

REPORT ON MACHINERY.

No. 23800

Mdb no 5521

Port of Sunderland

Received at London Office

SAT. 15 AUG 1908

No. in Survey held at Sunderland

Date, first Survey 30th Dec: 1904 Last Survey 12 August 1908

Reg. Book. on the S.S. "Brika"

Mdb 14th June (Number of Visits 80) 14th July Gross 3558

Master W. W. Beavan Built at Middlesbri

By whom built Messrs R. Crapps & Sons Ltd Tons Net 1908

Engines made at Sunderland

By whom made North Eastern Marine Engineering when made 1908

Boilers made at Sunderland

By whom made ditto when made 1908

Registered Horse Power _____ Owners E. J. Bowring & Co. Ltd (Ingrs) Port belonging to London

Nom. Horse Power as per Section 28 321 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 23 1/2, 39, 66" Length of Stroke 46" Revs. per minute 63 Dia. of Screw shaft as per rule 13.64" 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 ✓ 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 4' 8"

Dia. of Tunnel shaft as per rule 11.96" Dia. of Crank shaft journals as per rule 12.58" Dia. of Crank pin 13" Size of Crank webs 18 3/4 x 1 1/2" Dia. of thrust shaft under collars 12 3/4" Dia. of screw 17' 0" Pitch of Screw 17' 0" No. of Blades 4 State whether moveable no Total surface 90°

No. of Feed pumps 2 Diameter of ditto 3 1/4" Stroke 24" Can one be overhauled while the other is at work Yes

No. of Bilge pumps 2 Diameter of ditto 3 1/2" Stroke 24" Can one be overhauled while the other is at work Yes

No. of Donkey Engines 2 Sizes of Pumps 9x11x10" 7 1/2x5x6" No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room Four of 3 1/2" In Holds, &c. Two 3 1/2" fore hold, Two 3 1/2" main hold, Two 3 1/2" after main hold, Two 3 1/2" after hold, One 3" tunnel well.

No. of Bilge Injections one size 4" Connected to condenser, or to circulating pump pump Is a separate Donkey Suction fitted in Engine room & size Yes - 3 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 16.6.08 of Stern Tube 21.7.08 Screw shaft and Propeller 24.7.08

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

BOILERS, &c.—(Letter for record S) Manufacturers of Steel Messrs J. Spencer & Sons

Total Heating Surface of Boilers 5034 1/2 Is Forced Draft fitted no No. and Description of Boilers 3 S.E. Cylindrical Mult

Working Pressure 180 lbs Tested by hydraulic pressure to 360 lbs Date of test 13.3.08 No. of Certificate 2694

Can each boiler be worked separately Yes Area of fire grate in each boiler 45 2/3 No. and Description of Safety Valves to each boiler 2 spring

Area of each valve 4.91 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 15" Mean dia. of boilers 13.3 3/8" Length 10' 6" Material of shell plates steel

Thickness 1 1/16" Range of tensile strength 28 3/4/32 Are the shell plates welded or flanged no Descrip. of riveting: cir. seams d x lap

long. seams End to End Diameter of rivet holes in long. seams 1 3/16" Pitch of rivets 9" Lap of plates or width of butt straps 18"

Per centages of strength of longitudinal joint rivets 85.5 Working pressure of shell by rules 184 lbs Size of manhole in shell 16 x 12"

plate 86.8 Size of compensating ring flanged No. and Description of Furnaces in each boiler 3 Saighton Material steel Outside diameter 40"

Length of plain part top 1 1/2" Thickness of plates crown 1 1/2" Description of longitudinal joint weld No. of strengthening rings ✓

bottom 1 1/2" Working pressure of furnace by the rules 188 lbs Combustion chamber plates: Material steel Thickness: Sides 1/16" Back 3/4" Top 1/16" Bottom 7/8"

Pitch of stays to ditto: Sides 8 1/2 x 10 3/8" Back 9 1/2 x 11 1/2" Top 8 1/2 x 10 3/8" If stays are fitted with nuts or riveted heads nuts Working pressure by rules 180.4 lbs

Material of stays steel Diameter at smallest part 2.1 Area supported by each stay 105 Working pressure by rules 180.4 lbs End plates in steam space:

Material steel Thickness 1 1/32" Pitch of stays 24 1/2 x 18 1/2" How are stays secured d x w. Working pressure by rules 184 lbs Material of stays steel

Diameter at smallest part 8.48 Area supported by each stay 453 Working pressure by rules 193 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 7/8" 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 3/16" Back 1/16" Mean pitch of stays 10 7/8"

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 3/4 x 15 1/8"

Length as per rule 30.937 Distance apart 10 3/8" Number and pitch of stays in each 2 - 8 1/2"

Working pressure by rules 183 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 2020 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 ✓

Lloyd's Register Foundation

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 casing 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 set of feed & bilge pump Valves, bolts & nuts assorted & iron of sizes, 1 Propeller & 1 Propeller shaft

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

1907: Dec. 30 1908: Jan. 7, 9, 14, 20, 21, 24, 28, 31, Feb. 1, 4, 10, 11, 15, 16, 18, 19, 21, 25, 26, 28, Mar. 2, 6, 9, 12, 13, 16, 18, 20, 26
 Dates of Survey while building: During progress of work in shops - - - - -
 During erection on board vessel - - - - -
 Total No. of visits: 80. (Mdb) 16th June 14th July Is the approved plan of main boiler forwarded herewith Yes.

Dates of Examination of principal parts—Cylinders 10.6.08 Slides 16.6.08 Covers 10.6.08 Pistons 18.6.08 Rods 21.1.08
 Connecting rods 16.6.08 Crank shaft 16.6.08 Thrust shaft 4.6.08 Tunnel shafts 18.6.08 Screw shaft 16.7.08 Propeller 18.7.08
 Stern tube 15.6.08 Steam pipes tested 29.7.08 Engine and boiler seatings 14.7.08 Engines holding down bolts 30.7.08
 Completion of pumping arrangements 7.8.08 Boilers fixed 30.7.08 Engines tried under steam 7.8.08
 Main boiler safety valves adjusted 7.8.08 Thickness of adjusting washers P.F. 5/16, P.A. 5/16, P.E. 1/4, P.A. 1/4, S.F. 5/16, S.A. 1/4
 Material of Crank shaft Steel Identification Mark on Do. 47015 Material of Thrust shaft Steel Identification Mark on Do. P35 R29
 Material of Tunnel shafts Steel Identification Marks on Do. 716, 717, 755, 766 Material of Screw shafts Iron Identification Marks on Do. 463 B
 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. 8-08** in the Register Book

It is submitted that this vessel is eligible for **THE RECORD L.M.C. 8-08**

The amount of Entry Fee... £ 3 : 0 : 0 When applied for, 14.8.08
 Special ... £ 36 : 2 : 0
 Donkey Boiler Fee ... £ : : :
 Travelling Expenses (if any) £ : : : 3.9.08

25.8.08
 J. R. Coombes & Kerr
 Engineer Surveyors to Lloyd's Register of British & Foreign Shipping.

Committee's Minute **FRI. 28 AUG 1908**
 Assigned Thome 8.08

