

# REPORT ON MACHINERY.

No. 23589

Port of Sunderland

Received at London Office **THUR. 23 JAN 1908**

No. in Survey held at Sunderland Date, first Survey 1st July 1904 Last Survey 10th Jan 1908

Reg. Book. on the Steel Screw Steamer JOHN MILES (Number of Visits 24)

Master C. W. Bell Built at Sunderland By whom built J.P. Austin & Son Ltd. Tons } Gross 686.49  
Net 341.45  
When built 1908

Engines made at Sunderland By whom made N.E. Marine Eng'g Co. Ltd. when made 1908

Boilers made at Sunderland By whom made N.E. Marine Eng'g Co. Ltd. when made 1908

Registered Horse Power Owners Stephenson Clarke & Co. Port belonging to London

Nom. Horse Power as per Section 28 113 Is Refrigerating Machinery fitted for cargo purposes no Is Electric Light fitted no

ENGINES, &c.—Description of Engines Triple Expansion (Fitted aft) No. of Cylinders Three No. of Cranks Three

Dia. of Cylinders 15 1/2 - 25 - 41 Length of Stroke 30 Revs. per minute 89 Dia. of Screw shaft 9 1/8 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

the propeller boss yes If the liner is in more than one length are the joints burned — 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 — Length of stern bush 2-1 1/2

Dia. of Tunnel shaft as per rule 4.85 Dia. of Crank shaft journals as per rule 8.25 Dia. of Crank pin 8 3/8 Size of Crank webs 5 1/8 x 12 3/4 Dia. of thrust shaft under

collars 8 3/8 Dia. of screw 11-9 Pitch of Screw 11-9 No. of Blades four State whether moveable no Total surface 45 sq ft

No. of Feed pumps Two Diameter of ditto 2 1/2 Stroke 15 Can one be overhauled while the other is at work yes

No. of Bilge pumps Two Diameter of ditto 2 1/2 Stroke 15 Can one be overhauled while the other is at work yes

No. of Donkey Engines Two Duplex Sizes of Pumps 4x9x9 - 5x3x4 1/2 No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room one Centre 2 1/2 dia, one centre 2 In Holds, &c. Two 2 in pipes to forehold, Two 2 in pipes to main hold

No. of Bilge Injections one sizes 3/2 Connected to condenser, or to circulating pump — Is a separate Donkey Suction fitted in Engine room & size yes 2

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 no

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

When 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

Dates of examination of completion of fitting of Sea Connections 12/12 of Stern Tube 12/12 Screw shaft and Propeller 12/12

Is the Screw Shaft Tunnel watertight no tunnel Is it fitted with a watertight door — worked from —

OILERS, &c.—(Letter for record S) Manufacturers of Steel J.P. Austin & Son Ltd, & Deighton & Co. Ltd.

Total Heating Surface of Boilers 1914 sq ft Is Forced Draft fitted no No. and Description of Boilers one, single ended, cyl. 12 ft diam

Working Pressure 180 lbs Tested by hydraulic pressure to 360 lbs Date of test 13/12/04 No. of Certificate 2649

Can each boiler be worked separately — Area of fire grate in each boiler 51.5 sq ft No. and Description of Safety Valves to

each boiler two, direct spring Area of each valve 5.94 sq in Pressure to which they are adjusted 185 lbs Are they fitted with easing gear no

Smallest distance between boilers or uptakes and bunkers or woodwork 15 (Rule Mean dia. of boilers 13-9 1/16) Length 10-6 Material of shell plates steel

Thickness 1 3/32 Range of tensile strength 28 3/4 to 32 tons Are the shell plates welded or flanged no Descrip. of riveting: cir. seams 2x SR

long. seams 5735-TR Diameter of rivet holes in long. seams 1 7/16 Pitch of rivets 8 3/4 Lap of plates or width of butt straps 18

Per centages of strength of longitudinal joint rivets 85.4 Working pressure of shell by rules 180.2 lbs Size of manhole in shell 16x12

plate 86.5 Size of compensating ring flanged No. and Description of Furnaces in each boiler three plain Material steel Outside diameter 38 3/4

Length of plain part top 6-11 3/32 bottom — Thickness of plates top 23 bottom 32 Description of longitudinal joint weld No. of strengthening rings —

Working pressure of furnace by the rules 180 lbs Combustion chamber plates: Material steel Thickness: Sides 3/4 Back 3/4 Top 3/4 Bottom 13/16

Pitch of stays to ditto: Sides 8 1/2 x 11 3/4 Back 9 5/8 x 10 5/8 Top 11 1/8 x 8 1/2 If stays are fitted with nuts or riveted heads nuts Working pressure by rules 182 lbs

Material of stays steel Diameter at smallest part 1 1/8 Area supported by each stay 10 1/2 x 13 1/2 Working pressure by rules 180 lbs End plates in steam space:

Material steel Thickness 1 3/8 Pitch of stays 24 3/8 x 20 How are stays secured 57 x 11 Working pressure by rules 180 lbs Material of stays steel

Diameter at smallest part 3-28 Area supported by each stay 48 sq ft Working pressure by rules 180.9 lbs Material of Front plates at bottom steel

Thickness 13/16 Material of Lower back plate steel Thickness 15/16 Greatest pitch of stays 14 3/4 x 10 5/8 Working pressure of plate by rules 181 lbs

Diameter of tubes 3 1/4 Pitch of tubes 4 1/2 x 4 1/2 Material of tube plates steel Thickness: Front 13/16 Back 13/16 Mean pitch of stays 10 1/8

Pitch across wide water spaces 14 1/2 Working pressures by rules 184.9 lbs Girders to Chamber tops: Material steel Depth and

thickness of girder at centre 8 x 2 Length as per rule 29.43 Distance apart 11 1/8, 11 1/2 Number and pitch of stays in each Two 8 1/2

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 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 —



**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 \_\_\_\_\_

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 \_\_\_\_\_

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

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:— *one set of Coupling Bolts & nuts, two each top & bottom end & main bearing Bolts & nuts, one set each feed & sledge pump tubes, one set of H.P. piston rings, one propeller, assorted Bolts & nuts.*

The foregoing is a correct description,  
**NORTH EASTERN MARINE ENGINEERING CO. LTD.**  
*Walker & Beatty* Manufacturer.

Dates of Survey while building: During progress of work in shops— 1907:— July, Sept. 24, Nov. 5, 11, 13, 18, 20, 21, 22, 25, 26, 27, 30, Dec. 3, 5, 9, 11, 12, 13, 14, 19, 24, 28, 30, 1908:— Jan. 6, 10.

Total No. of visits *24*

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

" " " donkey " " " *yes*

Dates of Examination of principal parts—Cylinders *11/11 20/11 27/11* Slides *19/12* Covers *19/12* Pistons *13/12 17/12* Rods *17/12*

Connecting rods *17/12* Crank shaft *13/17 19/12* Thrust shaft *23/11 17/12* Tunnel shafts *none* Screw shaft *21/11 22/11* Propeller *26/11*

Stern tube *5/12 12/12* Steam pipes tested *30/12* Engine and boiler seatings *3/12* Engines holding down bolts *28/12*

Completion of pumping arrangements *6/1* Boilers fixed *24/12 28/12* Engines tried under steam *6/1*

Main boiler safety valves adjusted *6/1* Thickness of adjusting washers *7/16 7/16 just.*

Material of Crank shaft *steel* Identification Mark on Do. *509D AB* Material of Thrust shaft *steel* Identification Mark on Do. *510 A*

Material of Tunnel shafts *none* Identification Marks on Do. — Material of Screw shafts *Iron* Identification Marks on Do. *510 A*

Material of Steam Pipes *Copper solid drawn 4 1/2 bore No 6 W9.* Test pressure *450 lbs.*

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

*The Machinery of this vessel has been constructed under special survey, the material & workmanship sound & good, the Boiler & steam pipe have been subjected to hydraulic pressure as above, the machinery worked satisfactorily at the pressure & the safety valves have been adjusted under steam to their working pressure.*

It is submitted that  
 this vessel is eligible for  
**THE RECORD L.M.C. 1.08**

*J.C. 25-1-08.*

*This vessel is eligible in my opinion to have the Notation*  
**\* LMC 1.08** in the Register Book.

The amount of Entry Fee.. £ 2 : 0 : When applied for, *22-1-1908*

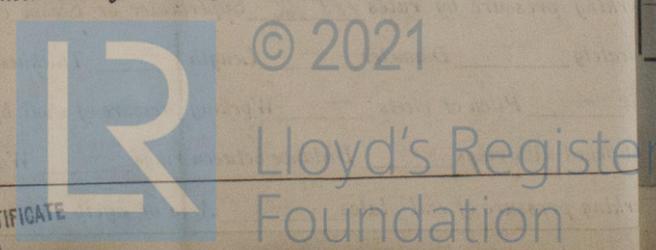
Special .. .. £ 16 : 19 : When received, *31-1-1908*

Donkey Boiler Fee .. .. £ : : *12*

Travelling Expenses (if any) £ : : *12*

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

**Committee's Minute** TUES. 28 JAN 1908  
*Assigned + L.M.C. 1.08.*



MACHINERY CERTIFICATE WRITTEN.

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

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