

# REPORT ON MACHINERY.

15845

Port of Sunderland

No. 15845

Received at London Office THURS 8 JULY 1891

No. in Survey held at S'land.

Date, first Survey 17 July 90 Last Survey 17 Dec 1890

Reg. Book.

(Number of Visits 22)

on the S/S "Urona"

Tons { Gross 2031.33  
Net 1288.23

Master R Lewis Built at S'land. By whom built J. Loring

When built 1890

Engines made at S'land. By whom made G. Clark Ld when made 1890

Boilers made at " By whom made " when made 1890

Registered Horse Power 250 Owners Bullard Eng Co. Port belonging to London.  
L.R.H.P. 216.

**ENGINES, &c.—**

Description of Engines Tri compound 3 cranks. No. of Cylinders 3

Diam. of Cylinders 31" 34" 56" Length of Stroke 42" Rev. per minute 70 Point of Cut off, High Pressure 5/8 Low Pressure 5/8

Diameter of Screw shaft 1 1/2" Diam. of Tunnel shaft 1 1/8" Diam. of Crank shaft journals 1 1/2" Diam. of Crank pin 1 1/2" size of Crank webs 8 1/2" x 2 1/2"

Diameter of screw 14-6" Pitch of screw 18-3" No. of blades 4 state whether moveable f total surface 64 1/2 sq ft.

No. of Feed pumps 2 diameter of ditto 3" Stroke 2 3/4" Can one be overhauled while the other is at work yes

No. of Bilge pumps 2 diameter of ditto 4 1/4" Stroke 2 1/2" Can one be overhauled while the other is at work yes

Where do they pump from Bilges of all compartments

No. of Donkey Engines 2 Size of Pumps 8" x 10" + 3 1/2" x 5" Where do they pump from Galves, bilges, sea

howell boilers

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 1 and sizes 4" Are they connected to condenser, or to circulating pump C.P.

How are the pumps worked by levers off S.P. engine

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 while building

Is the screw shaft tunnel watertight yes and fitted with a sluice door yes worked from top platform.

**BOILERS, &c.—**

No. of Boilers 2 Description Cyl. multi S. ended. Material Steel. Letter (for record) (S.)

Working Pressure 150 lbs. Tested by hydraulic pressure to 320 lbs. Date of test 22-10-90

Description of superheating apparatus or steam chest none

Can each boiler be worked separately yes Can the superheater be shut off and the boiler worked separately yes

No. of square feet of fire grate surface in each boiler 53 sq ft. Description of safety valves Spring No. to each boiler 2

Area of each valve 9.6" Are they fitted with easing gear yes No. of safety valves to superheater — area of each valve —

Are they fitted with easing gear yes Smallest distance between boilers and bunkers or woodwork 12" Diameter of boilers 13-8"

Length of boilers 10-6" description of riveting of shell long. seams T. r. butt. circum. seams d. r. lap. Thickness of shell plates 1 5/16"

Diameter of rivet holes 1 3/16" whether punched or drilled d. pitch of rivets 8" Lap of plating 1 1/4" Straps.

Per centage of strength of longitudinal joint 85-1 working pressure of shell by rules 155 lbs. size of manholes in shell 16" x 13"

Size of compensating rings 7 3/4" x 1 1/2" No. of Furnaces in each boiler 3 Description of Furnaces Ribbed

Outside diameter 3-3 1/2" length 6-6" thickness of plates 9/16" description of joint welded if rings are fitted no

Greatest length between rings yes working pressure of furnace by the rules 179. combustion chamber plating, thickness, sides 7/16" back 9/16" top 9/16"

Pitch of stays to ditto, sides 7/8" x 7/8" back 7/8" x 7/8" top d. angle If stays are fitted with nuts or riveted heads nuts working pressure of plating by rules 167 Diameter of stays at smallest part 1 1/2" working pressure of ditto by rules 17 1/2 end plates in steam space, thickness 1 1/16"

Pitch of stays to ditto 14 3/4" x 14" how stays are secured d. nuts working pressure by rules 150 lbs. diameter of stays at smallest part 2 3/8" working pressure by rules 193 lbs. Front plates at bottom, thickness 1/16" Back plates, thickness 3/16"

Greatest pitch of stays 11" working pressure by rules 150 Diameter of tubes 3 1/2" pitch of tubes 4 1/16" x 4 3/4" thickness of tube plates, front 7/8" back 3/16" how stayed Sty tubes pitch of stays 9 1/8" x 9 1/2" width of water spaces 1 1/2" x 1 1/2"

Diameter of Superheater or Steam chest — length — thickness of plates — description of longitudinal joint — diam. of rivet holes —

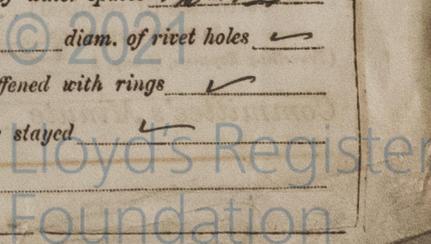
Pitch of rivets — working pressure of shell by rules — diameter of flue — thickness of plates — If stiffened with rings —

Distance between rings — working pressure by rules — end plates of superheater, or steam chest; thickness — how stayed —

Superheater or steam chest; how connected to boiler —

Heating Surface 3440 sq ft.

SLD973-0072



**DONKEY BOILER**— Description *Vertical. Multi "Victoria"*  
 Made at *Galeshead* by whom made *Clark Chapman & Co* when made *10/90* where fixed *Stoke Newington*  
 Working pressure *60 lbs.* tested by hydraulic pressure to *120 lbs.* No. of Certificate *3382* fire grate area *198* description of safety  
 valves *Spring* No. of safety valves *2* area of each *7.06 sq. ft.* if fitted with easing gear *Yes* if steam from main boilers can  
 enter the donkey boiler *No.* diameter of donkey boiler *6' 0"* length *12' 0"* description of riveting *Cap & r.*  
 Thickness of shell plates *3/8"* diameter of rivet holes *3/4"* whether punched or drilled *r.* pitch of rivets *2 3/4"* lap of plating *3 5/8"*  
 per centage of strength of joint *72.5* thickness of crown plates *7/32"* stayed by *1-1 3/8" off Stays 5 gusset Stays 10 x 7/16*  
 Diameter of furnace, top — bottom *5' 0"* length of furnace — thickness of plates *7/2"* description of joint *Cap Single*  
 Thickness of furnace crown plates *9/16"* stayed by *4 rows 12" off Stays 11" pitch* working pressure of shell by rules *75.5*  
 Working pressure of furnace by rules *80 lbs.* diameter of uptake — thickness of plates *7/8 + 1/16"* thickness of water tubes *10 B.W.G.*

**SPARE GEAR.** State the articles supplied:— *1 Set of connecting rod top bottom end bolts  
 nuts. 1 set of main bearing bolts. 1 set of coupling bolts nuts. 1 set  
 of feed and bilge pump valves. Spare propellers— nuts bolts  
 & assorted iron*

The foregoing is a correct description,  
*Henry Clark* Manufacturer. main engines boilers

**General Remarks** (State quality of workmanship, opinions as to class, &c. *The machinery and boilers  
 of this vessel have been constructed of good materials  
 and workmanship under special survey. The main  
 steam pipe was tested by hydraulic to twice the working  
 pressure the valves on the main boilers being set at 160 lbs.  
 In my opinion this vessel is eligible for the notation of  
 L.M.C. 12/90.*

**Electric lighting**— This vessel has electric lighting arrangements  
 fitted by J. H. Holmes & Co of Newcastle; the Dynamos is of the  
 slow speed type giving an E.M.F. of 60 volts; the metal is  
 is on the single wire system. the smallest wire being 10 B.W.G.  
 the insulation of all the wires appears to be efficient & where  
 carried through bulkheads is led through wooden ferrules  
 a volt meter is supplied. there are 3 circuits supplying  
 65 lamps. I am of opinion that this arrangement is in  
 accordance with the requirements of the Society's Rules  
 & Circulars.

*It is submitted that this vessel is  
 eligible to have + L.M.C. 12-90 recorded  
 n.d.  
 8-1-91*

The amount of Entry Fee .. £ 2 : 0 : 0 received by me,  
 Special .. .. £ 30 : 12 : 0  
 Donkey Boiler Fee .. .. £ - : - : -  
 Certificate (if required) .. £ - : - : - 1891  
 To be sent as per margin.

(Travelling Expenses, if any, £ )  
 Committee's Minute *9 JAN 1891*  
*+ L.M.C. 12/90*

*J. Y. Furbush*  
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

