Rpt. 4.

REPORT ON MACHINERY

No. 25493

Received at London Office WED. AUG. 13. 1913

Date of writing Report 8-8-1913 When handed in at Local Office 11-8-1913 Port of Sunderland

No. in Reg. Book. Survey held at Sunderland Date, First Survey 7 May, 1912 Last Survey 8th Aug 1913 (Number of Visits 31)

on the new steel S/S "SLAV:" Tons Gross 2275 Net 1379

Master J. N. Sim Built at Sunderland By whom built John Brown & Sons Ltd (S/s No. 129) When built 1913

Engines made at Sunderland By whom made George Clark Ltd (No. 976) when made 1913

Boilers made at Sunderland By whom made George Clark Ltd (No. 976) when made 1913

Registered Horse Power ✓ Owners Ottoman Line Ltd Port belonging to Newport, Mon

Nom. Horse Power as per Section 28 222 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 21". 35". 57". Length of Stroke 39" Revs. per minute 65 Dia. of Screw shaft as per rule 11.93 as fitted 12" 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 4'-0"

Dia. of Tunnel shaft as per rule 10.56" as fitted 10 9/16" Dia. of Crank shaft journals as per rule 11.1" as fitted 11 3/8" Dia. of Crank pin 11 1/8" Size of Crank webs 16 1/2" × 7 1/2" Dia. of thrust shaft under collars 11 3/4" Dia. of screw 14'-9" Pitch of Screw 16'-4 1/2" No. of Blades 4 State whether moveable No Total surface 68 ☐ft

No. of Feed pumps 2 Diameter of ditto 2 3/4" 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 6&4"×6" - FEED 9&10"×9" - BALLAST No. and size of Suctions connected to both Bilge and Donkey pumps In Engine Room Two @ 2 3/4" and one @ 4". In Holds, &c. Fore hold:- two @ 2 3/4". after hold:- four @ 2 3/4". Tunnel well:- one @ 2 3/4".

No. of Bilge Injections 1 sizes 4" Connected to condenser, or to circulating pump C.P. Is a separate Donkey Suction fitted in Engine room & size yes 4"

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 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 foward hold suctions How are they protected under wood casing.

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 4-7-13 of Stern Tube 22-7-13 Screw shaft and Propeller 22-7-13

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 John Spencer & Sons Ltd

Total Heating Surface of Boilers 3463 ☐ft Is Forced Draft fitted No No. and Description of Boilers Two single ended marine

Working Pressure 180 Tested by hydraulic pressure to 360 Date of test 3-4-13 No. of Certificate 3102

Can each boiler be worked separately yes Area of fire grate in each boiler 52 ☐ft No. and Description of Safety Valves to each boiler two. direct spring Area of each valve 7.06 ☐" Pressure to which they are adjusted 185 Are they fitted with easing gear yes

Smallest distance between boilers ~~or uptakes~~ and bunkers ~~or woodwork~~ 15' Mean dia. of boilers 13'-6" Length 10'-6" Material of shell plates steel

Thickness 1 1/16" Range of tensile strength 29 1/2 - 33 Are the shell plates welded or flanged No Descrip. of riveting: cir. seams D.R. long. seams D.B.S.T.R. Diameter of rivet holes in long. seams 1 1/16" Pitch of rivets 6 7/8" ~~Lap of plates or~~ width of butt straps 16"

Per centages of strength of longitudinal joint rivets 90 plate 84.5 Working pressure of shell by rules 181 Size of manhole in ~~shell~~ end 16"×13"

Size of compensating ring flanged No. and Description of Furnaces in each boiler 3 plain Material steel Outside diameter 3'-3 3/4"

Length of plain part top 6'-4 9/16" bottom 5'-11" Thickness of plates crown 47/64" bottom 47/64" Description of longitudinal joint welded No. of strengthening rings none

Working pressure of furnace by the rules 180 Combustion chamber plates: Material steel Thickness: Sides 11/16" Back 11/16" Top 11/16" Bottom 1 1/16"

Pitch of stays to ditto: Sides 8 3/4"×10 1/8" Back 9 1/4"×9 5/8" Top 8 3/8"×10 1/2" If stays are fitted with nuts or riveted heads nuts in ces only Working pressure by rules 181

Material of stays steel ~~Diameter~~ area at smallest part 2.03 ☐" Area supported by each stay 8.90 ☐" Working pressure by rules 186 & 206 End plates in steam space:

Material steel Thickness 19/32" Pitch of stays 18"×22" How are stays secured D.N. Working pressure by rules 182 Material of stays steel

~~Diameter~~ area at smallest part 6.49 ☐" Area supported by each stay 35.10 ☐" Working pressure by rules 192 Material of Front plates at bottom steel

Thickness 13/16" Material of Lower back plate steel Thickness 29/32" Greatest pitch of stays 15"×9 1/4" Working pressure of plate by rules 182

Diameter of tubes 3 1/4" Pitch of tubes 4 1/2"×4 7/8" Material of tube plates steel Thickness: Front 13/16" Back 3/4" Mean pitch of stays 10 1/2"

Front with DP = 262

Pitch across wide water spaces 14 1/4" Working pressures by rules Back - 204 Girders to Chamber tops: Material steel Depth and thickness of girder at centre 2@7 1/8"×7 1/2" Length as per rule 2'-4 31/32" Distance apart 10 1/2" Number and pitch of stays in each 2@8 7/8"

Working pressure by rules 181 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

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* *Radius of do.* *Stayed by*

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

NONE

SPARE GEAR. *State the articles supplied :—* Two connecting rod top and bottom end bolts and nuts, two main bearing bolts, one set of coupling bolts, one set of feed, bilge, air and circulating pump valves, iron and bolts of various sizes. one propeller.

The foregoing is a correct description, W. E. Truce
FOR GEORGE CLARK, LIMITED
Manufacturer. of the Engines & Boilers (Main)

Dates of Survey while building	During progress of work in shops	1912 May 7 17 Aug 23 Oct 30 Nov 13 19 27 Dec 13 19 31 Jan 10 14 17 Feb 4
	During erection on board vessel	10 Mar 3 4 26 28 Apr 1 3 7 June 12 Jul 3 7 8 22 24 29 Aug 1 (2) 8
	Total No. of visits	31

Is the approved plan of main boiler forwarded herewith yes

" " " *donkey* " " "

Dates of Examination of principal parts—*Cylinders* 19-12-12 *Slides* 17-1-12 *Covers* 17-5-12 *Pistons* 20-1-13 *Rods* 10-2-13

Connecting rods 4-3-13 *Crank shaft* 30-10-12 *Thrust shaft* 19-11-12 *Tunnel shafts* 31-12-12 *Screw shaft* 8-7-13 *Propeller* 14-1-13

Stern tube 12-6-13 *Steam pipes tested* 28-7-13 *Engine and boiler seatings* 7-7-13 *Engines holding down bolts* 24-7-13

Completion of pumping arrangements 8-8-13 *Boilers fixed* 29-7-13 *Engines tried under steam* 1-8-13

Main boiler safety valves adjusted 1-8-13 *Thickness of adjusting washers* Port Boiler: both 7/16" Stbd bo: P 5/16", S 3/8"

Material of Crank shaft I. Steel *Identification Mark on Do.* 1935 M.B. *Material of Thrust shaft* I. Steel *Identification Mark on Do.* 5165 P.A.

Material of Tunnel shafts (4) I. Steel *Identification Marks on Do.* 4148 H.K. 3933 H.K. 2065 M.B. 5215 P.A. *Material of Screw shafts* I. Steel *Identification Marks on Do.* 2035 M.B.

Material of Steam Pipes Solid drawn copper – 4 @ 4" × 6 W.G. *Test pressure* 400 lbs per square inch.

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

The materials and workmanship are good.
The machinery has been made under special survey and is eligible in my opinion for classification and the record ✠ L M C 8, 13

It is submitted that this vessel is eligible for THE RECORD. ✠ L.M.C. 8.13.

[signature] 13. 8. 13.

Certificate (if required) to be sent to

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

The amount of Entry Fee ..	£ 2 : :	When applied for,	12 . 8 . 1913
Special	£ 31 : 2 :		
Donkey Boiler Fee	£ : :	When received,	3/9/1913
Travelling Expenses (if any)	£ : :		

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

Committee's Minute FRI. AUG. 15. 1913

Assigned + LMC 8.13

MACHINERY CERTIFICATE WRITTEN.