

REPORT ON MACHINERY.

No. 76776

Received at London Office TUE. JUN 5 1923

Date of writing Report 19 When handed in at Local Office 30/5/23 Port of NEWCASTLE-ON-TYNE

No. in Survey held at South Shields Date, First Survey 11 Oct. 1923 Last Survey 16 May 1923
 Reg. Book. on the S. S. Steelville (Number of Visits 54)

Master Built at South Shields By whom built John Readhead & Sons Ltd. When built 1923

Engines made at South Shields By whom made John Readhead & Sons, Ltd. when made 1923

Boilers made at South Shields By whom made John Readhead & Sons Ltd. when made 1923

Registered Horse Power 328 Owners George Henry Stanfield Port belonging to Newcastle-on-Tyne

Nom. Horse Power as per Section 28 328 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 24 1/2 x 24 1/2 x 60 Length of Stroke 45 Revs. per minute 70 Dia. of Screw shaft as per rule 13.5 13.72 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 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 4.7

Dia. of Tunnel shaft as per rule 12.2 12.36 Dia. of Crank shaft journals as per rule 12.8 12.97 Dia. of Crank pin 13 Size of Crank webs 23 1/2 x 17 1/2 Dia. of thrust shaft under collars 13 Dia. of screw 16.6 Pitch of Screw 16.6 No. of Blades 4 State whether moveable No Total surface 78.5

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

No. of Bilge pumps 2 Diameter of ditto 4 3/8 Stroke 24 Can one be overhauled while the other is at work Yes

No. of Donkey Engines 3 Sizes of Pumps Ballast 3 x 8 x 8 Feed 6 x 4 x 6 No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room 3 - 2 1/2 1 - 2 1/2 in tunnel well. In Holds, &c. 2 - 3 in each hold.

No. of Bilge Injections 1 sizes 5 1/2 Connected to condenser, or to circulating pump C.P. Is a separate Donkey Suction fitted in Engine room & size Yes 4 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 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 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 None 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

Is the Screw Shaft Tunnel watertight Yes Is it fitted with a watertight door Yes worked from T.P. Eng. Room.

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

Total Heating Surface of Boilers 5173 Is Forced Draft fitted No No. and Description of Boilers 2 Cyl. Multi. Single End.

Working Pressure 180 lbs/sq. in Tested by hydraulic pressure to 320 lbs/sq. in Date of test 26.3.23 No. of Certificate 9747.

Can each boiler be worked separately Yes Area of fire grate in each boiler 60.15 No. and Description of Safety Valves to each boiler 2 Spring loaded Area of each valve 8.290 Pressure to which they are adjusted 184 lbs/sq. in Are they fitted with easing gear Yes

Smallest distance between boilers or uptakes and bunkers or woodwork 24 EXT. Mean dia. of boilers 16.6 Length 10.9 Material of shell plates Steel

Thickness 1 1/2 Range of tensile strength 28.32 lbs/sq. in Are the shell plates welded or flanged No Descrip. of riveting: cir. seams L.A.P. D.R. long. seams O.B.S. T.R. Diameter of rivet holes in long. seams 1 5/16 Pitch of rivets 9/8 Lap of plates or width of butt straps 20

Per centages of strength of longitudinal joint rivets 85.04 plate 85.61 Working pressure of shell by rules 181 lbs/sq. in Size of manhole in shell 16 x 12

Size of compensating ring 32 x 28 x 1 1/2 No. and Description of Furnaces in each boiler 3 Deighton Material Steel Outside diameter 44 7/8

Length of plain part top 1.2 2 thickness of plates crown 9/16 Description of longitudinal joint weld. No. of strengthening rings

Working pressure of furnace by the rules 203 lbs Combustion chamber plates: Material Steel Thickness: Sides 1/16 Back 1/16 Top 1/16 Bottom 7/8

Pitch of stays to ditto: Sides 9 1/4 x 9 Back 9 1/2 x 9 1/4 Top 10 x 9 If stays are fitted with nuts or riveted heads Nuts Working pressure by rules 183 lbs/sq. in

Material of stays Iron Area at smallest part 2.360 Area supported by each stay 900 Working pressure by rules 237 lbs/sq. in End plates in steam space:

Material Steel Thickness 1 7/16 Pitch of stays 27 x 19 1/4 How are stays secured D.N. + W. Working pressure by rules 194 lbs/sq. in Material of stays Steel

Area at smallest part 8.480 Area supported by each stay 519.70 Working pressure by rules 208 lbs/sq. in Material of Front plates at bottom Steel

Thickness 7/8 Material of Lower back plate Steel Thickness 7/8 Greatest pitch of stays 14 x 9 1/4 Working pressure of plate by rules 218 lbs/sq. in

Diameter of tubes 3 1/2 Pitch of tubes 4 3/4 x 4 3/4 Material of tube plates Steel Thickness: Front 7/8 + 1/16 DOUBLING IN W.G. Back 13/16 Mean pitch of stays 10.94

Pitch across wide water spaces 14 x 9 1/2 Working pressures by rules B. 198 lbs/sq. in Girders to Chamber tops: Material Steel Depth and thickness of girder at centre 7 1/2 x 1 5/8 Length as per rule 27 1/2 Distance apart 10 Number and pitch of stays in each 2 at 9

Working pressure by rules 230 lbs/sq. in Steam dome: description of joint to shell None % of strength of joint

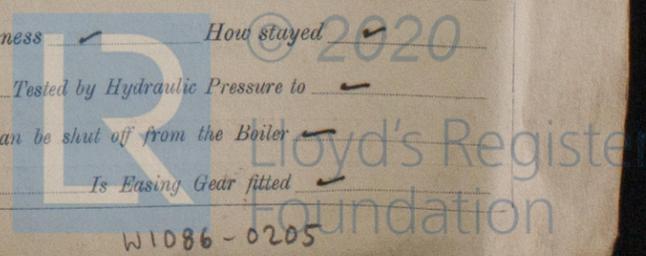
Diameter Thickness of shell plates Material Description of longitudinal joint Diam. of rivet holes

Pitch of rivets Working pressure of shell by rules Crown plates Thickness How stayed

SUPERHEATER. Type None Date of Approval of Plan Tested by Hydraulic Pressure to

Date of Test Is a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler

Diameter of Safety Valve Pressure to which each is adjusted Is Easing Gear fitted



IS A DONKEY BOILER FITTED? *Yes.*

If so, is a report now forwarded? *Yes.*

SPARE GEAR. State the articles supplied:— 2 Piston Rod top end bolts & nuts, 2 Conn. Rod bottom end bolts & nuts, 2 main Bearing bolts & nuts, 1 set shaft coupling bolts & nuts, 1 set feed pump valves, 1 set bilge pump valves, 1 set air pump valves, 1 set circ^d pump valves, 1 main boiler check valve, 1 propeller, 1 propeller shaft, 3 main Boiler tubes, 5 main Cond. tubes, 50 main Condenser ferrules, 75 fine kern for main boiler, 2 safety valve springs, 6 piston bolts. A quantity of assorted bolts and nuts, Iron of various sizes.

The foregoing is a correct description,
For JOHN READHEAD & SONS, LTD.

W. P. Dewar, Eng^r Manager.

Manufacturer.

Dates of Survey while building	During progress of work in shops - -	1922 Oct. 11, 13, 17, Dec. 7, 18, 1923 Jan. 4, 11, 16, 22, 23, 25, Feb. 1, 6, 13, 15.
	During erection on board vessel - - -	21.2.23, 26.2.23, 1.3.23, 7.3.23, 26/3/23, 20.8.23, 29.3.23, 5.4.23, 10.4.23, 20.4.23, 24.4.23, 26.4.23, 27.4.23, 30.4.23, 1.5.23, 3.5.23, 4.5.23, 10.5.23, 16.5.23
	Total No. of visits	34.

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

" " " donkey " " " *Yes.*

Dates of Examination of principal parts—Cylinders	H.P. 23.1.23 M.P. 11.1.23 L.P. 16.1.23	Slides	21.2.23	Covers	21.2.23	Pistons	21.2.23	Rods	6.2.23
Connecting rods	6.2.23	Crank shaft	21.2.23	Thrust shaft	21.2.23	Tunnel shafts	10.4.23	Screw shaft	10.4.23
Stern tube	10.4.23	Steam pipes tested	11.4.23	Engine and boiler seatings	11.4.23	Engines holding down bolts	1.5.23		
Completion of pumping arrangements	16.5.23	Boilers fixed	1.5.23	Engines tried under steam	3.5.23				
Completion of fitting sea connections	11.4.23	Stern tube	11.4.23	Screw shaft and propeller	20.4.23				
Main boiler safety valves adjusted	3.5.23	Thickness of adjusting washers	all 7/16 (4 in No.)						
Material of Crank shaft	Steel	Identification Mark on Do.	6418	Material of Thrust shaft	Steel	Identification Mark on Do.	4157.D		
Material of Tunnel shafts	Steel	Identification Marks on Do.	4157D	Material of Screw shafts	Steel	Identification Marks on Do.	4157D.		
Material of Steam Pipes	Solid drawn Copper.	Test pressure	360 lbs/sq. in.						
Is an installation fitted for burning oil fuel	No	Is the flash point of the oil to be used over 150°F.	Yes						
Have the requirements of Section 49 of the Rules been complied with	Yes								
Is this machinery duplicate of a previous case	No	If so, state name of vessel							

General Remarks (State quality of workmanship, opinions as to class, &c.) *The engines and boilers of this vessel, were built under special survey, and the materials and workmanship are good. After putting in place on board they were examined under steam, and found to work satisfactorily. The machinery throughout is now in good and efficient condition and is eligible in our opinion to have a record + L.M.C. marked in the Society's Register Books.*

It is submitted that this vessel is eligible for THE RECORD. + LMC 5.23. CL.

W.D. 8/6/23

V. Lockney, C. N. Stuart
Engineer Surveyor to Lloyd's Register of Shipping.

The amount of Entry Fee ...	£ 5 : 0	When applied for.	1/6/23.
Special ...	£ 74 : 4	When received.	1/6/23.
Donkey Boiler Fee ...	£ :		
Travelling Expenses (if any) £	:		
Committee's Minute	TUE 12 JUN 1923		
Assigned	+ L.M.C. 5.23 C.L.		

Newcastle

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

CERTIFICATE WRITTEN



Rpt. 5a.
Date of writing
No. in Surve
Reg. Book.
on t
Master
Engines made
Boilers made a
Nominal Horse
MULTITU
Manufacturers
Total Heating
No. and Descr
Tested by hydr
Area of Firegr
Area of each s
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long. seams D
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Percentage of s
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Material St
Length of plain
Dimensions of s
End plates in st
How are stays s
Tube plates: M
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in each 2 at
Tensile strength
Pitch of stays to a
Working pressure
Thickness 3/4"
Pitch of stays at
Working Pressure
Diameter { At body of
or
Over thread
Working pressure
Diameter { At turned
or
Over thread