Wd. 42. B.

Rpt. 4a.

REPORT ON MACHINERY.

No. 13730

Received at London Office WED. NOV 28 1917.

Date of writing Report Oct 22 1917 When handed in at Local Office 10 Port of New York

No. in Reg. Book Survey held at Schenectady N.Y. Date, First Survey Last Survey 19 (Number of Visits)

on the Willamette SS 6022 War Baron Tons Gross Net

Master Built at Portland Or By whom built Willamette I. & S. Works When built 1917

Engines made at Schenectady N.Y. By whom made General Electric Company when made 1917

Boilers made at By whom made when made

Registered Horse Power Owners Port belonging to

Shaft Horse Power at Full Power 2500 Is Refrigerating Machinery fitted for cargo purposes Is Electric Light fitted

TURBINE ENGINES, &c.

Description of Engines Geard 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" H.S. Gear 16" Distance between Centres of Bearings H.S. Pinion 28" H.S. Gear 38½" Diameter of Pitch Circle H.S. Pinion 7.933 H.S. Gear 37.646 L.S. Pinion 10.75" L.S. Gear 51.479

Diameter of Wheel Shaft 14" Distance between Centres of Bearings L.S. Pinion 40⅝" Diameter of Pitch Circle of Wheel

Width of Face 14.35" Diameter of Thrust Shaft under Collars Diameter of Tunnel Shaft as per rule as fitted

No. of Screw Shafts Diameter of same as per rule as fitted Diameter of Propeller Pitch of Propeller

No. of Blades State whether Moveable Total Surface 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 3280 Propeller 90

PARTICULARS OF BLADING.

	H.P. ACTIVE. HEIGHT OF BLADES.	H.P. PITCH. DIAMETER ~~AT TIP.~~	H.P. NO. OF ROWS.	L.P. HEIGHT OF BLADES.	L.P. DIAMETER AT TIP.	L.P. NO. OF ROWS.	ASTERN. ACTIVE HEIGHT OF BLADES.	ASTERN. PITCH DIAMETER ~~AT TIP.~~	ASTERN. NO. OF ROWS.
1ST EXPANSION	.75" - 1.25"	2'-11½"	2				.9125" - 1.8"	2'-3"	2
2ND "	.625"	3'-9"	1				2.375"	3'-3"	1
3RD "	1.25"	3'-10½"	1						
4TH "	2.6"	4'-0"	1						
5TH "	6"	4'-2"	1						
6TH "									
7TH "									
8TH "									

No. and size of Feed pumps

No. and size of Bilge pumps

No. and size of Bilge suctions in Engine Room In Holds, &c.

No. of Bilge Injections sizes Connected to condenser, or to circulating pump Is a separate Donkey Suction fitted in Engine Room & size

Are all the bilge suction pipes fitted with roses Are the roses in Engine room always accessible

Are all connections with the sea direct on the skin of the ship Are they Valves or Cocks

Are they fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates Are the Discharge Pipes above or below the deep water line

Are they each fitted with a Discharge Valve always accessible on the plating of the vessel Are the Blow Off Cocks fitted with a spigot and brass covering plate

What pipes are carried through the bunkers How are they protected

Are all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times

Are the Bilge Suction Pipes, Cocks, and Valves arranged so as to prevent any communication between the sea and the bilges

Is the Screw Shaft Tunnel watertight Is it fitted with a watertight door worked from

BOILERS, &c.—(Letter for record)

Manufacturers of Steel

Total Heating Surface of Boilers Is Forced Draft fitted No. and Description of Boilers

Working Pressure Tested by hydraulic pressure to Date of test No. of Certificate

Can each boiler be worked separately Area of fire grate in each boiler No. and Description of Safety Valves to each boiler

Smallest distance between boilers or uptakes and bunkers or woodwork Area of each valve Pressure to which they are adjusted Are they fitted with easing gear

Thickness Range of tensile strength Are the shell plates welded or flanged Mean dia. of boilers Length Material of shell plates

long. seams Diameter of rivet holes in long. seams Pitch of rivets Descrip. of riveting: cir. seams

Per centages of strength of longitudinal joint rivets plates Working pressure of shell by rules Lap of plates or width of butt straps

Size of compensating ring No. and Description of Furnaces in each Boiler Material Outside diameter Size of manhole in shell

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

Working pressure of furnace by the rules Combustion chamber plates: Material Thickness: Sides Back Top Bottom

Pitch of stays to ditto: Sides Back Top If stays are fitted with nuts or riveted heads Working pressure by rules

Material of stays Diameter at smallest part Area supported by each stay Working pressure by rules End plates in steam space

Material Thickness Pitch of stays How are stays secured Working pressure by rules Material of stays

Diameter at smallest part Area supported by each stay Working pressure by rules Material of Front plates at bottom

Thickness Material of Lower back plate Thickness Greatest pitch of stays Working pressure of plate by rules

Diameter of tubes Pitch of tubes Material of tube plates Thickness: Front Back Mean pitch of stays

Pitch across wide water spaces Working pressures by rules Girders to Chamber tops: Material Depth and

thickness of girder at centre Length as per rule Distance apart Number and pitch of stays in each

Working pressure by rules Steam dome: description of joint to shell % of strength of joint Diameter

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

If a Report also sent on the Hull of the Ship?

If not, state whether, and when, one will be sent.

SUPERHEATER. Type 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? If so, is a report now forwarded?

SPARE GEAR. State the articles supplied:—

The foregoing is a correct description,

J. Lichtner
for General Electric Co
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—Casings Rotors Blading Gearing

Rotor shaft Thrust shaft Tunnel shafts Screw shaft Propeller

Stern tube Steam pipes tested Engine and boiler seatings Engines holding down bolts

Completion of pumping arrangements Boilers fixed Engines tried under steam

Main boiler safety valves adjusted Thickness of adjusting washers

Material and tensile strength of Rotor shaft STEEL 80,000 LBS. PER SQ. INCH M.M. Identification Mark on Do. T.G.2.

Material and tensile strength of Pinion shaft 100,000 " " " " Identification Mark on Do. T.G.2

Material of Wheel shaft STEEL Identification Mark on Do. T.G.2 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 Test pressure

Is an installation fitted for burning oil fuel 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 a duplicate of a previous case If so, state name of vessel

General Remarks (State quality of workmanship, opinions as to class, &c. These engines have been constructed under Special Survey in accordance with the approved plans. The material and workmanship are sound and good. The engines have been forwarded to Portland O. to be fitted on board.

The amount of Entry Fee ... £ : :
Special ... ... £ : :
Donkey Boiler Fee ... £ : :
Travelling Expenses (if any) £ : :

When applied for, ... 19

When received, ... 19

N.Y. Branch fee to be credited to N.Y.

H. G. Dodd
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute New York OCT 23 1917

Assigned See P.O. F.E. No 473

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