

# REPORT ON MACHINERY.

No. 22604

Port of Sunderland

Received at London Office 11th Feb 1906

No. in Survey held at Sunderland Date, first Survey 21<sup>st</sup> July 05 Last Survey 31<sup>st</sup> Jan 1906  
Reg. Book. S.S. "Siam" (Number of Visits 59)

Master N. Valentin Built at Sunderland By whom built J. L. Thompson & Sons When built 1906  
Engines made at Sunderland By whom made J. Dickinson & Sons when made 1906  
Boilers made at Sunderland By whom made J. Dickinson & Sons when made 1906  
Registered Horse Power \_\_\_\_\_ Owners Societa Anonima Ungherese Di Armamenti Marittimi "Oriente" Port belonging to Fiume  
Nom. Horse Power as per Section 28 408 Is Refrigerating Machinery fitted for cargo purposes no Is Electric Light fitted no

Tons { Gross 4660.17  
Net 3018.56

**ENGINES, &c.**—Description of Engines Inverted triple expansion No. of Cylinders 3 No. of Cranks 3  
Dia. of Cylinders 26" 42" 70" Length of Stroke 48" Revs. per minute 70 Dia. of Screw shaft as per rule 14.5 Material of screw shaft Iron  
Is the screw shaft fitted with a continuous liner the whole length of the stern tube Yes Is the after end of the liner made water tight in the propeller boss Yes If the liner is in more than one length are the joints burned Yes If the liner does not fit tightly at the part between the bearings in the stern tube, is the space charged with a plastic material insoluble in water and non-corrosive Yes If two liners are fitted, is the shaft lapped/protected between the liners Yes Length of stern bush 5' 0"  
Dia. of Tunnel shaft as per rule 12.95 Dia. of Crank shaft journals as per rule 13.6 Dia. of Crank pin 14 1/2" Size of Crank webs 25 1/2 x 9 1/2" Dia. of thrust shaft under collars 13 3/4" Dia. of screw 17.9" Pitch of screw 18.6" No. of blades 4 State whether moveable no Total surface 86 1/2 sq ft  
No. of Feed pumps 2 Diameter of ditto 4" Stroke 25 1/2" Can one be overhauled while the other is at work Yes  
No. of Bilge pumps 2 Diameter of ditto 4 1/2" Stroke 25 1/2" Can one be overhauled while the other is at work Yes  
No. of Donkey Engines 2 Sizes of Pumps 7 1/2 x 5 x 6" & 9 x 11 x 10" No. and size of Suctions connected to both Bilge and Donkey pumps In Engine Room 4 of 3 1/2" In Holds, &c. 2 of 3 1/2" in each & 1 of 2 1/2"  
No. of bilge injections 1 sizes 5" Connected to condenser, or to circulating pump no Is a separate donkey suction fitted in Engine room & size 4"  
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 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 nil How are they protected Yes  
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 new Is the screw shaft tunnel watertight Yes  
Is it fitted with a watertight door Yes worked from top platform

**BOILERS, &c.**— (Letter for record S) Total Heating Surface of Boilers 5456 sq ft Is forced draft fitted Yes, Horner's  
No. and Description of Boilers 2 single ended, cylindrical mult Working Pressure 180 lbs Tested by hydraulic pressure to 360 lbs  
Date of test 10-10-05 Can each boiler be worked separately Yes Area of fire grate in each boiler 62 sq ft No. and Description of safety valves to each boiler 2 spring Area of each valve 9.62 sq in Pressure to which they are adjusted 185 lbs Are they fitted with easing gear Yes  
Smallest distance between boilers or uptakes and bunkers or woodwork 3' 3" Mean dia. of boilers 15' 3 1/2" Length 10' 9" Material of shell plates steel  
Thickness 1/4" Range of tensile strength 28/32 Are they welded or flanged no Descrip. of riveting: cir. seams d.r. lap long. seams t.g. double  
Diameter of rivet holes in long. seams 1 3/8" Pitch of rivets 9 1/8" Lap of plates or width of butt straps 19 7/8" butt strap  
Per centages of strength of longitudinal joint rivets 96.81 Working pressure of shell by rules 181 lbs Size of manhole in shell 16 x 12"  
Size of compensating ring 8 3/4 x 1 1/4" No. and Description of Furnaces in each boiler 3 Morrison's Material steel Outside diameter 49"  
Length of plain part top 34 1/4" Thickness of plates crown 3/16" Description of longitudinal joint weld No. of strengthening rings 1  
Working pressure of furnace by the rules 180.3 Combustion chamber plates: Material steel Thickness: Sides 1/16" Back 1/16" Top 1/16" Bottom 7/8"  
Pitch of stays to ditto: Sides 9 x 10" Back 9 x 10" Top 9 x 10" If stays are fitted with nuts or riveted heads nuts Working pressure by rules 180-5 lbs  
Material of stays steel Diameter at smallest part 1.616173 Area supported by each stay 90 sq in Working pressure by rules 198+20.3 End plates in steam space: Material steel Thickness 1 1/2" Pitch of stays 20 x 19 1/4" How are stays secured double nuts Working pressure by rules 183 lbs Material of stays steel  
Diameter at smallest part 2.79 Area supported by each stay 345.365 Working pressure by rules 180 lbs Material of Front plates at bottom steel  
Thickness 7/8" Material of Lower back plate steel Thickness 1 3/16" Greatest pitch of stays 12 1/2" Working pressure of plate by rules 186 lbs  
Diameter of tubes 2 1/2" Pitch of tubes 3 3/4" x 3 3/4" Material of tube plates steel Thickness: Front 1/32" Back 7/8" Mean pitch of stays 7 1/2"  
Pitch across wide water spaces 12 1/2" Working pressures by rules 341 lbs Girders to Chamber tops: Material steel Depth and thickness of girder at centre 7 1/2" x 2" Length as per rule 30 7/8" Distance apart 9" Number and pitch of Stays in each 2-10"  
Working pressure by rules 185 lbs 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 rivets \_\_\_\_\_  
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 \_\_\_\_\_

Lloyd's Register Foundation W545-0159

**DONKEY BOILER**— No. \_\_\_\_\_ 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 \_\_\_\_\_

Dia. of donkey boiler \_\_\_\_\_ Length \_\_\_\_\_ Material of shell plates \_\_\_\_\_ Thickness \_\_\_\_\_ Range of tensile strength \_\_\_\_\_

Descrip. of riveting long. seams \_\_\_\_\_ Dia. of rivet holes \_\_\_\_\_ Whether punched or drilled \_\_\_\_\_ Pitch of rivets \_\_\_\_\_

Lap of plating \_\_\_\_\_ Percentage of strength of joint \_\_\_\_\_ Plates \_\_\_\_\_ 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:— *Two top end, 2 bottom end, 2 main bearing + 1 set of coupling bolts, 1 set feed and bilge pump valves, bolts & nuts assorted and iron of sizes, 1 main feed check valve, 1 donkey feed check valve, 1/2 crank shaft, 1 Propeller & 1 Propeller shaft*

The foregoing is a correct description,  
**JOHN DICKINSON & SONS, LIMITED.** Manufacturer.  
*Ad. Thompson*

Dates of Survey while building	During progress of work in shops - -	1905: July 21, Aug: 12, 15, 18, 21, 23, 24, 30, Sept, 1, 11, 12, 13, 14, 19, 22, 25, 27, 30, Nov. 1, 3, 4	Oct, 3, 5, 10, 11, 12, 16, 19, 23, 27, 30
	During erection on board vessel - -	7, 9, 14, 18, 20, 21, 23, 25, 29, Decr 1, 6, 8, 19, 20, 21, 22, 30, - 06 - Jan, 3, 6, 8, 11, 12, 16,	
	Total No. of visits	59 17, 20, 22, 23, 31.	

Is the approved plan of main boiler forwarded herewith *Yes*  
 " " " donkey " " " *Yes*

**General Remarks** (State quality of workmanship, opinions as to class, &c. *The Machinery for this vessel has been constructed under special survey, the workmanship and materials used are both of good quality, the main steam pipes have been tested to twice the working pressure with satisfactory results, the Engines have been tried ahead & astern and worked well, the safety Valves have been adjusted under steam with fair working & an air pressure of 2" and worked satisfactorily*

*I beg to recommend that this vessel in my opinion is eligible to have the record **L.M.C. 1.06** in the Register Book*

It is submitted that this vessel is eligible for **THE RECORD L.M.C. 1.06 F.D.**

The amount of Entry Fee..	£ 3:	When applied for,	<i>31.1.1906</i>
Special .. .. .	£ 40: 8:	When received,	<i>1.2.1906</i>
Donkey Boiler Fee .. .	£ :		
Travelling Expenses (if any)	£ :		

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

Committee's Minute **FRI. 2 FEB 1906**  
 Assigned *+ Lmb 1.06*

MACHINERY CERTIFICATE WRITTEN.



Certificate (if required) to be sent to the Registrar of Shipping (The Surveyors are requested not to write on or below the space for Committee's Minute.)

No. in Reg. Book. \_\_\_\_\_

Master *H.*

Engines made *Donkey Boilers made*

Registered *H.*

**MULTIT**

(Letter for \_\_\_\_\_)

**Boilers**

No. of Certificates \_\_\_\_\_

safety valves \_\_\_\_\_

Are they fitted \_\_\_\_\_

Smallest diameter \_\_\_\_\_

Material of \_\_\_\_\_

Descrip. of \_\_\_\_\_

Lap of plates \_\_\_\_\_

rules 1 0 \_\_\_\_\_

**boiler 2**

Description of \_\_\_\_\_

plates: Mat \_\_\_\_\_

Top/Bottom \_\_\_\_\_

smallest part \_\_\_\_\_

Pitch of stay \_\_\_\_\_

Area support \_\_\_\_\_

Lower back \_\_\_\_\_

Pitch of tube \_\_\_\_\_

water spaces \_\_\_\_\_

girder at center \_\_\_\_\_

Working pressure \_\_\_\_\_

separately \_\_\_\_\_

holes \_\_\_\_\_

If stiffened with \_\_\_\_\_

Working pressure \_\_\_\_\_

**VERTICAL**

Made at \_\_\_\_\_

Working pressure \_\_\_\_\_

No. of safety valves \_\_\_\_\_

enter the donkey boiler \_\_\_\_\_

strength \_\_\_\_\_

Lap of plating \_\_\_\_\_

Radius of do. \_\_\_\_\_

Thickness of \_\_\_\_\_

plates \_\_\_\_\_

The \_\_\_\_\_

Dates of Survey while building \_\_\_\_\_