

## REPORT ON MACHINERY.

No. 70123

Received at London Office

FRI. 7 SEP. 1917

Date of writing Report 17<sup>th</sup> May 1917 When handed in at Lloyd's Office

Port of Newcastle-on-Tyne

No. in Survey held at Newcastle

Date, First Survey 8<sup>th</sup> May 1916 Last Survey 11<sup>th</sup> May 1917

Reg. Book.

(Number of Visits 66)

Gross 3375

Net 1330

Master on the S. S. "St. Alexander Nevsky"

Built at Newcastle

By whom built Sir W. G. Armstrong Whitworth &amp; Co. When built 1917

Engines made at Newcastle

By whom made Wallsend Shipway &amp; Eng Co when made 1917

Boilers made at Newcastle

By whom made Wallsend Shipway &amp; Eng Co when made 1917

Registered Horse Power

Owners The Russian Government Part belonging to

Nom. Horse Power as per Section 28 1142

Is Refrigerating Machinery fitted for cargo purposes No

Is Electric Light fitted Yes

ENGINES, &amp;c.—Description of Engines 3 sets of Triple Expansion No. of Cylinders 3 No. of Cranks 3

Dia. of Cylinders 24" 24" 36" Length of Stroke 39 Revs. per minute 130 Dia. of Screw shaft 15" Material of Steel

Is the screw shaft fitted with a continuous liner the whole length of the stern tube No liner Is the after end of the liner made water tight

in the propeller boss 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'-9"

Dia. of Tunnel shaft 11" Dia. of Crank shaft journals 11" Dia. of Crank pin 13 1/2" Size of Crank webs 26 1/2" x 9" Dia. of thrust shaft under

collars 13 3/4" Dia. of screws 13" x 10" Pitch of Screws 15" No. of Blades 4 State whether moveable Yes Total surface 64 sq ft 43 sq

No. of Feed pumps 2 Diameter of ditto 13 1/2" x 10" Stroke 24" Can one be overhauled while the other is at work Yes

No. of Bilge pumps 2 Diameter of ditto 8" x 6" Stroke 8" Can one be overhauled while the other is at work Yes

No. of Donkey Engines 2 Sizes of Pumps 10" x 7" x 10" No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room A.S.R. 3-3 1/2" B.R. 4-3" F.S.R. 3-3 1/2" In Holds, &amp;c. Shaft space at each end 1-3"

Coal Bunkers 4-3"

No. of Bilge Injections 3 Connected to condenser or to circulating pump Yes Is a separate Donkey Suction fitted in Engine room &amp; size 2-3 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 None

Are all connections with the sea direct on the skin of the ship Yes except flow off. 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 No

What pipes are carried through the bunkers None How are they protected Fitted to pipes carried above inner skin

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 21-12-16 of Stern Tube 24-4-17 Screw shaft and Propeller 24-4-17

Is the Screw Shaft Tunnel watertight Yes Is it fitted with a watertight door Yes worked from Deck None aft.

BOILERS, &amp;c.—(Letter for record S) Manufacturers of Steel John Spence &amp; Sons

Total Heating Surface of Boilers 8696 sq ft Is Forced Draft fitted Yes No. and Description of Boilers 8 single-ended

Working Pressure 180 lbs Tested by hydraulic pressure to 360 lbs Date of test 2-12-16 No. of Certificate S 2-8904

Can each boiler be worked separately Yes Area of fire grate in each boiler 60.5 sq ft No. and Description of Safety Valves to

each boiler Two, Spring Area of each valve 11.04 sq in Pressure to which they are adjusted 185 lbs Are they fitted with easing gear Yes

Smallest distance between boilers 18" Mean dia. of boilers 14'-9 1/2" Length 11'-3" Material of shell plates Steel

Thickness 1 3/32" Range of tensile strength 29-33 Are the shell plates welded or flanged No Descrip. of riveting: cir. seams S. Lap.

long. seams S.B.S. Riv. Diameter of rivet holes in long. seams 1 7/32" Pitch of rivets 8 5/8" Lap of plates or width of butt straps 18 3/8"

Per centages of strength of longitudinal joint rivets 87.0 Working pressure of shell by rules 182 lbs Size of manhole in shell 16" x 12"

Size of compensating ring McNeil No. and Description of Furnaces in each boiler 3-McNeil Material Steel Outside diameter 47 3/8"

Length of plain part top 9 1/16" Description of longitudinal joint Welded No. of strengthening rings 4

Working pressure of furnace by the rules 187 lbs Combustion chamber plates Material Steel Thickness Sides 2 1/32" Back 2 1/32" Top 2 1/32" Bottom 1"

Pitch of stays to ditto Sides 9 1/2" x 8 1/4" Back 9 1/2" x 8 1/4" Top 9 1/2" x 8 1/4" If stays are fitted with nuts or riveted heads nuts Working pressure by rules 180 lbs

Material of stays Steel Diameter at smallest part 2.03" Area supported by each stay 83 sq in Working pressure by rules 219 lbs End plates in steam space

Material Steel Thickness 1 3/16" Pitch of stays 2 1/2" x 2 1/2" How are stays secured S. n. Working pressure by rules 180 lbs Material of stays Steel

Diameter at smallest part 7.24" Area supported by each stay 426 sq in Working pressure by rules 180 lbs Material of Front plates at bottom Steel

Thickness 1" Material of Lower back plate Steel Thickness 2 3/32" Greatest pitch of stays 14 1/2" Working pressure of plate by rules 188 lbs

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

Pitch across wide water spaces 13 1/2" Working pressures by rules 197 lbs Girders to Chamber tops Material Steel Depth and

thickness of girder at centre 7 3/4" x 1 1/2" Length as per rule 29 1/2" Distance apart 8 1/2" Number and pitch of stays in each 2-9 3/16"

Working pressure, by rules 187 lbs Superheater or Steam chest; how connected to boiler None 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



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IS A DONKEY BOILER FITTED? *no*

If so, is a report now forwarded? ☒

SPARE GEAR. State the articles supplied:— 4 top end, 4 bottom end & 4 main bearing bolts & nuts, 2 sets of coupling bolts, 3 sets of feed & bilge pump valves, three  $\frac{1}{2}$ " cranks, 3 piston shafts, 2 propeller boxes, 24 propeller blades, 65 boiler tubes, 10% condenser tubes, 3 eccentric sheaves & straps, 3 sets of piston rings each size, 2 piston rods, 1 propeller & spindle, 2 pairs main bearing bushes, 2 pairs top end & 2 pairs bottom end bushes, a quantity of assorted bolts nuts & washers, 1 set of thrust shoes,  $\frac{1}{2}$  set safety valve springs, 4 eccentric rods, 3 slide rods.

The foregoing is a correct description,

FOR THE WALLSEND SLIPWAY & ENGINEERING CO. LIMITED.

Manufacturer.

DIRECTOR

1916  
Dates of Survey while building { During progress of work in shops -- May 8-12-16-17 Jun 2-20 Jul 6-19-21 Aug 4-11-14-23 Sep 7-8-20-21-25-29 Oct 2-5-6-10-11-13-18-23  
During erection on board vessel -- 26 Nov 1-3-7-9-13-15-21-22-23-27 Dec 7-8-13-21 1917 Jan 8-17-19-26-31 Feb 1-2-7-9-14-19-23 Mar 1-7  
Total No. of visits 66

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

" " " donkey " " " *yes*

Dates of Examination of principal parts—Cylinders 1-10-16 Slides 8-9-16 Covers 22-8-16 Pistons 22-8-16 Rods 2-10-16  
Connecting rods 2-10-16 Crank shafts 22-8-16 Thrust shafts 22-8-16 Tunnel shafts 22-11-16 Screw shafts 15-11-16 Propeller S 26-9-16  
Stern tube S 4-4-17 Steam pipes tested 9-2-17 Engine and boiler settings 21-12-16 Engines holding down bolts 3-4-17  
Completion of pumping arrangements 3-4-17 Boilers fixed 3-4-17 Engines tried under steam 3-4-17  
Main boiler safety valves adjusted 3-4-17 Thickness of adjusting washers No. 1. F  $\frac{3}{8}$ " A  $\frac{3}{8}$ " No. 2. F  $\frac{13}{32}$ " A  $\frac{3}{8}$ " No. 3. F  $\frac{3}{8}$ " A  $\frac{3}{8}$ " No. 4. F  $\frac{3}{8}$ " A  $\frac{3}{8}$ "  
Material of Crank shafts Steel Identification Mark on Do. S. 8-16 Material of Thrust shafts Steel Identification Mark on Do. S. 8-16  
Material of Tunnel shafts Steel Identification Marks on Do. S. 11-16 Material of Screw shafts Steel Identification Marks on Do. S. 11-16  
Material of Steam Pipes Iron Test pressure 540 lbs

Is an installation fitted for burning oil fuel *no*

Is the flash point of the oil to be used over 150°F.

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 *yes*

General Remarks (State quality of workmanship, opinions as to class, &c. The engines & boilers of this vessel have been constructed under special survey & the materials & workmanship are found to be good. The engines have been tried under steam and the boilers' safety valves adjusted at the working pressure. The machinery is now in good & safe working condition & eligible in my opinion to have the notation of + LMC 5-17. A report on the electric installation will be forwarded when received from the electricians.

It is submitted that  
this vessel is eligible for  
THE RECORD + LMC 5.17. F.D.

The amount of Entry Fee ... £ 3 : 0 : 0 When applied for.  
Special ... £ 73 : 11 : 0 6 SEP 1917  
Donkey Boiler Fee ... £ ✓ ✓ ✓ When received.  
Travelling Expenses (if any) £ ✓ ✓ ✓ 15/9/17

Committee's Minute TUE SEP 11 1917

Assigned + LMC 5-17

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



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