

# REPORT ON MACHINERY.

8296

No. 8296

Port of Glasgow

THURS 12 JAN 1888

No. in Survey held at Glasgow  
Reg. Book. 388 on the

Date, first Survey 14<sup>th</sup> Nov 1884 Last Survey 4<sup>th</sup> Jan 1888

(Number of Visits 20) Tons 1305  
983

Master \_\_\_\_\_ Built at Gothenburg By whom built Motala Co When built 1880  
Engines made at Gothenburg By whom made Motala Co when made 1880  
Boilers made at Glasgow By whom made P. Napier & Sons when made 1884  
Registered Horse Power 160 Owners Russian Steam Ship Co Port belonging to Odessa

## ENGINES, &c.—

Description of Engines \_\_\_\_\_  
Diameter of Cylinders \_\_\_\_\_ Length of Stroke \_\_\_\_\_ No. of Rev. per minute \_\_\_\_\_ Point of Cut off, High Pressure \_\_\_\_\_ Low Pressure \_\_\_\_\_  
Diameter of Screw shaft \_\_\_\_\_ Diam. of Tunnel shaft \_\_\_\_\_ Diam. of Crank shaft journals \_\_\_\_\_ Diam. of Crank pin \_\_\_\_\_ size of Crank webs \_\_\_\_\_  
Diameter of screw \_\_\_\_\_ Pitch of screw \_\_\_\_\_ No. of blades \_\_\_\_\_ state whether moveable \_\_\_\_\_ total surface \_\_\_\_\_  
No. of Feed pumps \_\_\_\_\_ diameter of ditto \_\_\_\_\_ Stroke \_\_\_\_\_ Can one be overhauled while the other is at work \_\_\_\_\_  
No. of Bilge pumps \_\_\_\_\_ diameter of ditto \_\_\_\_\_ Stroke \_\_\_\_\_ Can one be overhauled while the other is at work \_\_\_\_\_  
Where do they pump from \_\_\_\_\_  
No. of Donkey Engines \_\_\_\_\_ Size of Pumps \_\_\_\_\_ Where do they pump from \_\_\_\_\_  
Are all the bilge suction pipes fitted with roses \_\_\_\_\_ Are the roses always accessible \_\_\_\_\_ Are the sluices on Engine room bulkheads always accessible \_\_\_\_\_  
No. of bilge injections \_\_\_\_\_ and sizes \_\_\_\_\_ Are they connected to condenser, or to circulating pump \_\_\_\_\_  
How are the pumps worked \_\_\_\_\_  
Are all connections with the sea direct on the skin of the ship \_\_\_\_\_ Are they Valves or Cocks \_\_\_\_\_  
Are they fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates \_\_\_\_\_ Are the discharge pipes above or below the deep water line \_\_\_\_\_  
Are they each fitted with a discharge valve always accessible on the plating of the vessel \_\_\_\_\_ Are the blow off cocks fitted with a spigot and brass covering plate \_\_\_\_\_  
What pipes are carried through the bunkers \_\_\_\_\_ How are they protected \_\_\_\_\_  
Are all pipes, cocks, valves, and pumps in connection with the machinery accessible at all times \_\_\_\_\_  
Are the pipes, cocks, and valves arranged so as to prevent an unintentional connection between the sea and the bilges \_\_\_\_\_  
When were stern tube, propeller, screw shaft, and all connections examined in dry dock \_\_\_\_\_  
Is the screw shaft tunnel watertight \_\_\_\_\_ and fitted with a sluice door \_\_\_\_\_ worked from \_\_\_\_\_

## BOILERS, &c.—

Number of Boilers Two Description Cylindrical - Multi Whether Steel or Iron Steel  
Working Pressure 70 lbs Tested by hydraulic pressure to 140 lbs Date of test Nov<sup>r</sup> 28<sup>th</sup> 1887  
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 32 Description of safety valves Direct spring No. to each boiler Two  
Area of each valve 9.6 sq in Are they fitted with easing gear Yes No. of safety valves to superheater 2 area of each valve ✓  
Are they fitted with easing gear ✓ Smallest distance between boilers and bunkers or woodwork 7 1/2 Diameter of boilers 11-0  
Length of boilers 9-9 description of riveting of shell long. seams Lap treble circum. seams Lap double Thickness of shell plates 5/8  
Diameter of rivet holes 1 whether punched or drilled Drill pitch of rivets 3 1/2 Lap of plating 7 1/4  
Per centage of strength of longitudinal joint 71.4 working pressure of shell by rules 77 size of manholes in shell 16 x 12  
Size of compensating rings Doubling plate 1 1/16 inch No. of Furnaces in each boiler Two  
Outside diameter 37 length, top 7-0 bottom ✓ thickness of plates 7/16 description of joint Butt & weld if rings are fitted Yes L  
Greatest length between rings 6-6 working pressure of furnace by the rules 71 combustion chamber plating, thickness, sides 7/16 back 7/16 top 7/16  
Pitch of stays to ditto, sides 9 x 9 back 9 x 9 top 8 1/2 x 9 If stays are fitted with nuts or riveted heads Nuts working pressure of plating by rules 67 Diameter of stays at smallest part 1 1/8 working pressure of ditto by rules 77 end plates in steam space, thickness 13/16  
Pitch of stays to ditto 18 x 18 how stays are secured Nuts working pressure by rules 73 diameter of stays at smallest part 2 1/4 screw working pressure by rules 87 Front plates at bottom, thickness 9/16 Back plates, thickness 9/16  
Greatest pitch of stays 9 x 9 working pressure by rules 120 lbs Diameter of tubes 3 1/4 pitch of tubes 4 3/8 thickness of tube plates, front 3/4 back 3/4 how stayed Tubes pitch of stays 13 1/8 x 15 width of water spaces 4 1/2  
Diameter of Superheater or Steam chest None 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 ✓

Lloyd's Register  
GLS154-0422

**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:—

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

The foregoing is a correct description,  
 \_\_\_\_\_  
 Manufacturer.

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

These main boilers were not made under special survey. No intimation as for what they were intended was given to us by the makers. On receipt of your letter dated the 16<sup>th</sup> November 1887 Messrs R Napier & Sons were communicated with, and the boilers, then finished, were examined by me. They were found to be of good material and workmanship and the scantlings & staying in accordance with the requirements of this Society. They were subsequently tested by hydraulic pressure to 140 lbs per sq inch. They have been well fitted on board, satisfactorily tested under steam and the safety valves adjusted to 70 lbs per sq inch. Appended hereto is a tracing of the main boilers also a copy of the results of steel tests made at the Blythdale Iron & Steel Works in the presence of Messrs R Napier & Sons representative.

The engines have been submitted for N<sup>o</sup> 2 special survey. They have been all overhauled. The cylinders, pistons, pumps, slide valves and crankshaft all examined. When the vessel was in Dry Dock the sea cocks & valves all overhauled. Propeller shaft removed to shop. new brass liners fitted. stem tube bearings adjusted. The new bearing fitted to tunnel shaft right aft.

In my opinion these Engines & Boilers are in good safe working condition & eligible to be classed **L.M.C. 11-88** in the Register Book with the **N.B.88**.

The amount of Entry Fee .. £ 4 : 4 :  
 Special Main Donkey Boiler Fee .. £ 6 : 6 :  
 Certificate (if required) .. £ .. : .. :  
 To be sent as per margin.  
 (Travelling Expenses, if any, £ .. : .. :)

£ 4.4/- recd received by me, as sh. 12.1.88  
 £ 31.11.88  
 £ 6.6/- paid 16.1.88  
 £ 17.1.88

It is submitted that this vessel is eligible to emb have the notification 188 N1388 recorded.  
 DP 12/1/88  
**Mattew Robson**  
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute

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