

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 125)
 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 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, 68¹/₂ & Two 74¹/₂ Length of Stroke 42 Revolutions per minute 72 Diameter of Screw shaft as per rule 29.4
 Diameter of Tunnel shaft as per rule 19.4 Diameter of Crank shaft journals 21 Diameter of Crank pin 21¹/₂ Size of Crank webs 30" x 16"
 Diameter of screw 20¹/₂ Pitch of screw 27¹/₂ No. of blades Four State whether moveable yes Total surface 126 sq
 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 & below
 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 sounding pipes, Distiller &c How are they protected Wood & Iron Casings
 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 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 No. and Description of safety valves to each boiler Two direct spring
 Area of each valve 17.72 sq 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 15.3"
 Length 20.0" Material of shell plates Steel Thickness 1¹/₂ Description of riveting: circum. seams Lap double treble Long. seams D. B. 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 2.48 Thickness of plates bottom 2.48 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 2¹/₂ Bottom 1¹/₂
 Pitch of stays to ditto: Sides 7¹/₈ x 7¹/₈ Back Top 9¹/₄ x 8¹/₂ If stays are fitted with nuts or riveted heads nuts except this Working pressure by rules 183 & 232 lbs
 Material of stays Steel Diameter at smallest part 1¹/₂ & 1¹/₂ Area supported by each stay 52.58 x 81.0" Working pressure by rules 196 & 206 End plates in steam space: washers 1¹/₂ x 1"
 Material Steel Thickness 1¹/₂ Pitch of stays 17¹/₂ & 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 Working pressure by rules 183 lbs Material of Front plates at bottom Steel
 Thickness 1³/₁₆ Material of Lower back plate do Thickness do Greatest pitch of stays do Working pressure of plate by rules do
 Diameter of tubes 2¹/₂ Pitch of tubes 3³/₄ x 3³/₄ Material of tube plates Steel Thickness: Front 3¹/₄ & 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 7¹/₄ double Length as per rule 50¹/₂ 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 do Can the superheater be shut off and the boiler worked separately do
 Diameter do Length do Thickness of shell plates do Material do Description of longitudinal joint do Diam. of rivet holes do
 Pitch of rivets do Working pressure of shell by rules do Diameter of flue do Material of flue plates do Thickness do
 If stiffened with rings do Distance between rings do Working pressure by rules do End plates: Thickness do How stayed do
 Working pressure of end plates do Area of safety valves to superheater do Are they fitted with easing gear do

If not, state whether, and when, one will be sent? Is a Report...

DONKEY BOILER— Description _____
 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 _____ 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 _____

SPARE GEAR. State the articles supplied:— 2 bronze propeller blades, 1 screw shaft, 1 length crank shaft, 1 Fan Engine, 1 HP Cylinder cover, 1 HP V.I.P piston, 1 set packing rings for each size piston, 1 HP V.I.P piston valve & Casings, 1 LP Slide valve, 1 HP, 1 IP V.I.P Valve spindle, 1 gland in holes for each Cylinder, stuffing box, Spare valve Springs for starting gear.

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

William McIntosh

Dates of Survey while building	During progress of work in shops - -	SECRETARY	1896. May 23, June 18, 29, July 1, 12, 15, 18, 21, 24, 27, 29, Aug. 4, 7, 12, 21, Sept. 1, 2, 4, 8, 11, 14, 30, Oct. 2, 5, 9, 12, 15, 17, 20, 22, 26, 28, Nov. 2, 4, 5, 11, 14, 17, 21, 25, Dec. 1, 4, 10, 14, 19, 24, 29, 1897. Jan. 14, 15, 18, 21, 25, 28, Feb. 1, 2, 4, 6, 9, 10, 12, 13, 16, 19, 22, 23, 25, 26, 27, 29, 31, Apr. 1, 6, 9, 11, 15, 18, 19, 20, 22, 26, 27, 30, May 3, 14, 18, 20, 26, 31, June 4, 9, 15, 16, 24, July 1, 5, 12, 15, 19, 20, 22, 26, Aug. 3, 6, 10, 14, 21, 24, 26.
		During erection on board vessel - -	SECRETARY
			Total No. of visits

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 tunnel & screw shafts when being finished in lathe and found them apparently sound. Tested main steam pipes by hydraulic pressure to 340 lbs per sq. 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 chain 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, screw 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 size 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, 2 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 valves, 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. 8, 97 F.D. Blue Light

The amount of Entry Fee . . .	£ 84 : 4 : -	When applied for, 4. 9. 1897
Special	£ " : " : -	
Donkey Boiler Fee	£ " : " : -	
Travelling Expenses (if any) £	" : " : -	When received, 8. 9. 1897

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

Greenock District

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

MACHINERY CERTIFICATE WRITTEN.

Assigned

+ L.M.C. 8, 97
 F.D. Blue Light



Certificate (if required) to be sent to the Surveyors or below the space for Committee's Minute.