

# REPORT ON MACHINERY.

Port of Sunderland

Received at London Office **TUES. 5 JUN 1906**

No. in Survey held at Sunderland  
Reg. Book. S. S. "Times"  
on the

Date, first Survey 15 December, 05 Last Survey 28 May 1906  
(Number of Visits 61)

Master D. Swensen Built at Sunderland By whom built Messrs J. Priestman & Co. Tons { Gross 2112.96  
Net 1338.42  
When built 1906  
Engines made at Sunderland By whom made Messrs J. Dickinson & Sons when made 1906  
Boilers made at Sunderland By whom made Messrs J. Dickinson & Sons when made 1906  
Registered Horse Power \_\_\_\_\_ Owners W. Wilhelmsen. Port belonging to Lönsberg  
Nom. Horse Power as per Section 28 256 Is Refrigerating Machinery fitted for cargo purposes no Is Electric Light fitted no

**ENGINES, &c.**—Description of Engines Inverted triple expansion No. of Cylinders 3 No. of Cranks 3  
Dia. of Cylinders 22 1/2, 37, 61 Length of Stroke 39 Revs. per minute 70 Dia. of Screw shaft 12.00 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 or protected between the liners Yes Length of stern bush 4.3  
Dia. of Tunnel shaft 11.57 as per rule 11.57 Dia. of Crank shaft journals 11.56 as per rule 11.56 Dia. of Crank pin 12 Size of Crank webs 2 1/4 x 7/4 Dia. of thrust shaft under collars 11.57 Dia. of screw 15.9 Pitch of Screw 16.0 No. of Blades 4 State whether moveable no Total surface 68.5  
No. of Feed pumps 2 Diameter of ditto 3 1/4 Stroke 19 1/2 Can one be overhauled while the other is at work Yes  
No. of Bilge pumps 2 Diameter of ditto 4 1/4 Stroke 19 1/2 Can one be overhauled while the other is at work Yes  
No. of Donkey Engines 2 Sizes of Pumps 5 1/2 x 3 1/2 x 5 and 7 1/2 x 9 x 10 Ballast— No. and size of Suctions connected to both Bilge and Donkey pumps In Engine Room 3 of 3 1/2 In Holds, &c. 2 of 3 1/2 in hold & 1 of 2 1/2  
apc hold & tunnel well  
No. of Bilge Injections 1 sizes 4 Connected to condenser, or to circulating pump Yes Is a separate Donkey Suction fitted in Engine room & size Yes—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  
Dates of examination of completion of fitting of Sea Connections 20/4/06 of Stern Tube 20/4/06 Screw shaft and Propeller 17/5/06  
Is the Screw Shaft Tunnel watertight Yes Is it fitted with a watertight door Yes worked from top platform

**BOILERS, &c.**—(Letter for record 5) Manufacturers of Steel J. Spencer & Sons  
Total Heating Surface of Boilers 3984 Is Forced Draft fitted no No. and Description of Boilers 2 single ended, cylindrical Mult-  
Working Pressure 180 lbs Tested by hydraulic pressure to 360 lbs Date of test 30.3.06 No. of Certificate 2477  
Can each boiler be worked separately Yes Area of fire grate in each boiler 56 No. and Description of Safety Valves to each boiler 2 spring Area of each valve 7.07 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 22 Mean dia. of boilers 14.3 1/2 Length 10.6 Material of shell plates steel  
Thickness 1 3/16 Range of tensile strength 20/32 Are the shell plates welded or flanged no Descrip. of riveting: cir. seams d. r. lap. long. seams d. r. double Diameter of rivet holes in long. seams 1 7/16 Pitch of rivets 8 3/4 Lap of plates or width of butt straps 19 1/4  
Per centages of strength of longitudinal joint rivets 96.6 Working pressure of shell by rules 183.3 lbs Size of manhole in shell 16 x 12 end plate 85  
Size of compensating ring flanged No. and Description of Furnaces in each boiler 3—plain Material steel Outside diameter 42  
Length of plain part top 6.13 1/2 bottom 6.8 1/2 Thickness of plates crown 4.91 bottom 6.61 Description of longitudinal joint weld No. of strengthening rings Yes  
Working pressure of furnace by the rules 180 lbs Combustion chamber plates: Material steel Thickness: Sides 1/8 Back 3/4 Top 1/2 Bottom 1 1/2  
Pitch of stays to ditto: Sides 10 x 9 Back 11 x 9 1/2 Top 9 x 9 1/4 If stays are fitted with nuts or riveted heads nuts Working pressure by rules 182 lbs  
Material of stays steel Diameter at smallest part 2.03 Area supported by each stay 105.875 Working pressure by rules 184 lbs End plates in steam space: Material steel Thickness 1 3/32 Pitch of stays 22 1/2 x 18 1/2 How are stays secured d. n. & washer Working pressure by rules 184 lbs Material of stays steel  
Diameter at smallest part 9.1 Area supported by each stay 410.625 Working pressure by rules 183.5 lbs Material of Front plates at bottom steel Thickness 7/8 Material of Lower back plate steel Thickness 27/32 Greatest pitch of stays 13 1/4 x 9 1/4 Working pressure of plate by rules 184 lbs  
Diameter of tubes 3 1/4 Pitch of tubes 4 1/2 x 4 1/2 Material of tube plates steel Thickness: Front 7/8 Back 7/8 Mean pitch of stays 9  
Pitch across wide water spaces 13 1/4 Working pressures by rules 289 lbs Girders to Chamber tops: Material steel Depth and thickness of girder at centre 6 3/4 x 2 3/4 Length as per rule 31 1/32 Distance apart 9 3/4 Number and pitch of stays in each 2—9 1/4  
Working pressure by rules 184 lbs Superheater or Steam chest; how connected to boiler Yes Can the superheater be shut off and the boiler worked separately Yes Diameter Yes Length Yes Thickness of shell plates Yes Material Yes Description of longitudinal joint Yes Diam. of rivet holes Yes Pitch of rivets Yes Working pressure of shell by rules Yes Diameter of flue Yes Material of flue plates Yes Thickness Yes  
If stiffened with rings Yes Distance between rings Yes Working pressure by rules Yes End plates: Thickness Yes How stayed Yes  
Working pressure of end plates Yes Area of safety valves to superheater Yes Are they fitted with easing gear Yes

VERTICAL DONKEY BOILER— Manufacturers of Steel

No. \_\_\_\_\_ Description \_\_\_\_\_

Made at \_\_\_\_\_ By whom made \_\_\_\_\_ When made \_\_\_\_\_ Where fixed \_\_\_\_\_

Working pressure tested by hydraulic pressure to \_\_\_\_\_ Date of test \_\_\_\_\_ No. of Certificate \_\_\_\_\_ Fire grate area \_\_\_\_\_ Description of Safety \_\_\_\_\_

Valves \_\_\_\_\_ No. of Safety Valves \_\_\_\_\_ Area of each \_\_\_\_\_ Pressure to which they are adjusted \_\_\_\_\_ Date of adjustment \_\_\_\_\_

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 \_\_\_\_\_ Rivets \_\_\_\_\_ Plates \_\_\_\_\_

Dia. of rivet holes \_\_\_\_\_ Whether punched or drilled \_\_\_\_\_ Pitch of rivets \_\_\_\_\_ Lap of plating \_\_\_\_\_ Per centage of strength of joint \_\_\_\_\_

Working pressure of shell by rules \_\_\_\_\_ 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 \_\_\_\_\_

Working pressure of furnace by rules \_\_\_\_\_ Thickness of furnace crown plates \_\_\_\_\_ Stayed by \_\_\_\_\_

Diameter of uptake \_\_\_\_\_ Thickness of uptake plates \_\_\_\_\_ Thickness of water tubes \_\_\_\_\_ Dates of survey \_\_\_\_\_

SPARE GEAR. State the articles supplied:— 2 top end bolts, 2 bottom end bolts, 2 Main bearing bolts  
1 set coupling bolts, 1 Propeller, 1 Propeller shaft, 1 set feed and bilge pump valves  
1 set Air pump valves, 1 set piston springs for No. P. & H. P pistons, Bolts & nuts assorted  
and iron of sizes

The foregoing is a correct description,  
JOHN DICKINSON & SONS, Limited  
Manchester  
Manufacturer.

Dates of Survey while building

During progress of work in shops - -	Director 1905: Decr. 15, 19, 23 - 06 - Jan. 9, 10, 16, 19, 22, 25, 25, 26, 29, 30 Feb. 1, 2, 5, 7, 8, 10, 12, 13, 15, 16
During erection on board vessel - -	19. 20, 22, 24, 27, 28, Mch. 2, 5, 6, 7, 8, 12, 13, 16, 19, 20, 21, 22, 25, 26, 29, 30. Apl. 2, 6, 9, 11, 12, 20, 21, 28, 30
Total No. of visits	61 May. 11, 15, 16, 17, 18, 25, 28,

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

" " " donkey " " " **no**

Dates of Examination of principal parts—Cylinders 30/3/06 Slides 23/4/06 Covers 20/4/06 Pistons 23/4/06 Rods 2/4/06

Connecting rods 2/4/06 Crank shaft 20/4/06 Thrust shaft 6/3/06 Tunnel shafts 30/2/06 Screw shaft 30/4/06 Propeller 28/4/06

Stern tube 20/4/06 Steam pipes tested 15 & 16 May 1906 Engine and boiler seatings 20/4/06 Engines holding down bolts 17/5/06

Completion of pumping arrangements 17/5/06 Boilers fixed 17/5/06 Engines tried under steam 18/5/06

Main boiler safety valves adjusted 18/5/06 Thickness of adjusting washers P.B. F.V. 5/16, A.V. 3/32; S.B. F.V. 3/8, A.V. 1/32

Material of Crank shaft **Steel** Identification Mark on Do. 30 & B, R.W.C. Material of Thrust shaft **Steel** Identification Mark on Do. 16 & 9, A.H. 2.H. 16 & 7, 16 & 8

Material of Tunnel shafts **Steel** Identification Marks on Do. 16 & 9, 17 & 13, 17 & 14 Material of Screw shafts **Iron** Identification Marks on Do. 30 & B, R.W.C.

Material of Steam Pipes **Copper** Test pressure 400 lbs

General Remarks (State quality of workmanship, opinions as to class, &c. *The Machinery of this vessel has been constructed under special survey, the workmanship and materials used are both of good quality, the Engines have been tried under steam, and worked satisfactorily, the safety Valves have been adjusted under steam as above noted, and worked satisfactorily*)

I beg to recommend that this vessel is eligible in my opinion to have the record **L.M.C. 5.06** in the Register Book.

It is submitted that this vessel is eligible for **THE RECORD L.M.C. 5.06.**

The amount of Entry Fee.. £ 2 : : When applied for, \_\_\_\_\_

Special .. .. £ 32 : 16 : : 2.6.1906

Donkey Boiler Fee .. .. £ : : : \_\_\_\_\_

Travelling Expenses (if any) £ : : : \_\_\_\_\_

When received, \_\_\_\_\_

WED. 6 JUN 1906

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

Committee's Minute  
Assigned  
L.M.C. 5.06  
MACHINERY CERTIFICATE WRITTEN.

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(The Surveyors are requested not to write on or below the space for Committee's Minute.)

Rpt. 5.

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No. in Reg. Book.

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