

REPORT ON MACHINERY.

No. 473

WED. NOV. 28 1917

REC'D NEW YORK

Received at London Office

Date of writing Report Aug 15 1917. When handed in at Local Office Aug 30 1917. Port of PORTLAND, OREGON
 No. in Survey held at Portland, Oregon Date, First Survey July 28 Last Survey July 14 1917
 Reg. Book. S.S. War Baron (Number of Visits 72)

Master A. Nelson Built at Portland, Ore By whom built North West Steel Company When built 1914
 Engines made at Schenectady, N.Y. By whom made General Electric Company when made 1914
 Boilers made at Portland, Ore By whom made Willamette Iron & Steel Company when made 1914
 Registered Horse Power _____ Owners Samard S.S. Co. Port belonging to London
 Shaft Horse Power at Full Power 2500 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

SHOP NO. OF TURBINE 12365 GEAR 2521
 TURBINE ENGINES, &c. Description of Engines Geared Turbine No. of Turbines One

Diameter of Rotor Shaft Journals, H.P. 8" L.P. _____ Diameter of Pinion Shaft 7"
 Diameter of Journals H.S. Pinion 7" Distance between Centres of Bearings H.S. Pinion 25" Diameter of Pitch Circle H.S. Pinion 7.833
 Diameter of Wheel Shaft H.S. Gear 10" Distance between Centres of Bearings H.S. Gear 30 1/2" Diameter of Pitch Circle of Wheel H.S. Gear 57.666
 Width of Face 14.75" Diameter of Thrust Shaft under Collars 13 1/8" Diameter of Tunnel Shaft as per rule 12.94
 No. of Screw Shafts One Diameter of same as per rule 13.8 Diameter of Propeller 16 ft. 6" Pitch of Propeller 14 ft. 0"
 No. of Blades 4 State whether Moveable Yes Total Surface 62.96 sq. ft. Diameter of Rotor Drum, H.P. _____ L.P. _____ Astern _____
 Thickness at Bottom of Groove, H.P. _____ L.P. _____ Astern _____ Revs. per Minute at Full Power, Turbine 3380 Propeller 90

PARTICULARS OF BLADING.

	Active	H.P.		L.P. None		Active	ASTERN.	
	HEIGHT OF BLADES.	Pitch DIAMETER AT TIP.	NO. OF ROWS.	HEIGHT OF BLADES.	DIAMETER AT TIP.	NO. OF ROWS.	Pitch DIAMETER AT TIP.	NO. OF ROWS.
1ST EXPANSION	75-125	25ft. 11½"	2				8125-15	3ft 3" 2
2ND "	625-	3ft. 9"	1				3.375	3ft. 3" 1
3RD "	125	3ft. 10½"	1					
4TH "	25	4ft. 0"	1					
5TH "	6.	4ft. 2"	1					
6TH "								
7TH "								
8TH "								

No. and size of Feed pumps Two 14 x 9 x 16 Simplex
 No. and size of Bilge pumps One 12 x 8 1/2 x 14 Duplex
 No. and size of Bilge suction in Engine Room 6 - 3 1/2", Two - 3 1/2" in shaft alley, one 3 1/2" in thrust recess,
Ten - 3 1/2" In Holds, &c.

No. of Bilge Injections 1 sizes 10" Connected Yes Is a separate Donkey Suction fitted in Engine Room & size Two-3 1/2"
 Are all the bilge suction pipes fitted with roses Yes Are the roses in Engine room always accessible Yes
 Are all connections with the sea direct on the skin of the ship on sea stools Are they Valves or Cocks Valves
 Are they fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates Wheels 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 Vent and sounding pipes How are they protected with wood
 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 Yes Is it fitted with a watertight door Yes worked from Upper Engine room

BOILERS, &c. (Letter for record (m) Manufacturers of Steel Worth Bros

Total Heating Surface of Boilers 8055 Is Forced Draft fitted No No. and Description of Boilers 3 Scotch Marine
 Working Pressure 210 lbs. Tested by hydraulic pressure to 315 lbs. Date of test 5/4 9/9 + 5/10 1917 No. of Certificate _____
 Can each boiler be worked separately Yes Area of fire grate in each boiler 55 sq. ft. No. and Description of Safety Valves to each boiler 2 Continental Area of each valve 9.65 sq. in. Pressure to which they are adjusted 210 lbs. Are they fitted with easing gear Yes
 Smallest distance between boilers or uptakes and bunkers or woodwork No Woodwork Mean dia. of boilers 14 ft. 10 1/2" Length 11 ft. 0" Material of shell plates Steel
 Thickness 1 1/2" Range of tensile strength 27 to 32 tons Are the shell plates welded or flanged Heads flanged Descrip. of riveting: cir. seams Double riveted
 long, seams Triple riveted Diameter of rivet holes in long, seams 1 1/8" Pitch of rivets 10" Lap of plates or width of butt straps 22 5/8"
 Per centages of strength of longitudinal joint plates 84.4 rivets 95 Working pressure of shell by rules 220 lbs. Size of manhole in shell Upper back head 12 x 16"
 Size of compensating ring HD flanged in No. and Description of Furnaces in each Boiler 3 Morison Material Steel Outside diameter 45 1/8"
 Length of plain part top Thickness of plates bottom Description of longitudinal joint weld No. of strengthening rings _____
 Working pressure of furnace by the rules 238 lbs. Combustion chamber plates: Material Steel Thickness: Sides 1 1/8" Back 1 1/8" Top 1 1/8" Bottom 1 1/8"
 Pitch of stays to ditto: Sides 7 x 8 Back 7 1/2 x 7 1/2 Top 8 1/2 x 7 If stays are fitted with nuts or riveted heads 1 1/8" Stays - Riv. Heads Working pressure by rules 214 lbs.
 Material of stays Wrot. Iron Diameter at smallest part 1 1/8" Area supported by each stay 57.31 Working pressure by rules 225 End plates in steam space
 Material Steel Thickness 1 1/4" Pitch of stays 16 3/8 x 17 1/2" How are stays secured Double Nuts Working pressure by rules 243 lbs. Material of stays Steel
 Diameter at smallest part 3 1/4" Area supported by each stay 286 sq. in. Working pressure by rules 300 lbs. Material of Front plates at bottom Steel
 Thickness 1 1/8" Material of Lower back plate Steel Thickness 1 1/8" Greatest pitch of stays 13" Working pressure of plate by rules 423 lbs.
 Diameter of tubes 3 1/2" Pitch of tubes 5" 6" Material of tube plates Steel Thickness: Front 1 1/8" Back 1 1/8" Mean pitch of stays tubes 10 1/2"
 Pitch across wide water spaces 13 Working pressures by rules 283 lbs. Girders to Chamber tops: Material Steel Depth and thickness of girder at centre 11 x 3 1/4" 2 plates Length as per rule 34" Distance apart 8 3/16" Number and pitch of stays in each 4 - 7" pitch
 Working pressure by rules 286 lbs. Steam dome: description of joint to shell No Steam dome of strength of joint _____ Diameter _____ Pitch of rivets _____
 Thickness 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 _____



Lloyd's Register
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SUPERHEATER. Type Flue Date of Approval of Plan _____ Tested by Hydraulic Pressure to _____ Tested at Factory
Date of Test No report on test 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 210 lbs. Is Easing Gear fitted Yes

IS A DONKEY BOILER FITTED? No If so, is a report now forwarded? _____

SPARE GEAR. State the articles supplied:— 1- Propeller shaft; 1 Propeller blade, 6 coupling bolts,
1 set feed pump valves; 1 set bilge pump valves; 1 set boiler feed check valves;
1 set air pump valves; 40 condenser tubes; 80 ferrules; An assortment of bolts,
Nuts, and iron of various sizes.

The foregoing is a correct description.
Willamette Iron & Steel Works Manufacturer.
Be Ball President

Dates of Survey while building
During progress of work in shops -- 1916 July 28, Aug 1, 12, Sept 2, 8, 12, 15, 20, 22, 30, Oct 6, 24, Nov 7, 17, 21 Dec 2, 7, 13, 20, 29 Jan 15, 19, 30 Feb 10, 14, 21, 26 March 1, 5, 8, 12, 16, 19, 26, 29, 30
During erection on board vessel --- April 9, 11, 12, 15, 16, 18, 23, 25, 30 May 4, 5, 8, 9, 10, 14, 16, 19, 23, 31 June 1, 5, 6, 11, 12, 16, 19, 27, 29, 30 July 2, 6, 9, 12, 13, 14
Total No. of visits 72 Is the approved plan of main boiler forwarded herewith Yes
" " " donkey " " " office copy

Dates of Examination of principal parts—Casings Rotors Blading Gearing
Rotor shaft 5/5/14 Thrust shaft 2/21/14 Tunnel shafts 2/21/14 Screw shaft 2/21/14 Propeller 5/5/14
Stern tube 4/5/14 Steam pipes tested 5/2/14 Engine and boiler seatings 5/5/14 Engines holding down bolts 5/5/14
Completion of pumping arrangements 4/6/14 Boilers fired 5/14/14 Engines tried under steam 7/14/14
Main boiler safety valves adjusted 6/29/14 Thickness of adjusting washers 1 1/2" 1 1/4" 3/4" 1 1/2" 5/8" 5/16" 64
Material and tensile strength of Rotor shaft Identification Mark on Do.
Material and tensile strength of Pinion shaft Identification Mark on Do.

Material of Wheel shaft Identification Mark on Do.
Material of Tunnel shafts Steel Identification Marks on Do. LLOYD'S 584 EE 4-8-16
Material of Steam Pipes Steel Identification Marks on Do. LLOYD'S 583 EE 4-8-16
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 a duplicate of a previous case No If so, state name of vessel _____

General Remarks (State quality of workmanship, opinions as to class, etc.) The Geared Turbine has
been constructed under Special Survey at Schenectady
City and installed in Portland, Oregon. The Boilers have
been built under Special Survey in Portland Oregon the
material and workmanship being good. The machinery
worked satisfactorily on steam trial and I recommend
that the record of + LMC 7-17 Electric light be made
in the Register Book in the case of this vessel

It is submitted that
this vessel is eligible for

1 Geared Steam Turbine
Fitted for oil fuel 7.17 F.P. above 150° F.

The amount of Entry Fee ... \$45.00
Special ... \$204.00
Donkey Boiler Fee ... \$
Travelling Expenses (if any) \$56.65

When applied for,

19

When received,

29/11/17

J.M.

J.A. Mates

Engineer Surveyor to Lloyd's Register of Shipping.

30/11/17

Committee's Minute

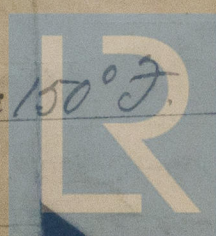
New York OCT 23 1917

Assigned

+ Lmc. 7.17

Fitted for oil fuel 7.17 F.P. above 150° F.

MACHINERY CERTIFICATE
WRITTEN 28.11.17



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