

REPORT ON MACHINERY.

Port of Glasgow.

THUR, 12 JAN 1899

Received at London Office

No. in Survey held at Glasgow Date, first Survey 10 Sept 1897 Last Survey 9 January 1899.

Reg. Book. on the Twin screw Steamer Omrah. (Number of Visits) Tons { Gross 8291.25 Net 4637.74

Master J. F. Ruthven Built at Glasgow. By whom built Fairfield Shipbldg. Coy. When built 1898.

Engines made at Glasgow By whom made Fairfield Shipbldg. Coy. Ld. when made 1898.

Boilers made at Glasgow. By whom made Fairfield Shipbldg. Coy. Ld. when made 1898.

Registered Horse Power Owners Orient Steam Navigation Co. Ltd. Port belonging to Glasgow.

Nom. Horse Power as per Section 28 1442 Is Electric Light fitted Yes.

ENGINES, &c.—Description of Engines Triple expansion No. of Cylinders Three No. of Cranks Three
 Diameter of Cylinders 33 - 54 1/2 - 89" Length of Stroke 54" Revolutions per minute 45 Diameter of Screw shaft 16.95"
 Diameter of Tunnel shaft 17" Diameter of Crank shaft journals 17 1/2" Diameter of Crank pin 17 1/2" Size of Crank webs 12 x 27 1/2"
 Diameter of screws 18 1/2" Pitch of screws 24 1/2" No. of blades 4 State whether moveable Yes Total surface 93 1/2 Sq. Ft.
 No. of Feed pumps 2 Diameter of ditto 8" Stroke 36" Can one be overhauled while the other is at work Yes
 No. of Bilge pumps 2 Diameter of ditto 8" Stroke 36" Can one be overhauled while the other is at work Yes
 No. of Donkey Engines Two Sizes of Pumps 1 1/2" & 2" No. and size of Suctions connected to both Bilge and Donkey pumps
 In Engine Room 2 In Holds, &c. Keelhold: one 3 1/2" dia. No. 2 Hold: Two 3 1/2" dia. No. 3 Hold: one 3 1/2" dia. No. 4 Hold: one 3 1/2" dia. No. 5 Hold: one 3 1/2" dia. No. 6 Hold: one 3 1/2" dia. In each scupper: one 3 1/2" dia.
 No. of bilge injections 2 sizes 20" Connected to condenser, or to circulating pump C.P. Is a separate donkey suction fitted in Engine room & size Yes
 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 None
 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 Hold suction How are they protected By strong wood casing
 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 ten vessels Are the screw shaft tunnels watertight Yes
 Are they fitted with watertight doors Yes worked from Top platform.

BOILERS, &c.—(Letter for record S.) Total Heating Surface of Boilers 24070 Sq. Ft. Is forced draft fitted Yes
 No. and Description of Boilers Three Babcock & Wilcox Single ended Cyl. Multi? Working Pressure 180 lbs. Tested by hydraulic pressure to 360 lbs.
 Date of test 23.6.98 Can each boiler be worked separately Yes Area of fire grate in each boiler 147 1/2 No. and Description of safety valves to each boiler Three Direct Spring Area of each valve 107 Pressure to which they are adjusted 194 lbs. Are they fitted with easing gear Yes Smallest distance between boilers or uptakes and bunkers or woodwork About 17" Mean diameter of boilers 16.10"
 Length 19' 6" Material of shell plates Steel Thickness 1 1/4" Description of riveting: circum. seams Double long. seams Double Butt strap
 Diameter of rivet holes in long. seams 1 1/2" Pitch of rivets 70" Lap of plates or width of butt straps 20 1/2"
 Per centages of strength of longitudinal joint 95% Working pressure of shell by rules 206 lbs. Size of manhole in shell 20" x 16"
 Size of compensating ring 1 1/2" diameter No. and Description of Furnaces in each boiler 3 Babcock Material Steel Outside diameter 42"
 Length of plain part 3' 9" Thickness of plates 1 1/4" Description of longitudinal joint Milded No. of strengthening rings 0
 Working pressure of furnace by the rules 186 lbs. Combustion chamber plates: Material Steel Thickness: Sides 3/8" Back 1/2" Top 3/8" Bottom 3/4"
 Pitch of stays to ditto: Sides 4 1/2" x 4 1/2" Back 4 1/2" x 4 1/2" Top 4 1/2" x 4 1/2" If stays are fitted with nuts or riveted heads Nuts Working pressure by rules 202 lbs.
 Material of stays Steel Diameter at smallest part 1 1/2" Area supported by each stay 54" Working pressure by rules 180 lbs. End plates in steam space: Material Steel Thickness 1 1/4" Pitch of stays 14 1/2" How are stays secured By nuts Working pressure by rules 214 lbs. Material of stays Steel
 Diameter at smallest part 2 1/2" Area supported by each stay 233" Working pressure by rules 195 lbs. Material of Front plates at bottom Steel Thickness 3/4" Material of Lower back plate Steel Thickness 1 1/4" Greatest pitch of stays 1 1/4" Working pressure of plate by rules 180 lbs.
 Diameter of tubes 2 1/2" Pitch of tubes 8 1/2" x 8 1/2" Material of tube plates Steel Thickness: Front 1 1/4" Back 1 1/4" Mean pitch of stays 9 1/2"
 Pitch across wide water spaces 13 1/2" Working pressures by rules 210 lbs. 194 lbs. Girders to Chamber tops: Material Steel Depth and thickness of girder at centre 6 1/2" x 13" Length as per rule 14 1/2" Distance apart 4" Number and pitch of Stays in each 6: 4 1/2"
 Working pressure by rules As per rule Superheater or Steam chest; how connected to boiler None Can the superheater be shut off and the boiler worked separately Yes
 Diameter 18" Length 14" Thickness of shell plates 1 1/4" Material Steel Description of longitudinal joint Double Diam. of rivet holes 1 1/2" Pitch of rivets 70" Working pressure of shell by rules 210 lbs. Diameter of flue 18" Material of flue plates Steel Thickness 1 1/4"
 If stiffened with rings Yes Distance between rings 14" Working pressure by rules 180 lbs. End plates: Thickness 1 1/4" How stayed By nuts
 Working pressure of end plates 180 lbs. Area of safety valves to superheater 147 1/2 Are they fitted with easing gear Yes

Is a Report also sent on the Hull of the Ship?

L1076-5000-24/2/98-Copyable Ink.]



GLS183-0010(T/12)

1668786

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:— One piston Rod, Packing Rings for each size of piston
Six pairs crosshead trusses, Three pairs crank pin trusses, Six shoes for Thrust Block, Air pump bucket, Head valve grating Rod, Two pump rams.
Two sets of Spindles, Two crosshead guide sliders, 1 centrifugal pump fan, Spindle
The foregoing is a correct description, Connecting Rod & piston Rod.

AND ENGINEERING CO., LIMITED Manufacturer.

Dates of Survey while building

During progress of work in shops	1897: Sep. 10, 16, Oct. 13, 16, 20, 22, Nov. 9, 19, Dec. 3, 8, 9, 15, 16, 23, 25, 1898: Jan. 11, 17, 27, Feb. 2, 3, 10, 14, 28, Mar. 9, 21, 31
During erection on board vessel	Apr. 19, 25, May. 14, 19, 26, June. 6, 9, 17, 23, 27, July. 8, 29, Aug. 1, 11, 16, 20, 26, Sep. 3, 5, 10, 16, 17, 20, 21, 27, 28, Oct. 4, 13, 21, 24, 25, 26, 31, Nov. 2, 7, 15
Total No. of visits	74 Dec. 12, 13, 16, 21, 27, 28, 29, 1899: Jan. 5, 7, 9

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

ENGINES—Length of stern bush 5 1/2 Diameter of crank shaft journals as per rule 16 1/2 Diameter of thrust shaft under collars 17 1/4

BOILERS—Range of tensile strength 28-32 tons Are they welded or flanged no **DONKEY BOILERS**—No. 1 Range of tensile strength 28-32 tons

Is the approved plan of main boiler forwarded herewith Yes Is the approved plan of donkey boiler forwarded herewith Yes

The engines and boilers of this vessel have been built under special survey and the materials and workmanship are good.

When the vessel was being placed in dry dock at Govan one of the blades of the starboard propeller was broken at the tip. It was taken off and a new blade fitted.

On the builders preliminary trial of the machinery the outside guide bars for the pump crossheads broke at the top on each engine. These bars have been temporarily secured and then the machinery was examined on a full power trial in the Firth of Clyde everything worked most satisfactorily. New guide bars will be fitted in London.

The machinery throughout is now in good and efficient condition, and when the new pump crosshead guide bars have been fitted, the vessel will be eligible to have the record of L.M.C. 1, 99 marked in the Society's Register Book.

It is submitted that this vessel is eligible for **THE RECORD, L.M.C. 1.99 F.D. Electric Light** subject to the new pump crosshead guide bars being fitted.

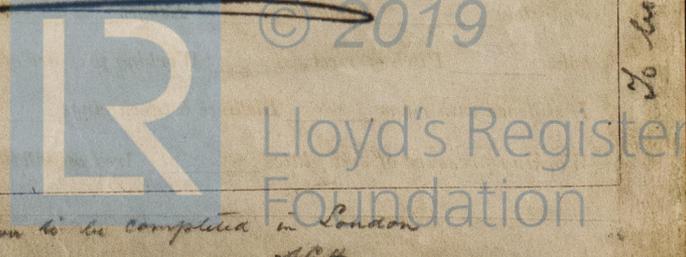
The amount of Entry Fee	£ 3	When applied for	30/12/98
Special	£ 108	When received	11/1/99
Donkey Boiler Fee	£		
Travelling Expenses (if any)	£		

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

Committee's Minute **FRI 20 JAN 1899**

Assigned **+ L.M.C. 1, 99 subject**
MACHINERY CERTIFICATE WRITTEN

The electric installation to be completed in London



Certificate (if required) to be sent to Committee's Minute.

To be reported to London

THUR, 12 JAN 1899

Port of

Glasgow

Continuation of Report No. 16687 dated 5th January 1899 on the

On the 27th Dec /98 whilst redocking the vessel received the following damage owing to the hawsers parting.

The stem at about 23 ft water mark slightly bent to port. One plate in K stroke on port side, in way of cross bunker indented, and the second plate from aft, on port side, in M stroke scored & indented.

The stem has been faired in place, & two plates on Starboard side removed for this purpose replaced.

The plate in K stroke has been removed faired & replaced, and the damaged plate in "N" stroke renewed & the adjoining plate above faired in place.

A slight indent in one plate in "N" stroke, at fore end of bridge on Starboard side, has been also faired in place.

W. Warren.