

## REPORT ON MACHINERY.

No. 75945

THU. SEP. 21 1922

Received at London Office

Date of writing Report Sept 13<sup>th</sup> 1922 When handed in at Local Office Sept 14<sup>th</sup> 1922 Port of NEWCASTLE-ON-TYNE.

No. in Survey held at Newcastle-on-Tyne Date, First Survey Feb 21<sup>st</sup> 1921 Last Survey Sept 12<sup>th</sup> 1922

Reg. Book. 12348 on the Steam Steamer "San Roberto" (Number of Visits 62) Gross 5890 AP

Master Walter Built at Waller By whom built Armstrong Whitworth & Co When built 1922

Engines made at Mallend By whom made Mallend Shipway & Co when made 1922

Boilers made at do By whom made do when made 1922

Registered Horse Power 538 Owners Eagle Oil Co Ltd Port belonging to London

Nom. Horse Power as per Section 28 538 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 27-45-75 Length of Stroke 48 Revs. per minute 68 Dia. of Screw shaft as per rule 15.19 Material of 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 5-7

Dia. of Tunnel shaft as per rule 13.29 Dia. of Crank shaft journals as per rule 14.06 Dia. of Crank pin 14 7/8 Size of Crank webs 23 1/2 x 9 7/8 Dia. of thrust shaft under

collars 14 7/8 Dia. of screw 18-9 Pitch of Screw 14-9 No. of Blades 4 State whether moveable Yes Total surface 110 1/2

No. of Feed pumps 2 Diameter of ditto 4 1/2 Stroke 26 Can one be overhauled while the other is at work Yes

No. of Bilge pumps 2 Diameter of ditto 4 1/2 Stroke 26 Can one be overhauled while the other is at work Yes

No. of Donkey Engines 2 Sizes of Pumps 2 1/2" 3" 4" 6" 8" No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room 2-3 1/2" 8" Room 2-3 1/2" Boiler space In Holds, &c. —

No. of Bilge Injections one sizes 14" Connected to condenser, or to circulating pump Yes Is a separate Donkey Suction fitted in Engine room & size Yes x 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 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 —

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 none Is it fitted with a watertight door — worked from —

BOILERS, &c.—(Letter for record (r)) Manufacturers of Steel John Spencer

Total Heating Surface of Boilers 8045 Is Forced Draft fitted Yes No. and Description of Boilers 3 S.B. Multitubular

Working Pressure 180 lbs Tested by hydraulic pressure to 310 lbs Date of test 13.1.22 No. of Certificate 9640

Can each boiler be worked separately Yes Area of fire grate in each boiler 62 1/2 No. and Description of Safety Valves to

each boiler 2 Spring loaded Area of each valve 22.09 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 2-0 outside Mean dia. of boilers 15-9 Length 12-2 1/2 Material of shell plates steel

Thickness 1 1/2 Range of tensile strength 30-34 Are the shell plates welded or flanged no Descrip. of riveting: cir. seams D. Lap

long. seams D.B. Straps Diameter of rivet holes in long. seams 1 5/16 Pitch of rivets 8 15/16 Lap of plates or width of butt straps 19 1/2

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

Size of compensating ring 9 1/2" x 10 1/2" x 1 1/2" No. and Description of Furnaces in each boiler 3 horizontal Material steel Outside diameter 48 5/8

Length of plain part top Thickness of plates crown Description of longitudinal joint weld No. of strengthening rings —

Working pressure of furnace by the rules 180 Combustion chamber plates: Material steel Thickness: Sides 7/8 Back 7/8 Top 7/8 Bottom 3/4

Pitch of stays to ditto: Sides 8 3/8" x 9 3/8" Back 8 7/8" x 8 1/2" Top 8 3/8" x 8 1/2" If stays are fitted with nuts or riveted heads nuts Working pressure by rules 196

Material of stays Iron Area at smallest part 2.03 Area supported by each stay 69 Working pressure by rules 244 End plates in steam space: 244

Material steel Thickness 1 1/2 Pitch of stays 23 1/2" x 22 1/2" How are stays secured D. nuts Working pressure by rules 191.75 Material of stays steel

Area at smallest part 9.8 Area supported by each stay 529 Working pressure by rules 208.25 Material of Front plates at bottom steel

Thickness 1 Material of Lower back plate steel Thickness 7/8 Greatest pitch of stays 14 1/4" x 8 7/8" Working pressure of plate by rules 250

Diameter of tubes 2 1/2 Pitch of tubes 3 1/2" x 3 3/4" Material of tube plates steel Thickness: Front 1 Back 1 1/2 Mean pitch of stays 9 7/16

Pitch across wide water spaces 13 1/4" x 7 3/8" Working pressures by rules 206 Girders to Chamber tops: Material steel Depth and

thickness of girder at centre 8 1/2" x 1 1/2" Length as per rule 35 1/2 Distance apart 8 1/2 Number and pitch of stays in each 3-8 5/8"

Working pressure by rules 180 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?

no

If so, is a report now forwarded?

SPARE GEAR. State the articles supplied:— one propeller shaft, and 2 spare blades. one pair of bottom and  
bearings. 2 top end, 2 bottom end + 2 main bearing bolts. one set  
of coupling bolts. 12 studs for fine rings. one slide valve spindle. one eccentric strap. 53 condenser  
tubes. 100 ferrules. one air pump rod. one spring for each HP-MP-LP piston. one spring for HP piston  
valve. one set of air pump valves. one set of valves + seats for one hotwell pump, and one bridge  
pump. 2 springs for HP-MP cylinder escape valves. 20 plain tubes for boilers. one stay tube  
for boilers. one dozen water gauge glasses + 4 dozen washers for the same. one valve bit for each  
main + auxiliary feed check valve. 2 main safety valve springs. one set of valves and  
seats for one high feed pump. one set of bucket rings for one high feed pump.  
4 valves and seats for auxiliary feed pump. for general service pump, and for  
ballast pump.

The foregoing is a correct description,

A. L. Ainslie

Manufacturer.

Dates of Survey while building { During progress of work in shops -- 1921. Feb 21. March 10. April 4. Aug 22. Sept 2. 9.13.29. Oct 6. 9.12. 26.28. Nov 1. 3. 8. 10. 15. Dec 1. 8. 9. 14. 17  
During erection on board vessel -- 1922. Jan 9. 13. 20. 24. Feb 21. 24. 27. March 14. 17. 29. 30. April 6. 10. 19. May 4. 10. 24. 30. June 13. 30  
Total No. of visits 62

Is the approved plan of main boiler forwarded herewith

yes

" " " donkey " " "

none

Dates of Examination of principal parts—Cylinders 9.9.21 Slides 9.1.22 Covers 9.9.21 Pistons 25.10.21 Rods 1.11.21  
Connecting rods 2.12.21 Crank shaft 4.10.21 Thrust shaft 10.3.21 Tunnel shafts none Screw shaft 5.10.21 Propeller 8.12.21  
Stern tube 15.4.21 Steam pipes tested 19.4.22 Engine and boiler seatings 30.8.22 Engines holding down bolts 30.8.22  
Completion of pumping arrangements 30.8.22 Boilers fixed 30.8.22 Engines tried under steam 4.9.22  
Completion of fitting sea connections 17.4.22 Stern tube 17.7.22 30.8.22 Screw shaft and propeller 14.8.22  
Main boiler safety valves adjusted 4.9.22 Thickness of adjusting washers P=2 8=13/2 P=2 8=13/2 P=2 8=13/2  
Material of Crank shaft steel Identification Mark on Do. 7.10.21 Material of Thrust shaft steel Identification Mark on Do. 10.3.21  
Material of Tunnel shafts none Identification Marks on Do. — Material of Screw shafts steel Identification Marks on Do. steel  
Material of Steam Pipes steel Test pressure 540 lbs

Is an installation fitted for burning oil fuel

yes

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. This vessel's machinery has been  
examined during construction, and the materials and workmanship are  
good, and in accordance with the approved plans + the requirements  
of the rules. On completion it was submitted to a steam trial with  
satisfactory results, when the safety valves were adjusted to the working  
pressure.

It is therefore eligible in my opinion to be classed, with the  
notation of + LMC. 9.22. Fitted for oil fuel 9.22. F.P. above 150°F.

It is submitted that  
this vessel is eligible for  
THE RECORD. + LMC 9.22. FD. CL.

Fitted for oil fuel 9.22. F.P. above 150°F.

The amount of Entry Fee ... £ 6 : 0 :  
Special ... £ 101 : 18 :  
Donkey Boiler Fee ... £ : :  
Travelling Expenses (if any) £ : :  
When applied for, 20/9/22  
When received, 29.9.22

Maurice Nitron  
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

Assigned

+ L.M.C. 6. 9.22  
F.D. C.L.

Issued for use from 9.22  
F.P. above 150°F.

FRI. SEP. 29 1922  
CERTIFICATE WRITTEN



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Foundation