

# REPORT ON MACHINERY. 49191

No. 292 on the London sp "Caroline"  
 Reg. Book. 292 on the London sp "Caroline"  
 Master Davies Built at London By whom built Scott Russell When built 1853  
 Engines made at S. Shields By whom made J. P. Rennoldson when made 1884  
 Boilers made at Sunderland By whom made N. S. Marine when made 1877  
 Registered Horse Power 75 Owners W. H. Sollas Port belonging to London  
 Date, first Survey 5 Decr Last Survey 18 Feb 1889  
 (Number of Visits Nine.) Tons 356,483

## ENGINES, &c.—

Description of Engines Compound Inverted  
 Diameter of Cylinders 20" & 38" Length of Stroke 26" No. of Rev. per minute 85 Point of Cut off, High Pressure Low Pressure  
 Diameter of Screw shaft 7" Diam. of Tunnel shaft 7" Diam. of Crank shaft journals 6 7/8" Diam. of Crank pin 7" size of Crank webs 8 3/8 x 4 3/8  
 Diameter of screw Pitch of screw No. of blades 3 state whether moveable No total surface  
 No. of Feed pumps one diameter of ditto 3 1/2" Stroke 12" Can one be overhauled while the other is at work ✓  
 No. of Bilge pumps one diameter of ditto 3 1/2" Stroke 12" Can one be overhauled while the other is at work ✓  
 Where do they pump from Engine room Centre  
 No. of Donkey Engines one Size of Pumps 3 1/2" Where do they pump from Hotwell & Sea  
 " " Rallast one " " 5" " " Eng Room bilge, Sea & Tank  
 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 Cocks  
 No. of bilge injections one and sizes 3 1/2" Are they connected to condenser, or to circulating pump Circulating pump.  
 How are the pumps worked Lever from after engine crosshead  
 Are all connections with the sea direct on the skin of the ship Yes Are they Valves or Cocks Valves & cocks  
 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 Jan 1889  
 Is the screw shaft tunnel watertight None and fitted with a sluice door worked from

## BOILERS, &c.—

Number of Boilers one Description Cylindrical Multitubular Whether Steel or Iron Shell & lower front and back end plates renewed with steel  
 Working Pressure 80 Tested by hydraulic pressure to 160 Date of test 21 Novr 1888  
 Description of superheating apparatus or steam chest None  
 Can each boiler be worked separately ✓ Can the superheater be shut off and the boiler worked separately ✓  
 No. of square feet of fire grate surface in each boiler 42 Description of safety valves Spring (Empire) No. to each boiler Pair  
 Area of each valve 12.56 Are they fitted with easing gear Yes No. of safety valves to superheater ✓ area of each valve ✓  
 Are they fitted with easing gear ✓ Smallest distance between boilers and bunkers or woodwork Diameter of boilers 13.0  
 Length of boilers 10 u 6 description of riveting of shell long. seams double butt circum. seams double Thickness of shell plates 23" steel  
 Diameter of rivet holes 1 1/16 whether punched or drilled drilled pitch of rivets 3 7/8 x 2 Lap of plating 32  
 Percentage of strength of longitudinal joint 77.3 working pressure of shell by rules 88 size of manholes in shell 16 x 12  
 Size of compensating rings 28 x 24 No. of Furnaces in each boiler Three  
 Outside diameter 2.11 7/8 length, top 7 u 2 bottom 9 u 9 thickness of plates 1/2 description of joint double strap single rings are fitted So  
 Greatest length between rings ✓ working pressure of furnace by the rules 88 combustion chamber plating, thickness, sides 1/2 back 1/2 top 1/2  
 Pitch of stays to ditto, sides 9 x 8 1/4 back 10 x 8 top radius If stays are fitted with nuts or riveted heads riveted working pressure of plating by rules 80 Diameter of stays at smallest part 1 1/8 working pressure of ditto by rules Some nuts end plates in steam space, thickness 3/4" iron  
 Pitch of stays to ditto 14" x 16" how stays are secured double angles working pressure by rules 90 diameter of stays at smallest part 2" square working pressure by rules 84 Front plates at bottom, thickness 3/4" steel Back plates, thickness 3/4" steel bottom  
 Greatest pitch of stays 10" x 8" working pressure by rules Diameter of tubes 3 1/2" pitch of tubes 4 3/4 x 5 thickness of tube plates, front 3/4 back 3/4 how stayed stay tubes pitch of stays bas width of water spaces 5 3/4  
 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 ✓

LONBBS-0124



49191 Jan

**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 \_\_\_\_\_ if fitted with easing gear \_\_\_\_\_ if steam from main boilers can enter the donkey boiler \_\_\_\_\_

diameter of donkey boiler \_\_\_\_\_ length \_\_\_\_\_ description of riveting \_\_\_\_\_

Thickness of shell plates \_\_\_\_\_ diameter of rivet holes \_\_\_\_\_ whether punched or drilled \_\_\_\_\_ pitch of rivets \_\_\_\_\_ lap of plating \_\_\_\_\_

per centage of strength of joint \_\_\_\_\_ thickness of crown plates \_\_\_\_\_ stayed by \_\_\_\_\_

Diameter of furnace, top \_\_\_\_\_ bottom \_\_\_\_\_ length of furnace \_\_\_\_\_ thickness of 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 plates \_\_\_\_\_ thickness of water tubes \_\_\_\_\_

**SPARE GEAR.** State the articles supplied:— *Two Connecting Rod top End bolts  
Two bottom bolts, 2 main bearing bolts, three coupling bolts  
one set feed pump valves + one set bilge pump valve*

The foregoing is a correct description,  
Manufacturer.

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

*The engines were built under survey for the Lug "Royal Saxon", which was wrecked in 1886, They have now been put into first class condition.*

*The boiler appears to have been built in 1877 by the N.E. Marine for the "Lady Ann" owned by the Earl of Sutherland this vessel being wrecked about 1879. In 1881 the boiler was left at Messrs Hedges Millwall who renewed the shell and the back & front end lower plates by steel plates, list of tests enclosed. The workmanship of boiler appears good and it is in first class condition.*

*In my opinion the machinery of this vessel is eligible for the notification **L MC-1,89** in the Society's Register Book*

*Tail shaft examined in good condition (new, made from an old government shaft turned down).*

*It is submitted that this vessel is eligible to have **L MC-2,89** recorded and **NB 1877 NR 84** fitted 89*

*24-1-89* *21-2-89*

The amount of Entry Fee .. £ 1 : 0 : received by me,  
Special .. £ 5 : 5 :  
Donkey Boiler Fee .. £ : :  
Certificate (if required) .. £ : 2 : 6 26-1889  
To be sent as per margin  
(Travelling Expenses, if any, £ )

Committee's Minute *Feb 2/89*  
FRIDAY 23 FEB 1889

*Thos. L. Gay*  
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.