stroke 24 Can one be overhauled while the other is at work Yes  
 Where do they pump from Bilges, Holds & Tanks  
 No. of Donkey Engines Two hand Size of Pumps Ballast 10 1/2" 8 1/2" x 10 1/2" Donkey 8" 4" 8" Where do they pump from Bilges, Holds & Tanks.  
 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 crosshead of both engines.  
 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 Before launching  
 Is the screw shaft tunnel watertight Yes and fitted with a sluice door Yes worked from Engine room at deck.

**BOILERS, &c.—**  
 Number of Boilers Two Description Cylindrical - Mull<sup>r</sup> Whether Steel or Iron Iron Shell  
 Working Pressure 80 lbs Tested by hydraulic pressure to 100 lbs Date of test October 20<sup>th</sup> 1883.  
 Position of superheating apparatus or steam chest Horizontal  
 Can the boiler be worked separately Yes Can the superheater be shut off and the boiler worked separately —  
 Square feet of fire grate surface in each boiler 36 sq ft Description of safety valves Direct spring No. to each boiler Two  
 Area of each valve 15.9 sq in 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 9 Diameter of boilers 12-6  
 Description of riveting of shell long. seams Double riveted butt and weld circum. seams Lap double Thickness of shell plates 1  
 Diameter of rivet holes 1 3/16 whether punched or drilled Drilled pitch of rivets 4 7/8 Lap of plating 1 1/2 butt  
 Working pressure of longitudinal joint Weld 70 working pressure of shell by rules 90 lbs size of manholes in shell 15 x 11 1/2  
 Diameter of compensating rings 4 1/2 x 5 7/8 No. of Furnaces in each boiler Two  
 Diameter 4-0 length, top 7-6 bottom 10-3 thickness of plates 7/16 description of joint Weld. if rings are fitted Yes  
 Working pressure of furnace by the rules 104 lbs combustion chamber plating, thickness, sides 7/16 back 7/16 top 7/16  
 Diameter of stays at smallest part 1 3/8 working pressure of ditto by rules 118 lbs end plates in steam space, thickness 7/8  
 Diameter of stays at largest part 1-5 x 1-4 1/2 how stays are secured Nuts working pressure by rules 95 lbs diameter of stays at largest part 2 1/2  
 Working pressure by rules 105 lbs Front plates at bottom, thickness 7/8 Back plates, thickness 7/8  
 Diameter of tubes 3 1/2 pitch of tubes 4 3/4 x 4 7/8 thickness of tube 5  
 Diameter of front 7/8 back 1 1/16 how stayed Tubes pitch of stays 15 x 9 1/4 width of water spaces 5  
 Diameter of superheater or Steam chest 3-0 length 11-0 thickness of plates 7/16 description of longitudinal joint Lap diam. of rivet holes 1 3/16  
 Working pressure of shell by rules 115 lbs diameter of flue — thickness of plates — If stiffened with rings —  
 Working pressure by rules — end plates of superheater, or steam chest; thickness 1/2 how stayed One stay 1 1/2 dia  
 Superheater or steam chest; how connected to boiler Two necks 15 dia 5/8 thick

GLS148-0320

**DONKEY BOILER**— Description *Vertical - with three cross tubes*  
 Made at *Glasgow* by whom made *Alex<sup>r</sup> Stephen & Sons* when made *1883* where fixed *In. stockhold.*  
 Working pressure *150ll.* tested by hydraulic pressure to *100ll.* No. of Certificate *1198* fire grate area *23 3/4 sq ft* description of safety  
 valves *Direct springs* No. of safety valves *Two* area of each *7 sq ins* if fitted with easing gear *Yes* if steam from main boilers can  
 enter the donkey boiler *No* diameter of donkey boiler *6-6* length *10-6* description of riveting *Lap - double*  
 Thickness of shell plates *7/16* diameter of rivet holes *13/16* whether punched or drilled *Punch* pitch of rivets *2 1/2* lap of plating *4*  
 per centage of strength of joint *67-2* thickness of crown plates *1/2* stayed by *Eight stays 1 1/2 dia*  
 Diameter of furnace, top *5-5* bottom *5-10* length of furnace *5-0* thickness of plates *7/16* description of joint *Lap - single*  
 Thickness of furnace crown plates *7/16* stayed by *As above + uptake* working pressure of shell by rules *60ll.*  
 Working pressure of furnace by rules *50ll.* diameter of uptake *15* thickness of plates *7/16* thickness of water tubes *3/8*

**SPARE GEAR.** State the articles supplied:— *Top & bottom end connecting rod bolts & nuts*  
*Two main bearing bolts - Set of coupling bolts - Speed & bilge pump*  
*valves - Bolts & nuts assorted - Iron of various sizes*

The foregoing is a correct description,  
*Alex Stephen & Sons* 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 well fitted on board - satisfactorily tested under*  
*steam and I am of opinion they are eligible to be classed*  
*"LLOYD'S M.C." 11-83 in the Register Book.*  
*The approved plan of boiler, also reports on steel tests & forgings*  
*are herewith enclosed*

*No. submitted that this*  
*vessel is eligible to have*  
*the notification of the*  
*received M 19/11/83*

The amount of Entry Fee .. £ *2: 0: 0* received by me,  
 Special .. .. £ *24: 0: 0*  
 Donkey Boiler Fee .. .. £ *0: 0: 0*  
 Certificate (if required) .. £ *0: 0: 0* *16/11/1883*  
 (Travelling Expenses, if any, £ - " *8/-* )

Committee's Minute

TUESDAY 20 NOV 1883

*Walter E Robson*  
 Engineer Surveyor to Lloyd's Register of British & Foreign  
*Glasgow*