

## REPORT ON MACHINERY.

Port of PLYMOUTH

FRI 28 JUL 1893

Received at London Office 18

No. in Survey held at  
Reg. Book.Date, first Survey November 8<sup>th</sup> 1892 Last Survey July 21<sup>st</sup> 1893  
(Number of Visits 24)

on the steel screw steam launch

Lachesis

Tons { Gross 28.50  
Net 2.21

Master Built at PLYMOUTH By whom built Willoughby Bros. Ltd When built 1893-7mo

Engines made at PLYMOUTH By whom made Willoughby Bros. Ltd when made 1893

Boilers made at PLYMOUTH By whom made Willoughby Bros. Ltd when made 1893

Registered Horse Power 150 Owners London County Council Port belonging to London

Nom. Horse Power as per Section 28 25

ENGINES, &c.— Description of Engines Compound Surface Condensing No. of Cylinders two  
 Diameter of Cylinders 11 + 21 Length of Stroke 18" Revolutions per minute Diameter of Screw shaft as per rule 4.27  
 Diameter of Tunnel shaft as fitted 4.5/8 Diameter of Crank shaft journals 4 1/2 Diameter of Crank pin 4 1/2 Size of Crank webs 3" x 5 3/8  
 Diameter of screw 5'-6" Pitch of screw 9'-0" No. of blades 3 State whether moveable No Total surface 10.5 sq. ft.  
 No. of Feed pumps one Diameter of ditto 2 Stroke 7 1/2 Can one be overhauled while the other is at work  
 No. of Bilge pumps one Diameter of ditto 2 Stroke 7 1/2 Can one be overhauled while the other is at work  
 No. of Donkey Engines one Sizes of Pumps 2" diam. 5" stroke No. and size of Suctions connected to both Bilge and Donkey pumps  
 In Engine Room One is each of 1 1/2" diam. In Holds, &c. None

No. of bilge injections sizes Connected to condenser, or to circulating pump 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 Yes  
 Are all connections with the sea direct on the skin of the ship Yes Are they Valves or Cocks Valves & Hoses  
 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 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 3-7-93 Is the screw shaft tunnel watertight Yes  
 Is it fitted with a watertight door No worked from

OILERS, &c.— (Letter for record 10-12-92) S. J. M. Total Heating Surface of Boilers 471 sq. ft.  
 No. and Description of Boilers One horizontal multitubular M. J. Working Pressure 100 Tested by hydraulic pressure to 200 lbs  
 Date of test 1-7-93 Can each boiler be worked separately Area of fire grate in each boiler 23.5 sq. ft. No. and Description of safety valves to  
 each boiler One double spring lock up Area of each valve 7.06 sq. in. Pressure to which they are adjusted 100 lbs. Are they fitted  
 with easing gear Yes Smallest distance between boilers or uptakes and bunkers or woodwork 1 1/4" Mean diameter of boilers 7'-6"  
 Length 8'-6" Material of shell plates Steel Thickness 9/16 Description of riveting: circum. seams double long. seams single  
 Diameter of rivet holes in long. seams 7/8 Pitch of rivets 3 1/2 Lap of plates or width of butt straps 6 1/8  
 Per centages of strength of longitudinal joint rivets 75 plate 70 Working pressure of shell by rules 108 Size of manhole in shell 16" x 12"  
 Size of compensating ring 6 1/2" x 1 1/8 No. and Description of Furnaces in each boiler two welded tubes Material steel Outside diameter 2'-4"  
 Length of plain part top 6'-2" crown 7'-10" Description of longitudinal joint welded No. of strengthening rings  
 bottom 6'-2" Thickness of plates bottom 7'-10"  
 Working pressure of furnace by the rules 119 Combustion chamber plates: Material Steel Thickness: Sides 7/32 Back 7/32 Top 7/32 Bottom 7/32  
 Pitch of stays to ditto: Sides 9 Back 9 Top 8 1/2 If stays are fitted with nuts or riveted heads none Working pressure by rules 101  
 Material of stays Steel Diameter at smallest part 1 1/4 Area supported by each stay 7.06 Working pressure by rules 114 End plates in steam space:  
 Material Steel Thickness 5/8 Pitch of stays 1'-3" How are stays secured around and fitted with nuts Working pressure by rules 104 Material of stays Steel  
 Diameter at smallest part 1 1/4 Area supported by each stay 11.78 Working pressure by rules 102 Material of Front plates at bottom Steel  
 Thickness 5/8 Material of Lower back plate Steel Thickness 5/8 Greatest pitch of stays 9 Working pressure of plate by rules 101  
 Diameter of tubes 3 Pitch of tubes 4 Material of tube plates Steel Thickness: Front 5/8 Back 5/8 Mean pitch of stays 9  
 Pitch across wide water spaces 5 + 4 Working pressures by rules 119 Girders to Chamber tops: Material Steel Depth and  
 thickness of girder at centre 5 1/2 + 5/8 Length as per rule 2'-0" Distance apart 8 1/2 Number and pitch of Stays in each two: 8 1/2  
 Working pressure by rules 114 Superheater or Steam chest; how connected to boiler Can the superheater be shut off and the boiler worked  
 separately Diameter Length Thickness of shell plates Material Description of longitudinal joint Diam. of rivet  
 holes Pitch of rivets Working pressure of shell by rules Diameter of flue Material of flue plates Thickness  
 If stiffened with rings Distance between rings Working pressure by rules End plates: Thickness How stayed  
 Working pressure of end plates Area of safety valves to superheater Are they fitted with easing gear



# 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 :—

The foregoing is a correct description,

Manufacturer.

*W. W. Wilkins*

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

*been built under Special Survey to my entire satisfaction.*

*The workmanship is of a superior description and the engines when tried under steam worked in a satisfactory manner.*

*This machinery is in my opinion eligible for the favorable consideration of the Committee to be classed and the record of —*

✱ L. M. C. 7.93.

*made in the*

*Register Book.*

It is submitted that this vessel is eligible for THE RECORD + L.M.C. 7.93 —

*29/7/93*

Certificate (if required) to be written by the Surveyor.

The amount of Entry Fee. . . £ 1 : 0 : 0

Special . . . . . £ 8 : 0 : 0

Donkey Boiler Fee . . . . . £ . : . : .

Travelling Expenses (if any) £ . : . : .

When applied for, 27 July 1893

When received, 27 July 1893

Committee's Minute

Assigned

TUES. 1 AUG 1893

+ L.M.C. 7.93

*W. W. Wilkins*  
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.



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