

## REPORT ON MACHINERY.

Port of Glasgow.

THUR, 12 JAN 1899

Received at London Office

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

(Number of Visits)

on the

Turni screw Steamer Omrah.Tons { Gross 8291.25  
Net 4637.74

Master

J. F. RuthvenBuilt at Glasgow.

By whom built

Fairfield Shipbuilding Co.When built 1898.

Engines made at

Glasgow

By whom made

Fairfield Shipbuilding Co. 6" L.when made 1898.

Boilers made at

Glasgow.

By whom made

Fairfield Shipbuilding Co. 6" L.when made 1898.

Registered Horse Power

Owners

Orient Steam Navigation Co. Ltd. Port belonging to Glasgow.Nom. Horse Power as per Section 28 1442Is Electric Light fitted Yes.ENGINES, &c. — Description of Engines Triple ExpansionNo. of Cylinders ThreeNo. of Cranks ThreeDiameter of Cylinders 33 - 54 1/2 - 89 Length of Stroke 57 Revolutions per minute 45 Diameter of Screw shaft 16 1/2Diameter 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 1/2Diameter of screws 18 1/2 Pitch of screws 2 1/4 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 YesNo. of Bilge pumps 2 Diameter of ditto 8 Stroke 36 Can one be overhauled while the other is at work YesNo. of Donkey Engines Two Sizes of Pumps 1 1/2 and 2 1/2 No. and size of Suctions connected to both Bilge and Donkey pumpsIn Engine Room 1 1/2 and 2 1/2 In Holds, &c. 1 1/2 and 2 1/2No. 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 Hot water How are they protected By strong wood 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 ten vessels the screw shaft tunnels watertight Yes.Are they fitted with watertight doors Yes. worked from Top platform.

## BOILERS, &amp;c. —

(Letter for record B.)Total Heating Surface of Boilers 24070 sq. ft.Is forced draft fitted Yes.No. and Description of Boilers Three 2 1/2 inch 2 1/2 inch 2 1/2 inch Working Pressure 180 lb. Tested by hydraulic pressure to 360 lb.Date of test 23.6.98 Can each boiler be worked separately Yes. Area of fire grate in each boiler 147 sq. ft. No. and Description of safety valves toeach boiler Three Direct Spring. Area of each valve 137 sq. in. Pressure to which they are adjusted 194 lb. Are they fittedwith 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 DoubleDiameter 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 98% Working pressure of shell by rules 206 lb. Size of manhole in shell 20" x 16"Size of compensating ring 1 1/2 inch 2 1/2 inch 2 1/2 inch No. and Description of Furnaces in each boiler 3 - 2 1/2 inch 2 1/2 inch 2 1/2 inch 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 0Working pressure of furnace by the rules 186 lb. Combustion chamber plates: Material Steel Thickness: Sides 9/16" Back 9/16" Top 9/16" 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 203 lb.Material of stays Steel Diameter at smallest part 1 1/2" Area supported by each stay 54" Working pressure by rules 180 lb. End plates in steam space:Material Steel Thickness 1 1/4" Pitch of stays 14 1/2 x 14 1/2 How are stays secured By nuts Working pressure by rules 214 lb. Material of stays SteelDiameter at smallest part 2 1/2" Area supported by each stay 233" Working pressure by rules 195 lb. Material of Front plates at bottom SteelThickness 3/4" Material of Lower back plate Steel Thickness 1 1/4" Greatest pitch of stays 96" Working pressure of plate by rules 186 lb.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 96"Pitch across wide water spaces 13 1/2" Working pressures by rules 210 lb. Girders to Chamber tops: Material Steel Depth andthickness 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 186 lb. Superheater or Steam chest: None Can the superheater be shut off and the boiler workedseparately Yes. Diameter 14" Length 14" Thickness of shell plates 1 1/4" Material Steel Description of longitudinal joint Double Diam. of rivetholes 1 1/2" Pitch of rivets 70" Working pressure of shell by rules 206 lb. Diameter of flue 14" Material of flue plates Steel Thickness 1 1/4"If stiffened with rings Yes. Distance between rings 14" Working pressure by rules 186 lb. End plates: Thickness 1 1/4" How stayed By nutsWorking pressure of end plates 186 lb. Area of safety valves to superheater 14" Are they fitted with easing gear Yes.

GLS183-0010(1/2)



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 trammers. Three pairs crank pin trammers. Six shoes for Thrust Block. Air pump bucket. Head valve grating Rod. Two pump rams. Two sets of guides. Two crosshead guide clippers. Centrifugal pump fan. Spindle. 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. 12, 16, 20, 22, Nov. 9, 19, Dec. 3, 8, 9, 15, 16, 23, 28, 1898: Jan. 11, 17, Feb. 2, 3, 10, 14, 28, Mar. 9, 21, 31
	During erection on board vessel—	Apr. 19, 25, May. 4, 11, 19, 26, June. 6, 9, 17, 23, 27, July. 1, 8, 29, Aug. 1, 11, 16, 20, 26, Sep. 3, 5, 11, 16, 17, 20, 21, 27, 28, Oct. 4, 13, 21, 24, 26, 28, Nov. 2, 7, 18
	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' 3". Diameter of crank shaft journals as per rule 16 1/2" as fitted 17 1/2". Diameter of thrust shaft under collars 17 1/2".

**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,
Special .. .. .	£ 108 : 12 :	30/12/98
Donkey Boiler Fee .. .	£ :	When received,
Travelling Expenses (if any) £ :	:	21/1/99

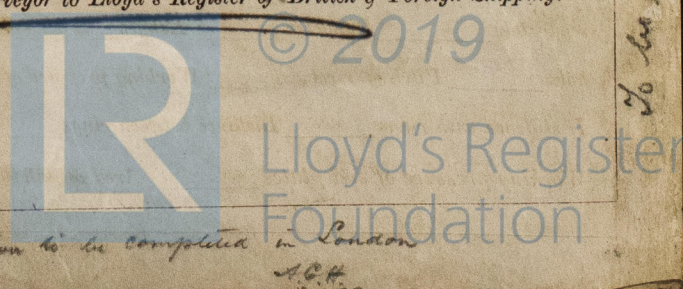
**Wm. Austin**  
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

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

Assigned **+ L.M.C. 1, 99** subject **F.D.**

MACHINERY CERTIFICATE WRITTEN.

The electric installation to be completed in London



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

Is to be reported to London Surveyors Register



THUR, 12 JAN 1899

Port of

Glasgow

Continuation of Report No. 16687 dated 5<sup>th</sup> January 1899 on the

On the 27<sup>th</sup> 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.