

REPORT ON MACHINERY.

Port of Sunderland

Received at London Office WED. 21 JUL 1908

No. in Survey held at Sunderland

Date, first Survey 11th May 08 - Last Survey 14 Oct 1908

Reg. Book. on the S. S. Clara

(Number of Visits 55)

Tons { Gross 841.82
Net 373.90

Master J. Blonde Built at Sunderland By whom built Wm J. Brown & Sons

When built 1908

Engines made at Sunderland By whom made S. E. Marine Engineering Co Ltd

when made 1908

Boilers made at Sunderland By whom made ditto

when made 1908

Registered Horse Power _____ Owners Handel en Scheepvaart Societe Anonyme Port belonging to Newport

Nom. Horse Power as per Section 28 141 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 16 1/2, 27, 44 Length of Stroke 33 Revs. per minute 90 Dia. of Screw shaft as per rule 10.04 Material of screw shaft Iron

Is the screw shaft fitted with a continuous liner the whole length of the stern tube none fitted Is the after end of the liner made water tight

in the propeller boss none 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 ✓ If two

liners are fitted, is the shaft lapped or protected between the liners _____ Length of stern bush 3.5 1/2 white metal

Dia. of Tunnel shaft as per rule 8.47 Dia. of Crank shaft journals as per rule 8.89 Dia. of Crank pin 9 Size of Crank webs 15 1/2 x 5 1/2 Dia. of thrust shaft under

collars 9 Dia. of screw 11.9 Pitch of Screw 13.3 No. of Blades 4 State whether moveable no Total surface 47 ft

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

No. of Bilge pumps 2 Diameter of ditto 3 Stroke 15 Can one be overhauled while the other is at work Yes

No. of Donkey Engines 2 Sizes of Pumps 6 x 9 x 5 1/2 x 3 1/2 x 5 No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room _____ In Holds, &c. 2 of 2 1/2 in fore hold

No. of Bilge Injections 1 sizes 3 1/2 Connected to condenser, or to circulating pump Yes Is a separate Donkey Suction fitted in Engine room & size Yes - 2 1/2

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 ✓

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 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 22.9.08 of Stern Tube 22.9.08 Screw shaft and Propeller 22.9.08

Is the Screw Shaft Tunnel watertight Yes Is it fitted with a watertight door Yes worked from top platform

BOILERS, &c.—(Letter for record _____) Manufacturers of Steel J. Spence & Sons

Total Heating Surface of Boilers 2454 Is Forced Draft fitted no No. and Description of Boilers one S. E. Cyl. 2nd Mult.

Working Pressure 180 lbs Tested by hydraulic pressure to 360 lbs Date of test 6.8.08 No. of Certificate 2714

Can each boiler be worked separately ✓ Area of fire grate in each boiler 73 ft No. and Description of Safety Valves to

each boiler 2 spring Area of each valve 8.29 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 19 Mean dia. of boilers 15.6 2/3 Length 11.0 Material of shell plates steel

Thickness 1 1/2 Range of tensile strength 28 3/4 / 32 Are the shell plates welded or flanged no Descrip. of riveting: cir. seams d. v. lap.

long. seams cr. d. 2.5 Diameter of rivet holes in long. seams 1 1/32 Pitch of rivets 8 5/16 Lap of plates or width of butt straps 18

Per centages of strength of longitudinal joint _____ Working pressure of shell by rules 180.6 lbs Size of manhole in shell 16 x 12

Size of compensating ring flanged No. and Description of Furnaces in each boiler 4 Brighton Material steel Outside diameter 4 1/2

Length of plain part _____ Thickness of plates _____ Description of longitudinal joint weld No. of strengthening rings ✓

Working pressure of furnace by the rules 182 lbs Combustion chamber plates: Material steel Thickness: Sides 23/32 Back 3/4 Top 23/32 Bottom 13/16

Pitch of stays to ditto: Sides 10 1/2 x 9 Back 11 1/2 x 9 1/4 Top 10 x 9 If stays are fitted with nuts or riveted heads nuts Working pressure by rules 180.8 lbs

Material of stays steel Diameter at smallest part 2.43 Area supported by each stay 105.21 Working pressure by rules 208 lbs End plates in steam space:

Material steel Thickness 1 1/16 Pitch of stays 22 1/2 x 20 1/4 How are stays secured d. v. w. Working pressure by rules 180.2 lbs Material of stays steel

Diameter at smallest part 4.48 Area supported by each stay 450.56 Working pressure by rules 195.7 lbs Material of Front plates at bottom steel

Thickness 1 1/16 Material of Lower back plate steel Thickness 3/16 Greatest pitch of stays 16 1/2 x 11 3/8 Working pressure of plate by rules 182 lbs

Diameter of tubes 3 1/4 Pitch of tubes 4 1/4 x 4 7/16 Material of tube plates steel Thickness: Front 1/16 Back 1/16 Mean pitch of stays 8 1/2 x 9 1/2

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 1 1/2 Length as per rule 2.7 Distance apart 10 Number and pitch of stays in each 2-9

Working pressure by rules 187 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 _____

Is a Report also sent on the Hull of the Ship?

Lloyd's Register
Foundation
© 2020
W1642
F0266

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 _____

Dia. of rivet holes _____ Whether punched or drilled _____ Pitch of rivets _____ Lap of plating _____ Per centage of strength of joint _____ Rivets _____ 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:— 2 Top end, 2 bottom end, 2 main bearing & 1 set of Coupling bolts, 1 propeller, 1 set feed & bilge pump valves, 1 main & 1 donkey feed check valve, Bolts & nuts assorted & iron of sizes

The foregoing is a correct description,
NORTH EASTERN MARINE ENGINEERING CO LTD
 Manufacturer.

Dates of Survey while building	During progress of work in shops -	1908: May 11, 19, 27, 29, June 1, 7, 8, 10, 12, 16, 17, 18, 22, 30, July 2, 7, 9, 11, 13, 15, 18, 21, 24, 28, 30, Aug: 4, 5, 6, 7, 10, 12, 13, 14,
	During erection on board vessel -	20, 26, 31, Sept 3, 4, 5, 11, 15, 17, 18, 21, 22, 23, 25, 28, 29, Oct 1, 7, 8, 10, 13, 14,
	Total No. of visits	55

Is the approved plan of main boiler forwarded herewith Yes

" " " donkey " " " Yes

Dates of Examination of principal parts—Cylinders 7.9.08 Slides 15.9.08 Covers 21.9.08 Pistons 15.9.08 Rods 30.7.08

Connecting rods 31.8.08 Crank shaft 16.9.08 Thrust shaft 25.9.08 Tunnel shafts 25.9.08 Screw shaft 11.9.08 Propeller 15.9.08

Stern tube 15.9.08 Steam pipes tested 29.9.08 Engine and boiler seatings 18.9.08 Engines holding down bolts 1.10.08

Completion of pumping arrangements 3.10.08 Boilers fixed 1.10.08 Engines tried under steam 3.10.08

Main boiler safety valves adjusted 3.10.08 Thickness of adjusting washers F.V. 7/8", A.V. 3/8"

Material of Crank shaft Steel Identification Mark on Do. 486B. Material of Thrust shaft Steel Identification Mark on Do. 3928K

Material of Tunnel shafts Iron Identification Marks on Do. 490B Material of Screw shafts Iron Identification Marks on Do. 575C

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

I beg to recommend that this vessel is eligible in my opinion to have the record **L.M.C. 10.08** in the Register Book

It is submitted that this vessel is eligible for THE RECORD. **L.M.C. 10.08.**

The amount of Entry Fee..	£ 2 : 0 0	When applied for,	20.10.08
Special	£ 21 : 3 0	When received,	24/10/08
Donkey Boiler Fee .. .	£ :		
Travelling Expenses (if any) £	:		

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

Committee's Minute
 Assigned
 FRI. 23 OCT 1908
 + L.M.C. 10.08



Gunderland

Certificate (L.M.C.) to be sent to the Committee's Minute.

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