

# REPORT ON MACHINERY.

614

No. 6990

Received at London Office **MONDAY 8 JUNE 1885**

No. in Survey held at Glasgow.

Date, first Survey 24<sup>th</sup> Novr 1884 Last Survey 5<sup>th</sup> June 1885.

Reg. Book.

(Number of Vols 23) 264-26

on the Screw Steam Yacht "Nerissa"

Tons 143-82

Master N. M. Cullin Built at Glasgow By whom built A. Stephen & Sons When built 1884-5

Engines made at Glasgow By whom made do. when made do.

Boilers made at do. By whom made do. when made do.

Registered Horse Power 120. Owners Alexander Stephen Port belonging to Glasgow.

**ENGINES, &c.—**

Description of Engines Triple Expansion Engines.

Diameter of Cylinders 13, 21 & 35" Length of Stroke 30" No. of Rev. per minute 95 Point of Cut off, High Pressure Var Low Pressure —

Diameter of Screw shaft 8 1/2" Diam. of Tunnel shaft 8" Diam. of Crank shaft journals 8 1/2" Diam. of Crank pin 9" size of Crank webs 4 1/2" x 10"

Diameter of screw 9'-0" Pitch of screw 13'-0" No. of blades 4 state whether moveable Set total surface 34 sq. ft.

No. of Feed pumps 2. diameter of ditto 2 3/4" Stroke 20" Can one be overhauled while the other is at work yes.

No. of Bilge pumps 2. diameter of ditto 3 1/2" Stroke 20" Can one be overhauled while the other is at work yes.

Where do they pump from All compartments &c.

No. of Donkey Engines One Size of Pumps 4" x 7" x 3 1/2" Where do they pump from Not well sea, & bilges.

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 One and sizes 4" Are they connected to condenser, or to circulating pump —

How are the pumps worked by levers.

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 in stocks before launching

Is the screw shaft tunnel watertight None and fitted with a sluice door — worked from —

**BOILERS, &c.—**

Number of Boilers One Description Multitubular. Whether Steel or Iron Steel.

Working Pressure 160 lbs. Tested by hydraulic pressure to 320 lbs. Date of test 24<sup>th</sup> April 1885.

Description of superheating apparatus or steam chest Horizontal steam dome

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 49 1/2" Description of safety valves Direct Spring No. to each boiler 2.

Area of each valve 7" 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 7" Diameter of boilers 13'-0"

Length of boilers 10'-0" description of riveting of shell long. seams treb riv. d. butt circum. seams d. riv. lap Thickness of shell plates 1 3/16

Diameter of rivet holes 1 1/4" whether punched or drilled drilled pitch of rivets 3 9/16 & 7 1/8" Lap of plating 23 3/4" butts.

Per centage of strength of longitudinal joint 82 working pressure of shell by rules 161 lbs. size of manholes in shell 11" x 15"

Size of compensating rings 7/8" plate 5" broad. No. of Furnaces in each boiler 3.

Outside diameter 39" length, top 7'-0" bottom 9'-3 1/2" thickness of plates 1/2 description of joint Corrugated if rings are fitted —

Greatest length between rings — working pressure of furnace by the rules 155 combustion chamber plating, thickness, sides 1/2 back 1/2 top 9/16

Pitch of stays to ditto, sides 7" x 7" back 7" x 7" top 7" x 7" If stays are fitted with nuts or riveted heads Nuts working pressure of plating by rules 157 lbs.

Diameter of stays at smallest part 1 1/2" & 1 1/2" working pressure of ditto by rules 195. end plates in steam space, thickness 1"

Pitch of stays to ditto 14 1/2" x 15 1/2" how stays are secured d. nuts working pressure by rules 222 lbs. diameter of stays at smallest part 3" screwed steel working pressure by rules 160 lbs. Front plates at bottom, thickness 7/8" Back plates, thickness 1"

Greatest pitch of stays — working pressure by rules — Diameter of tubes 3 1/2" pitch of tubes 4 3/4" & 4 7/8" thickness of tube plates, front 1" back 7/8" how stayed d. tubes pitch of stays 9 1/4" & 9 1/2" width of water spaces 7"

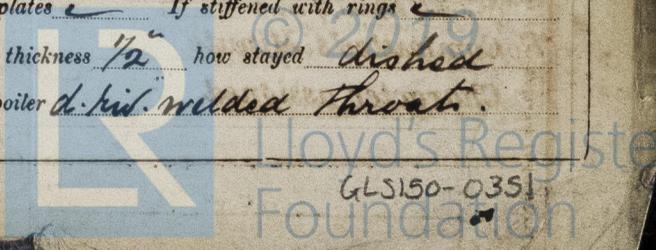
Diameter of Superheater or Steam chest 36" length 8ft thickness of plates 7/16 description of longitudinal joint d. riv. lap diam. of rivet holes 7/16"

Pitch of rivets 3 1/2" working pressure of shell by rules 160 lbs. 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 1/2" how stayed dished

with one 3" rod stay through centre Superheater or steam chest; how connected to boiler d. riv. welded throat.

Form No. 8-700-27/84-Transit



GLS150-0351

6990 yls.

**DONKEY BOILER**— Description *None*

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:— *Top and bottom end bolts. Main bearing bolts. Coupling bolts. Feed and bilge pump valves. Bolts & nuts assorted*

The foregoing is a correct description,

*Ally Stephen & Sons* Manufacturer.

**General Remarks** (State quality of workmanship, opinions as to class, &c. *The above mentioned Engines and Boilers are now completed onboard in a satisfactory manner and the machinery is now in my opinion in a good and efficient working condition and eligible to be noted in the Society's Registered Book: L.M.C. 6.85.*)

*The shafting has been examined by me while being rough turned and finished and is as far as can be seen sound and good.*

*It is submitted that the vessel is eligible for and the application will be recorded 6.55*

*58/185*

The amount of Entry Fee .. £ 2 : - : - received by me,  
 Special .. .. £ 18 : - : -  
 Donkey Boiler Fee .. .. £ - : - : -  
 Certificate (if required) .. £ - : - : - 4/6/1885  
 To be paid as per margin.  
 (Travelling Expenses, if any, £ - - -)

*John Sanderford*  
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute **TUESDAY 9 JUNE 1885**

*+ D. M. C.*

*Glasgow*  
 Lloyd's Register Foundation