

REPORT ON MACHINERY.

Port of *Greenock*Received at London Office. **WED. 8 SEP 1897**

No. in Survey held at *Greenock* Date, first Survey *23rd May 1896* Last Survey *26th August 1897*
 Reg. Book. *140* on the *Screw Steamer "Egypt."* (Number of Visits *128*)
 Master *R. F. Briscoe*. Built at *Greenock* By whom built *Caird & Co. (Lim^d)* When built *1897*
 Engines made at *Greenock* By whom made *Caird & Co. (Lim^d)* when made *1897*
 Boilers made at *do* By whom made *do do* when made *1897*
 Registered Horse Power *2,500* Owners *Peninsular & Oriental S. N. Coy.* Port belonging to *Greenock*
 Nom. Horse Power as per Section 28 *1,355* Is Electric Light fitted *yes*

ENGINES, &c.—Description of Engines *Inverted Direct acting Triple Expansion* No. of Cylinders *Four* No. of Cranks *Four*
 Diameter of Cylinders *42¹/₄, 68¹/₄, 42¹/₄, 42¹/₄* Length of Stroke *42"* Revolutions per minute *72* Diameter of Screw shaft *as per rule 29¹/₄*
 Diameter of Tunnel shaft *as fitted 19⁵/₈* Diameter of Crank shaft journals *21"* Diameter of Crank pin *21¹/₂"* Size of Crank webs *30" x 16"*
 Diameter of screw *20¹/₄"* Pitch of screw *27¹/₂"* No. of blades *Four* State whether moveable *yes* Total surface *126¹/₂ sq. ft.*
 No. of Feed pumps *Two* Diameter of ditto *5³/₄"* Stroke *36"* Can one be overhauled while the other is at work *yes*
 No. of Bilge pumps *Two* Diameter of ditto *5"* Stroke *36"* Can one be overhauled while the other is at work *yes*
 No. of Donkey Engines *Three* Sizes of Pumps *Duplex 10" x 10" & two 8" x 10"* No. and size of Suctions connected to both Bilge and Donkey pumps
 In Engine Room & *Stokeholds* *Four 4"* & *Five separate 4¹/₂"* In Holds, &c. *Four 3¹/₂"* in holds. and one in tunnel well *3"*
 No. of bilge injections *Two* sizes *4¹/₂"* Connected to condenser, or to circulating pump *Condenser* Is a separate donkey suction fitted in Engine room & size *yes 4¹/₂"*
 Are all the bilge suction pipes fitted with roses *yes* Are the roses in Engine room always accessible *yes* Are the sluices on Engine room bulkheads always accessible *yes*
 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 line*
 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 *Bilge air, landing scupper, stiller, &c.* How are they protected *Wood & iron Cappings*
 Are all pipes, cocks, valves, and pumps in connection with the machinery and all boiler mountings accessible at all times *yes*
 Are the bilge suction pipes, cocks, and valves arranged so as to prevent any communication between the sea and the bilges *yes*
 When were stern tube, propeller, screw shaft, and all connections examined in dry dock *in slip before launching* Is the screw shaft tunnel watertight *yes*
 Is it fitted with a watertight door *yes* worked from *Top of Engine room*

BOILERS, &c.—(Letter for record *S*) Total Heating Surface of *all main* Boilers *20,864 sq. ft.* Is forced draft fitted *yes*
 No. and Description of Boilers *Three Cylindrical Multitubular* Working Pressure *170 lbs.* Tested by hydraulic pressure to *340 lbs.*
 Date of test *30.4.97* Can each boiler be worked separately *yes* Area of fire grate in each boiler *118 sq. ft.* No. and Description of safety valves to each boiler *Two direct spring* Area of each valve *17.72 sq. in.* Pressure to which they are adjusted *175 lbs.* Are they fitted with easing gear *yes* Smallest distance between boilers or uptakes and bunkers or woodwork *19"* Mean diameter of boilers *15¹/₂"*
 Length *20⁰/₀"* Material of shell plates *Steel* Thickness *1¹/₂"* Description of riveting: circum. seams *Lap double trouble* Long. seams *2 B. straps treble*
 Diameter of rivet holes in long. seams *1¹/₂"* Pitch of rivets *8³/₄" & 4³/₈"* Lap of plates or width of butt straps *20"*
 Per centages of strength of longitudinal joint *89%* Working pressure of shell by rules *170 lbs.* Size of manhole in shell *16" x 12"*
 Size of compensating ring *30" x 1¹/₂"* No. and Description of Furnaces in each boiler *Six suspension* Material *Steel* Outside diameter *47"*
 Length of plain part *top 3¹/₂" bottom 3¹/₂"* Thickness of plates *3¹/₂"* Description of longitudinal joint *Welded* No. of strengthening rings *Four bottom*
 Working pressure of furnace by the rules *200 lbs.* Combustion chamber plates: Material *Steel* Thickness: Sides *9¹/₂" & 5¹/₈"* Back *Top 3¹/₂" Bottom 1¹/₂"*
 Pitch of stays to ditto: Sides *7¹/₈" x 7¹/₈"* Back *Top 9¹/₂" x 8¹/₂"* If stays are fitted with nuts or riveted heads *Nuts except three* Working pressure by rules *183 lbs.*
 Material of stays *Steel* Diameter at smallest part *1¹/₂"* Area supported by each stay *52.5 sq. in.* Working pressure by rules *196 lbs.* End plates in steam space: Material *Steel* Thickness *1¹/₂"* Pitch of stays *17¹/₂" x 16¹/₂"* How are stays secured *Double nuts* Working pressure by rules *184 lbs.* Material of stays *Steel*
 Diameter at smallest part *2³/₄"* Area supported by each stay *297 sq. in.* Working pressure by rules *183 lbs.* Material of Front plates at bottom *Steel*
 Thickness *1³/₁₆"* Material of Lower back plate *—* Thickness *—* Greatest pitch of stays *—* Working pressure of plate by rules *—*
 Diameter of tubes *2¹/₂"* Pitch of tubes *3³/₄" x 3³/₄"* Material of tube plates *Steel* Thickness: Front *3¹/₄"* Back *3¹/₄"* Mean pitch of stays *7¹/₂"*
 Pitch across wide water spaces *14"* Working pressures by rules *231 lbs.* Girders to Chamber tops: Material *Steel* Depth and thickness of girder at centre *7¹/₂" x 3¹/₄" double* Length as per rule *50%* Distance apart *9¹/₂"* Number and pitch of Stays in each *Four 9"*
 Working pressure by rules *170 lbs.* Superheater or Steam chest; how connected to boiler *—* Can the superheater be shut off and the boiler worked separately *—* Diameter *—* Length *—* Thickness of shell plates *—* Material *—* Description of longitudinal joint *—* Diam. of rivet holes *—* Pitch of rivets *—* Working pressure of shell by rules *—* Diameter of flue *—* Material of flue plates *—* Thickness *—*
 If stiffened with rings *—* Distance between rings *—* Working pressure by rules *—* End plates: Thickness *—* How stayed *—*
 Working pressure of end plates *—* Area of safety valves to superheater *—* Are they fitted with easing gear *—*

Made at	By whom made	When made	Where fixed		
Working pressure	tested by hydraulic pressure to	No. of Certificate	Fire grate area	Description of safety valves	
No. of safety valves	Area of each	Pressure to which they are adjusted	If fitted with easing gear	If steam from main boilers can enter the donkey boiler	
	Diameter of donkey boiler	Length	Material of shell plates	Thickness	
Description of riveting long. seams		Diameter of rivet holes	Whether punched or drilled	Pitch of rivets	
Lap of plating	Per centage of strength of joint	Rivets Plates	Thickness of shell crown plates	Radius of do.	No. of Stays to do.
Dia. of stays.	Diameter of furnace Top	Bottom	Length of furnace	Thickness of furnace plates	Description of joint
	Thickness of furnace crown plates	Stayed by		Working pressure of shell by rules	
Working pressure of furnace by rules	Diameter of uptake	Thickness of uptake plates	Thickness of water tubes		

The foregoing is a correct description,
FOR CAIRD AND COMPANY, LIMITED. *Manufacturer.*

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Dates of Survey while building	During progress of work in shops -	During erection on board vessel -	Total No. of visits
	SECRETARY	1896. May 23. June 18 29. July 1. 12 15 18 21. 24 24 29. Aug. 4. 9. 11. 12 21. Sept. 1. 2. 4. 8. 11. 14 30. Oct. 2. 5. 8. 9.	
		12. 15 17 20 22 26. 29 30. Nov. 2. 3. 5. 6. 10. 11. 14. 17. 21. 25. Dec. 1. 4. 10. 14. 19. 24 29. 1897. Jan. 12. 15. 18. 21. 25. 28. Feb. 1. 2. 4. 6. 9. 10.	
		17. 18 19. 22 23. 25 26 27. Mar. 2. 4. 6. 9. 10. 11. 12. 16. 18. 22. 24. 25. 26. 27. 29 31. Apr. 1. 6. 9. 10. 11. 15. 19. 20. 22 23. 26. 27. 30. May 3. 14. 15.	
		20. 26. 31. June 4. 9. 15. 16. 24. July 1. 5. 11. 15. 19. 20. 27. 28. Aug. 3. 6. 10. 14. 21. 24. 26.	128

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

These Engines and Boilers have been specially surveyed during Construction, quality of workmanship good. Crank shafts delivered finished and others rough turned by the makers. Examined Thrust, turn & screw shafts when being finished in lathe and found them apparently sound. Tested main steam pipes by hydraulic pressure to 340 lbs per sq. inch tests satisfactory. The Engines and Boilers are satisfactorily fitted in vessel and have been tested under steam they are now in good order and safe working condition and are in my opinion eligible to be noted in Register Book **LMC 8, 97**

The Main Boilers are fitted with forced draught, (Howden's System.)

Spare gear Continued.

a set of bushes with bolts for both ends of one connecting rod, 1 air pump bucket & iron foot & head valves with seats & guards complete. 75 tubes & 225 packing ferrules for Condenser 1 set feed pump valve seats. 1 set. bilge pump valves. 1 set sanitary pump valves. 1 HP eccentric pulley. 1 escape valve spring for each ring cylinder. 2 do for feed pumps. 1 block for slide valve quadrant with 3 sets gun metal liners. 1 iron worm for turning gear. 2 main bearing bolts & nuts. 9 do for crank shaft couplings. 2 sets do for tunnel & screw shafts. 12 studs for cylinder covers. 24 do for junk rings. 6 do for cylinder stuffing boxes. 4 do for feed pumps. 6 do for air pump covers. 24 do for air pump bucket & foot valve. 20 do for discharge valve. 4 springs for main boiler safety valves. 2 sets man hole & mud hole doors for one main boiler. 1 set do for Donkey Boiler. 1 set fire bars & bearers for two main boilers. 1 set do for Donkey Boiler a quantity of bolts nuts & iron assorted.

It is submitted that
this vessel is eligible for
THE RECORD. + L. M. C.

The amount of Entry Fee..	£	3	:	4	:	When applied for,
Special	£	84	:	4	:	4. 9. 17
Donkey Boiler Fee	£	'	:	'	:	When received,
Travelling Expenses (if any) £	£	'	:	'	:	8. 9. 2

Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute **FRI, 10 SEP 1897**

Assigned

+ 2 m c 8, gup
FD. Elec. light

Greenock District

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