

Received at London Office

SAT. JUL. 25. 1914

Date of writing Report 22. 7. 1914. When handed in at Local Office 24. 7. 1914 Port of MIDDLESBRO' SAT. JUL. 25. 1914
No. in Survey held at Middlesbrough Date, First Survey Octbr. 24. 1913. Last Survey July 13. 1914.
Reg. Book. 54 on the S.S. "Galernian" (Number of Visits 45)

Master Built at Middlesbrough By whom built W. Harkness & Son Ltd. Tons Gross Net 1914
Engines made at Middlesbrough By whom made Richardsons, Westgarth & Co. Ltd. when made 1914
Boilers made at do By whom made do when made 1914

Registered Horse Power Owners Ellenman Lines Ltd. Port belonging to Liverpool

Nom. Horse Power as per Section 28 344 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

ENGINES, &c.—Description of Engines Triple Expansion No. of Cylinders 3 No. of Cranks 3
Dia. of Cylinders 20½, 35½, 60 Length of Stroke 42 Revs. per minute Dia. of Screw shaft as per rule 12.9 Material of screw shaft Steel
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 If two
liners are fitted, is the shaft lapped or protected between the liners Length of stern bush 5-1
Dia. of Tunnel shaft as per rule 11.4 Dia. of Crank shaft journals as per rule 12 Dia. of Crank pin 12½ Size of Crank webs 20x8 Dia. of thrust shaft under
collars 12½ Dia. of screw 16-0 Pitch of Screw 16-0 No. of Blades 4 State whether moveable No Total surface 85 sq. ft.
No. of Feed pumps 2 Weir's Diameter of ditto 7x9½ Stroke 18 Can one be overhauled while the other is at work Yes
No. of Bilge pumps 2 Diameter of ditto 4 Stroke 25½ Can one be overhauled while the other is at work Yes
No. of Donkey Engines Two Sizes of Pumps 7x8x8 7x5x8 No. and size of Suctions connected to both Bilge and Donkey pumps
In Engine Room Three 3 In Holds, &c. Two 3 in each hold, One 3 in Tunnel well.

No. of Bilge Injections 1 sizes 6½ Connected to condenser, or to circulating pump Pump Is a separate Donkey Suction fitted in Engine room & size Yes 3½
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 None
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 Below
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 Forward bilge suction How are they protected Wood ceiling
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 23. 5. 14 of Stern Tube 29. 5. 14 Screw shaft and Propeller 29. 5. 14
Is the Screw Shaft Tunnel watertight Yes Is it fitted with a watertight door Yes worked from Top grating

BOILERS, &c.—(Letter for record (S) Manufacturers of Steel John Spencer & Sons Ltd.
3 main (3022+1874)
Total Heating Surface of Boilers 4896 sq. ft. Is Forced Draft fitted Yes No. and Description of Boilers Two S.E. Cyl. Mult.
Working Pressure 215 lbs Tested by hydraulic pressure to 430 lbs Date of test 26. 1. 14 No. of Certificate 5225
Can each boiler be worked separately Yes Area of fire grate in each boiler 38½ sq. ft. No. and Description of Safety Valves to
each boiler Two direct spring Area of each valve 4.9 Pressure to which they are adjusted 220 lbs Are they fitted with easing gear Yes
Smallest distance between boilers or uptakes and bunkers or woodwork 11 Mean dia. of boilers 12-0 Length 12-0 Material of shell plates Steel
Thickness 1½ Range of tensile strength 29-33 Are the shell plates welded or flanged No Descrip. of riveting: cir. seams Lap long. seams Lap
Diameter of rivet holes in long. seams 1½ Pitch of rivets 8½ Lap of plates or width of butt straps 18½
Per centages of strength of longitudinal joint rivets 87.6 plate 85.8 Working pressure of shell by rules 217 lbs Size of manhole in shell 16x12
Size of compensating ring 34½x29x1½ No. and Description of Furnaces in each boiler Two Morrison Material Steel Outside diameter 3-8½
Length of plain part top 3.5 bottom 3.8 Description of longitudinal joint Welded No. of strengthening rings
Working pressure of furnace by the rules 226 Combustion chamber plates: Material Steel Thickness: Sides 23 Back 23 Top 16 Bottom 1
Pitch of stays to ditto: Sides 10½x7¾ Back 9x8½ Top 9½x7½ If stays are fitted with nuts or riveted heads Nuts Working pressure by rules 221 lbs
Material of stays Steel Diameter at smallest part 2.1 Area supported by each stay 76.5 Working pressure by rules 247 End plates in steam space:
Material Steel Thickness 1½ Pitch of stays 18x16¾ How are stays secured Nuts Working pressure by rules 221 lbs Material of stays Steel
Diameter at smallest part 7.02 Area supported by each stay 288 Working pressure by rules 254 Material of Front plates at bottom Steel
Thickness 1½ Material of Lower back plate Steel Thickness 3½ Greatest pitch of stays 14½x8½ Working pressure of plate by rules 230
Diameter of tubes 2½ Pitch of tubes 3¾x3¾ Material of tube plates Steel Thickness: Front 1½ Back ¾ Mean pitch of stays 9½
Pitch across wide water spaces 13½ Working pressures by rules 223 lbs Girders to Chamber tops: Material Steel Depth and
thickness of girder at centre 9½x1½ Length as per rule 2-8½ Distance apart 9½ Number and pitch of stays in each 307½
Working pressure by rules 227 lbs Superheater or Steam chest; how connected to boiler None 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

9900-82224

VERTICAL DONKEY BOILER— Manufacturers of Steel

No. *None* 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 _____ Radius of do. _____ Stayed by _____

Diameter of uptake _____ Thickness of uptake plates _____ Thickness of water tubes _____ Dates of survey _____

SPARE GEAR. State the articles supplied :— *Two top & two bottom end connecting rod bolts & nuts. Two main bearing bolts & nuts. One set of coupling bolts & nuts. One set of feed & bilge pump valves. One set of H.P. M.P. & L.P. piston rings. Assorted bolts & nuts etc.*

The foregoing is a correct description,

Manufacturer. _____

Dates of Survey while building { During progress of work in shops -- } *1913. Oct. 24-29. Nov. 8-18-20-28. Dec. 1-5-8-10-12-15-19-22-1914. Jan. 6-12-21-26-27. Feb. 3-5-6*

{ During erection on board vessel --- } *13-19-24. Mar. 5-9-10-19-23-25. Apr. 1-8-16. May 18-23-29. Jun. 10-11-13-18. Jul. 1-3-8-13.*

Total No. of visits *45.*

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

" " " donkey " " "

Dates of Examination of principal parts—Cylinders *3. 2. 14* Slides *23. 3. 14* Covers *23. 3. 14* Pistons *9. 3. 14* Rods *9. 3. 14*

Connecting rods *9. 3. 14* Crank shaft *8. 1. 14* Thrust shaft *10. 3. 14* Tunnel shafts *25. 3. 14* Screw shaft *23. 5. 14* Propeller *23. 5. 14*

Stern tube *23. 5. 14* Steam pipes tested *6. 3. 14* Engine and boiler seatings *23. 5. 14* Engines holding down bolts *11. 6. 14*

Completion of pumping arrangements *13. 6. 14* Boilers fixed *11. 6. 14* Engines tried under steam *13. 6. 14*

Main boiler safety valves adjusted *13. 6. 14* Thickness of adjusting washers *PB PV $\frac{9}{32}$ SV $\frac{5}{16}$ CB PV $\frac{11}{32}$ SV $\frac{9}{32}$ SB PV $\frac{9}{32}$ SV $\frac{5}{16}$*

Material of Crank shaft *Steel* Identification Mark on Do. *5489 AB* Material of Thrust shaft *Steel* Identification Mark on Do. *3688 MB*

Material of Tunnel shafts *Steel* Identification Marks on Do. *3690 MB, 668 WS, 3689 MB, 3691 MB, 3615 MB* Material of Screw shafts *Steel* Identification Marks on Do. *3687 MB*

Material of Steam Pipes *Steel, Lap Welded* Test pressure *645 lbs. Glasgow Rpt.*

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

The Engines and Boilers of this vessel have been constructed under Special Survey, are of good material and workmanship, and have been fitted and secured on board in accordance with the Rules. They are now in good working condition and in my opinion eligible to have the notation of + LMC 7. 14 in the Register Book.

It is submitted that
this vessel is eligible for
THE RECORD. + LMC 7. 14. F.D.

The amount of Entry Fee .. £ 3 : 0 : _____ When applied for, _____

Special £ 37 : 4 : _____ 15. 7. 14

Donkey Boiler Fee £ : : _____ When received, _____

Travelling Expenses (if any) £ : : _____ 21. 7. 14

Committee's Minute _____ TUE AUG 11. 1914

Assigned *Deferred for further repl. on hull*

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

TUE SEP 1. 1914

+ LMC 7. 14

F.D.

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Foundation