

## REPORT ON MACHINERY.

No. 15,907

Received at London Office

TUE. 1 MAR. 1921

Writing Report 28<sup>th</sup> Feb 1921 When handed in at Local Office 28<sup>th</sup> Feb 1921 Port of *Leith*  
 Survey held at *Leith* Date, First Survey 10<sup>th</sup> January Last Survey 22<sup>nd</sup> Feb 1921  
 Book. *S. S. "Leo" ex "Pipes"* (Number of Visits 19)  
 on the *S. S. "Leo" ex "Pipes"* Tons } Gross  
 By whom built *Stettin* By whom built *Stettiner Maschinenbau AG* When built 1908  
 By whom made *Stettin* By whom made *Stettiner Maschinenbau AG* when made 1908  
 By whom made *Do* By whom made *Do* when made 1908  
 Indicated Horse Power Owners *Ellerman Lines Ltd* Port belonging to *Hall*

Horse Power as per Section 28 *103.128* Is Refrigerating Machinery fitted for cargo purposes *No* Is Electric Light fitted *Yes*

INES, &c.—Description of Engines *Triple Expansion* No. of Cylinders *3* No. of Cranks *3*  
 of Cylinders *17" 27 3/4" 43 7/16"* Length of Stroke *31 1/2"* Revs. per minute *90* Dia. of Screw shaft *10 1/4"* Material of screw shaft *Steel*  
 screw shaft fitted with a continuous liner the whole length of the stern tube *No* Is the after end of the liner made water tight  
 propeller boss *Cedural* If the liner is in more than one length are the joints burned *✓* If the liner does not fit tightly at the part  
 on the bearings in the stern tube, is the space charged with a plastic material insoluble in water and non-corrosive *✓* If two  
 are fitted, is the shaft lapped or protected between the liners *No liners* Length of stern bush *47"*  
 of Tunnel shaft *8 5/8"* Dia. of Crank shaft journals *8 9/16"* Dia. of Crank pin *9 1/4"* Size of Crank webs *18 1/2" x 6 1/2"* Dia. of thrust shaft under  
 of *8 5/8"* Dia. of screw *13.6"* Pitch of Screw *11.4"* No. of Blades *4* State whether moveable *No* Total surface *49.5 sq ft*  
 of Feed pumps *2* Diameter of ditto *2 5/16"* Stroke *19"* Can one be overhauled while the other is at work *Yes*  
 of Bilge pumps *2* Diameter of ditto *2 5/16"* Stroke *19"* Can one be overhauled while the other is at work *Yes*  
 of Donkey Engines *2* Sizes of Pumps *5 1/4" x 3 1/2" x 5" 6" x 8 1/2" x 6"* No. and size of Suctions connected to both Bilge and Donkey pumps  
 Engine Room *2-2" : 1-2 1/4" : 1 1/2" 2"* In Holds, &c. *2-2" in each.*  
 Tunnel well *1-2"*

Bilge Injections *1* sizes *4"* Connected to condenser, or to circulating pump *Yes* Is a separate Donkey Suction fitted in Engine room & size *Yes-2"*  
 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 *✓*  
 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*  
 Are pipes 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*  
 Are the Bilge Suction Pipes, Cocks, and Valves arranged so as to prevent any communication between the sea and the bilges *Yes*  
 Is Screw Shaft Tunnel watertight *Yes* Is it fitted with a watertight door *Yes* worked from *P. R. top grating*

ERS, &c.—(Letter for record) Manufacturers of Steel

Heating Surface of Boilers *2100 sq ft* Is Forced Draft fitted *No* No. and Description of Boilers *2 Single Ended.*  
 Working Pressure *185 lbs* Tested by hydraulic pressure to *200 lbs* Date of test *1920* No. of Certificate *100*  
 Can each boiler be worked separately *Yes* Area of fire grate in each boiler *33.5 sq ft* No. and Description of Safety Valves to  
 boiler *Double Spring loaded* Area of each valve *4.91 sq in* Pressure to which they are adjusted *185 lbs* Are they fitted with easing gear *Yes*  
 Test distance between boilers or uptakes and bunkers or woodwork *9"* Mean dia. of boilers *10.6"* Length *10.3"* Material of shell plates *Steel*  
 Thickness *1"* Range of tensile strength *✓* Are the shell plates welded or flanged *No* Descrip. of riveting: cir. seams *D. R.*  
 seams *T.R.D.B.S.* Diameter of rivet holes in long. seams *1 1/8"* Pitch of rivets *7 1/4"* Lap of plates or width of butt straps *15 1/2"*  
 Percentages of strength of longitudinal joint *98* Working pressure of shell by rules *206* Size of manhole in shell *16" dia*  
 of compensating ring *6" x 1 1/8"* No. and Description of Furnaces in each boiler *2 Corrugated* Material *Steel* Outside diameter *39 1/8"*  
 Thickness of plain part *1"* Thickness of plates *1 1/16"* Description of longitudinal joint *Weld* No. of strengthening rings *✓*  
 Working pressure of furnace by the rules *225* Combustion chamber plates: Material *Steel* Thickness: Sides *5/8"* Back *5/8"* Top *1 1/16"* Bottom *5/8"*  
 of stays to ditto: Sides *8" x 8"* Back *7" x 6 1/2"* Top *8" x 9"* If stays are fitted with nuts or riveted heads *Nuts* Working pressure by rules *211*  
 Material of stays *Steel* Area at smallest part *12" x 1 1/8"* Area supported by each stay *64 sq in* Working pressure by rules *204* End plates in steam space:  
 Material *Steel* Thickness *1"* Pitch of stays *15" x 14"* How are stays secured *D.N.P.R.W.* Working pressure by rules *244* Material of stays *Steel*  
 at smallest part *4" x 1 1/16"* Area supported by each stay *210 sq in* Working pressure by rules *243* Material of Front plates at bottom *Steel*  
 Thickness *1"* Material of Lower back plate *Steel* Thickness *1"* Greatest pitch of stays *14 1/4" x 7"* Working pressure of plate by rules *274*  
 Diameter of tubes *3"* Pitch of tubes *4" x 4"* Material of tube plates *Steel* Thickness: Front *1 1/8"* Back *3/4"* Mean pitch of stays *8"*  
 across wide water spaces *14 1/4"* Working pressures by rules *314* Girders to Chamber tops: Material *Steel* Depth and  
 thickness of girder at centre *7 1/4" x 2 @ 3/4"* Length as per rule *24 1/2"* Distance apart *9"* Number and pitch of stays in each *2 @ 8"*  
 Working pressure by rules *230* Steam dome: description of joint to shell *D. R.* % of strength of joint *✓*  
 Diameter *2' 9 1/8"* Thickness of shell plates *9/16"* Material *Steel* Description of longitudinal joint *D.R. lap* Diam. of rivet holes *7/8"*  
 of rivets *3"* Working pressure of shell by rules *261* Thickness *5/8"* How stayed *Convex.*

Superheater. Type *None* Date of Approval of Plan *✓* Tested by Hydraulic Pressure to *✓*  
 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?

If so, is a report now forwarded?

SPARE GEAR. State the articles supplied:— 2 connecting rod top end bolts & nuts: 2 connecting rod bottom end bolts & nuts: 2 main bearing bolts: 1 set of coupling bolts: 1 set of feed & bilge pump valves: a quantity of assorted bolts & nuts: 400 of various sizes

The foregoing is a correct description,

Manufacturer.

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

Is the approved plan of main boiler forwarded herewith

" " " donkey " " "

Dates of Examination of principal parts—Cylinders	Slides	Covers	Pistons	Rods
Connecting rods	Crank shaft	Thrust shaft	Tunnel shafts	Screw shaft
Stern tube	Steam pipes tested 25.1.21	Engine and boiler seatings	Engines holding down bolts	
Completion of pumping arrangements	Boilers fixed	Engines tried under steam		
Completion of fitting sea connections	Stern tube	Screw shaft and propeller		
Main boiler safety valves adjusted 16.2.21	Thickness of adjusting washers Port BL 1 13/16" Star BL 1 13/16"			
Material of Crank shaft	Identification Mark on Do.	Material of Thrust shaft	Identification Mark on Do.	
Material of Tunnel shafts	Identification Marks on Do.	Material of Screw shafts	Identification Marks on Do.	
Material of Steam Pipes	Steel	Test pressure	555 lbs per sq. in.	
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				
Is this machinery duplicate of a previous case		If so, state name of vessel		

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

The machinery of this vessel has been examined and found of sound construction and in good order.

The machinery was tried under steam and found satisfactory. The working pressure of the main boilers has been fixed at 185 lbs per square inch.

It is submitted that the machinery of this vessel is eligible for a record of L.M.C. 2.21 in the Register Book.

Certificate (if required) to be sent to

The amount of Entry Fee ... £	:	:	When applied for.
Special ... £	:	:	10
Donkey Boiler Fee ... £	:	:	When received.
Travelling Expenses (if any) £	:	:	19

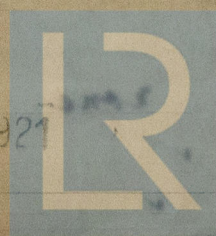
Committee's Minute FRI. MAR. 18 1921

Assigned

L.M.C. 2.21

TUE. MAY. 31 1921

MAINTENANCE DEPT.  
WHITBY



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