

REPORT ON MACHINERY.

No. 74521.

Received at London 21 JUL 1921

Date of writing Report *July 9th* 1921 When handed in at Local Office *9/7/1921* Port of *NEWCASTLE-ON-TYNE*
 No. in Survey held at *Newcastle-on-Tyne* Date, First Survey *8th April 1919* Last Survey *July 1st 1921*
 Reg. Book. *87711* on the *S.S. San Felix* (Number of Visits *148*)
 Master *J. Griffith* Built at *Walker* By whom built *Armstrong Whitworth & Co* When built *1921*
 Engines made at *Wallsend* By whom made *Wallsend Slipway & Eng^g Co Ltd* when made *1921*
 Pylers made at *do* By whom made *do* when made *1921*
 Registered Horse Power *4750* Owners *Eagle Oil Transport Co Ltd* Port belonging to *London*
 Shaft Horse Power at Full Power *4750* Is Refrigerating Machinery fitted for cargo purposes *no* Is Electric Light fitted *Yes*
HP for feed = 978

TURBINE ENGINES, &c.—Description of Engines
Double Reduction geared Turbines No. of Turbines *3* 2.
 Diameter of Rotor Shaft Journals, H.P. *3-IP=4"* L.P. *8"* Diameter of Pinion Shaft *HP=5" IP=5" LP=6" 2nd RED=14"*
 Diameter of Journals *HP=IP=5" L.P. 8"* Distance between Centres of Bearings *2nd RED=6-3 1/2"* Diameter of Pitch Circle *HP=7.846 IP=7.846 LP=14.207 2nd RED=15.329*
 Diameter of Wheel Shaft *1st RED=18 1/2"* Distance between Centres of Bearings *6-7"* Diameter of Pitch Circle of Wheel *65.099 127.819*
 Width of Face *2nd RED=34 1/2"* Diameter of Thrust Shaft under Collars *18 1/2"* 17.65 Rule Diameter of Tunnel Shaft *as per rule 16.8"*
 No. of Screw Shafts *one CL. See letter 4.8.21* as per rule *18.325"* Diameter of Propeller *21-9"* Pitch of Propeller *18-0 to 20-6"*
 No. of Blades *3* State whether Moveable *Yes* Total Surface *165 sq ft* Diameter of Rotor *HP=5" IP=5" LP=6" 2nd RED=14"*
 Thickness at Bottom of Groove, H.P. *Disc L.P. wheels* Astern *Revs. per Minute at Full Power, Turbine LP=1991 Propeller 64*

ARTICULARS OF BLADING.

	H. P. AHEAD				L. P.				H. P. ASTERN.			
	HEIGHT OF BLADES.	DIAMETER AT TIP.	NO. OF ROWS.	DIAMETER AT TIP.	HEIGHT OF BLADES.	DIAMETER AT TIP.	NO. OF ROWS.	HEIGHT OF BLADES.	DIAMETER AT TIP.	NO. OF ROWS.	DIAMETER AT TIP.	NO. OF ROWS.
1ST EXPANSION	2 3/4"	22 3/8"	1	22 3/8"	2 3/4"	22 3/8"	1	2 3/4"	22 3/8"	1	22 3/8"	1
2ND	2 1/2"	22 1/8"	1	22 1/8"	2 1/2"	22 1/8"	1	2 1/2"	22 1/8"	1	22 1/8"	1
3RD	2 1/4"	22 1/4"	1	22 1/4"	2 1/4"	22 1/4"	1	2 1/4"	22 1/4"	1	22 1/4"	1
4TH	2 1/8"	22 1/8"	1	22 1/8"	2 1/8"	22 1/8"	1	2 1/8"	22 1/8"	1	22 1/8"	1
5TH	2 1/8"	22 1/8"	1	22 1/8"	2 1/8"	22 1/8"	1	2 1/8"	22 1/8"	1	22 1/8"	1
6TH	2 1/8"	22 1/8"	1	22 1/8"	2 1/8"	22 1/8"	1	2 1/8"	22 1/8"	1	22 1/8"	1
7TH	2 1/8"	22 1/8"	1	22 1/8"	2 1/8"	22 1/8"	1	2 1/8"	22 1/8"	1	22 1/8"	1
8TH	2 1/8"	22 1/8"	1	22 1/8"	2 1/8"	22 1/8"	1	2 1/8"	22 1/8"	1	22 1/8"	1

and size of Feed pumps *2 main feed pumps 7 1/2" x 9 1/2" x 24"*
 and size of Bilge pumps *2 engine bilge pumps 6" x 15". One ballast pump 10" x 12" x 12". One oil bilge roll pump 8" x 8" x 8"*
 and size of Bilge suction in Engine Room *One 4 1/2" - 2-4" Boiler room 2-3 1/2" ordinary, and 2-3" oil bilge.*
 In Holds, &c. *Oil sump.*

of Bilge Injections *One sizes 15"* Connected to *circulating pump* *Yes* Is a separate Donkey Suction fitted in Engine Room & size *Yes 6"*
 all the bilge suction pipes fitted with roses *Yes* Are the roses in Engine room always accessible *Yes*
 all connections with the sea direct on the skin of the ship *Yes* Are they Valves or Cocks *Both*
 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*
 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*
 all pipes are carried through the bunkers *none* How are they protected
 all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times *Yes*
 the Bilge Suction Pipes, Cocks, and Valves arranged so as to prevent any communication between the sea and the bilges *Yes*
 the Screw Shaft Tunnel watertight *no tunnel* Is it fitted with a watertight door *worked from*

BOILERS, &c.—(Letter for record *R*) Manufacturers of Steel *John Spencer*
 Heating Surface of Boilers *12229* Is Forced Draft fitted *Yes* No. and Description of Boilers *Three simple ended*
 Working Pressure *220 lbs* Tested by hydraulic pressure to *440 lbs* Date of test *3rd 3/2/21* No. of Certificates *9522 x 9524*
 each boiler be worked separately *Yes* Area of fire grate in each boiler *60 sq ft* No. and Description of Safety Valves to *Yes*
 boiler *2 opening* Area of each valve *9.620* Pressure to which they are adjusted *225 lbs* Are they fitted with easing gear *Yes*
 least distance between boilers or uptakes and bunkers or woodwork *Mean dia. of boilers 15-0 1/2" Length 12-0"* Material of shell plates *steel*
 thickness *1 1/2"* Range of tensile strength *30-34 tons* Are the shell plates welded or flanged *no* Descrip. of riveting: cir. seams *D.L.*
 seams *DBS - TR* Diameter of rivet holes in long. seams *1 1/2"* Pitch of rivets *10"* *lap of plates* width of butt straps *3 1/4"*
 percentages of strength of longitudinal joint *85.7* Working pressure of shell by rules *229 lbs* Size of manhole in shell *16" x 12"*
 of compensating ring *no* No. and Description of Furnaces in each Boiler *3 Wrightons* Material *steel* Outside diameter *46 3/8"*
 top *45"* Thickness of plates *64"* Description of longitudinal joint *Welded* No. of strengthening rings *—*
 bottom *45"* *64"*
 working pressure of furnace by the rules *249* Combustion chamber plates: Material *steel* Thickness: Sides *3/16"* Back *3/16"* Top *3/16"* Bottom *1/8"*
 of stays to ditto: Sides *9 1/8" x 8"* Back *8 1/2" x 8"* Top *8" x 7 1/2"* If stays are fitted with nuts or riveted heads *nuts* Working pressure by rules *220 lbs*
 Material of stays *Iron* Diameter at smallest part *2.03"* Area supported by each stay *66 sq in* Working pressure by rules *231 lbs* End plates in steam space *steel*
 Thickness *1 1/2"* Pitch of stays *20 x 15 1/2"* How are stays secured *Double nuts* Working pressure by rules *220* Material of stays *steel*
 at smallest part *7.24* Area supported by each stay *303 sq in* Working pressure by rules *250* Material of Front plates at bottom *steel*
 Thickness *1"* Material of Lower back plate *steel* Thickness *5/16"* Greatest pitch of stays *14 1/2"* Working pressure of plate by rules *210 lbs*
 Diameter of tubes *2 1/4"* Pitch of tubes *4 x 4"* Material of tube plates *steel* Thickness: Front *1"* Back *3/4"* Mean pitch of stays *8"*
 across wide water spaces *13 3/8"* Working pressures by rules *221 lbs* Girders to Chamber tops: Material *steel* *2020*
 Mass of girder at centre *8 1/2" x 13"* Length as per rule *31 3/2"* Distance apart *8"* Number and pitch of stays in each *3 - 7 1/2"*
 working pressure by rules *220 lbs* Steam dome: description of joint to shell *none* % of strength of joint *—* Diameter of rivet holes *—* Pitch of rivets *—*
 Mass of shell plates *—* Material *—* Description of longitudinal joint *—* Diameter of rivet holes *—* Pitch of rivets *—*
 working pressure of shell by rules *—* Crown plates: Thickness *—* How stayed *—*

SUPERHEATER. Type *Schmidt* Date of Approval of Plan _____ Tested by Hydraulic Pressure to *660 lbs*
Date of Test *10/2/21* Is a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler *Yes*
Diameter of Safety Valve *1 1/2"* Pressure to which each is adjusted *230 lbs* Is Basing Gear fitted *Hand on*

IS A DONKEY BOILER FITTED? *No*

If so, is a report now forwarded? *✓*

SPARE GEAR. State the articles supplied:—

see attached List

The foregoing is a correct description,

Manufacturer.

J. C. Henderson.

SECRETARY

1918. Apr. 3, 15, 25, 29. May. 1, 6, 8, 12, 19, 21, 24, 29. July. 4, 7, 8, 10, 14, 16, 18, 23, 29. Aug. 6, 15, 18, 19, 21, 25, 27, 29. Sept. 3, 5, 9, 10, 12, 16, 18, 19, 22, 23, 25. Oct. 1, 14, 16, 17, 21, 28, 29. Nov. 4, 7, 10, 13, 19, 26. Dec. 4, 9, 16, 17, 19, 23. 1920. Jan. 5, 9, 13, 14, 19, 24, 28, 30. Feb. 3, 6, 10, 12, 16, 19, 26. Mar. 8, 10, 14, 24. Apr. 13, 20, 27, 28. May. 5, 12, 18, 20, 23, 27, 30. June. 1, 2, 6. July. 13, 19, 20, 24, 28. Aug. 3, 7, 10, 11, 14, 16, 18, 21, 23, 26. Sept. 3, 6, 10, 12, 16, 19, 26. Oct. 1, 14, 16, 17, 21, 28, 29. Nov. 4, 7, 10, 13, 19, 26. Dec. 4, 9, 16, 17, 19, 23. 1921. Jan. 5, 9, 13, 14, 19, 24, 28, 30. Feb. 3, 6, 10, 12, 16, 19, 26. Mar. 8, 10, 14, 24. Apr. 13, 20, 27, 28. May. 5, 12, 18, 20, 23, 27, 30. June. 1, 2, 6. July. 13, 19, 20, 24, 28. Aug. 3, 7, 10, 11, 14, 16, 18, 21, 23, 26. Sept. 3, 6, 10, 12, 16, 19, 26. Oct. 1, 14, 16, 17, 21, 28, 29. Nov. 4, 7, 10, 13, 19, 26. Dec. 4, 9, 16, 17, 19, 23.

Dates of Survey while building
During progress of work in shops --
During erection on board vessel --
Total No. of visits

Apr. 23, 30. Nov. 9, 30. Dec. 2, 3, 7, 10, 13, 14, 29, 30. Mar. 2, 3, 9, 10, 11, 14, 16, 18, 21, 23, 24, 31. Apr. 8, 13, 14, 15, 18, 19, 21, 22, 29. May, 5, 12, 18, 20, 23, 27, 30. June, 1, 2, 6. July, 1. — 146.

Is the approved plan of main boiler forwarded herewith?

Yes

Dates of Examination of principal parts—Casings *7.11.19* Rotors *22.9.19* Blading *28.1.20* Gearing *29.10.19*
Rotor shaft *22.9.19* Thrust shaft *8.10.19* Tunnel shaft *15.4.20* Screw shaft *29.10.19* Propeller *24.3.20*

Stern tube *23.2.21* Steam pipes tested *3.3.21* Engine and boiler seatings *19.7.21* Engines holding down bolts *14.3.21*

Completion of pumping arrangements *30.6.21* Boilers fired *14.3.21* Engines tried under steam *30.6.21*
Main boiler safety valves adjusted *30.6.21* Thickness of adjusting washers *F = 15/32 A = 1/16 F = 1/8 A = 1/32 F = 7/16 A = 1/16 F = 3/8 A = 1/8 F = 1/2 A = 1/4*

Material and tensile strength of Rotor shaft *Steel 35 to 35.5 tons* Identification Mark on Do. *L.P. 9.19*
Material and tensile strength of Pinion shafts *Pickled steel 41.5 tons to 46.4* Identification Mark on Do. *L.P. 10.19*

Material of Wheel shaft *steel* Identification Mark on Do. *L.P. 10.19* Material of Thrust shaft *steel* Identification Mark on Do. *L.P. 10.19*
Material of Tunnel shaft *steel* Identification Marks on Do. *L.P. 10.19* Material of Screw shafts *steel* Identification Marks on Do. *L.P. 10.19*

Material of Steam Pipes *Hot Iron* Test pressure *660 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* If so, state name of vessel *"D.A. Pan Florentino"*

Is this machinery a duplicate of a previous case? *Yes*

General Remarks (State quality of workmanship, opinions as to class, &c. *This vessel's machinery has been examined during construction, & the materials and workmanship are good & in accordance with the requirements of the rules & the approved plans.*

On completion the machinery was tried under steam with satisfactory results, & the safety valves adjusted to the working pressure under steam.

It is therefore eligible in my opinion to have the notation,

+ LMC 7.21, made in the R. Book, fitted for burning oil fuel

FP above 150°F.

It is submitted that this vessel is eligible for THE RECORD + LMC 7.21. F.D. CL. 978 NHP.

2 Steam Turbines geared to one Screw Shaft Fitted for oil fuel 7.21. FP above 150°F.

The amount of Entry Fee ... £ *6 : 0-0* When applied for, *19/7/21.*
Special ... £ *123-18-0* When received, *30/8/21.*
Donkey Boiler Fee ... £
Travelling Expenses (if any) £

Committee's Minute

Assigned

+ LMC 7.21 F.D. CL. 978 NHP. Fitted for oil fuel 7.21 FP above 150°F.

MANAGER DEPT. WRITTEN

FRI. 29 JUL. 1921

FRI. 29 JUL. 1921

TUE. JUL. 31 1921

Lloyd's Register Foundation