

W1133-0025

REC'D NEW YORK AUG 24 1921

Rpt. 4.

# REPORT ON MACHINERY.

No. 4231

Date of writing Report 20 August 1921 When handed in at Local Office 23 August 1921 Port of Philadelphia Received at London Office MON. 19 SEP. 1921  
No. in Survey held at Chester Pa Date, First Survey 11 January 1921 Last Survey 15 August 1921  
Reg. Book. on the NEW S S AGWIHAVRE (Number of Visits 41)

Master not appointed Built at Chester Pa By whom built Sun Shipbuilding Co Tons } Gross 8873  
Engines made at Chester Pa By whom made Sun Shipbuilding Co } Net 5530  
Boilers made at Chester Pa By whom made Sun Shipbuilding Co When built 1921  
Registered Horse Power \_\_\_\_\_ Owners Atlantic Gulf & West Indies S.S. Line Port belonging to New York  
Nom. Horse Power as per Section 28 819 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

ENGINES, &c.—Description of Engines Quadruple Expansion No. of Cylinders 4 No. of Cranks 4  
Dia. of Cylinders 26.38 1/4 56.82 Length of Stroke 54 Revs. per minute 49 Dia. of Screw shaft as per rule 16.049 Material of screw shaft 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 Yes 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 Yes If two liners are fitted, is the shaft lapped or protected between the liners Yes Length of stern bush 6.0  
Dia. of Tunnel shaft as per rule 14.534 Dia. of Crank shaft journals as per rule 15.26 Dia. of Crank pin 16/4 Size of Crank web 2.2.11/4 Dia. of thrust shaft under collars 15 1/4 Dia. of screw 19.2 Pitch of Screw 14.9 No. of Blades 4 State whether moveable Yes Total surface  
No. of Feed pumps 2 Diameter of ditto over Stroke over Can one be overhauled while the other is at work Yes  
No. of Bilge pumps 2 Diameter of ditto over Stroke over Can one be overhauled while the other is at work Yes  
No. of Donkey Engines over Sizes of Pumps over No. and size of Suctions connected to both Bilge and Donkey pumps  
In Engine Room & Air room 4 @ 3 1/2 : 4 @ 3 : 1 @ 5 In Holds, &c. Stoehold 2 @ 3 In pump room 1 @ 3 1/2  
Cays pump room 2 @ 2 1/2  
No. of Bilge Injections 1 sizes 10" Connected to condenser, or to circulating pump pump Is a separate Donkey Suction fitted in Engine room & size Yes 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 Yes  
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 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  
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 Yes Is it fitted with a watertight door worked from \_\_\_\_\_

BOILERS, &c.—(Letter for record 7) Manufacturers of Steel Lukens Steel & Iron Co  
Total Heating Surface of Boilers 12264 Is Forced Draft fitted Yes No. and Description of Boilers 4 S. E. Scotch  
Working Pressure 220 Tested by hydraulic pressure to 330 Date of test 11-2-21 No. of Certificate 509  
Can each boiler be worked separately Yes Area of fire grate in each boiler 65.6 sq ft No. and Description of Safety Valves to each boiler 3 1/2 Swin Area of each valve 9.62 sq in Pressure to which they are adjusted 220 Are they fitted with easing gear Yes  
Smallest distance between boilers or uptakes and bunkers or woodwork 20" Mean dia. of boilers 15.11 1/4 Length 12.0 1/4 Material of shell plates Steel  
Thickness 1 3/4 Range of tensile strength 60,000 to 70,000 Are the shell plates welded or flanged No Descrip. of riveting: cir. seams DRL  
long. seams TRDBS Diameter of rivet holes in long. seams 1 1/16 Pitch of rivets 9 1/16 Lap of plates or width of butt straps 25 3/4  
Per centages of strength of longitudinal joint rivets 95.5% Working pressure of shell by rules 236 Size of manhole in shell 12 x 16  
plate 83% Size of compensating ring flanged No. and Description of Furnaces in each boiler 3 Morrison Material Steel Outside diameter 52 1/16  
Length of plain part top \_\_\_\_\_ bottom \_\_\_\_\_ Thickness of plates crown 23/32 Description of longitudinal joint Weld No. of strengthening rings \_\_\_\_\_  
Working pressure of furnace by the rules 229 Combustion chamber plates: Material Steel Thickness: Sides 1/16 Back 3/4 Top 1/16 Bottom 1/16  
Pitch of stays to ditto: Sides 8 1/8 x 6 1/2 Back 8 x 8 Top 8 1/8 x 8 1/2 If stays are fitted with nuts or riveted heads Both Working pressure by rules 223  
Material of stays W.I. Area at smallest part 1.994 Area supported by each stay 68.046 Working pressure by rules 220 End plates in steam space: Material Steel Thickness 1 3/16 Pitch of stays 16 7/8 x 16 How are stays secured D nuts Working pressure by rules 233 Material of stays Steel  
Area at smallest part 7.0686 Area supported by each stay 240 sq in Working pressure by rules 272 Material of Front plates at bottom Steel  
Thickness 1/16 Material of Lower back plate Steel Thickness 1/32 Greatest pitch of stays 13 Working pressure of plate by rules 249  
Diameter of tubes 2 1/2 Pitch of tubes 13 3/4 x 3 1/2 Material of tube plates Steel Thickness: Front 1/32 Back 2 1/32 Mean pitch of stays 9  
Pitch across wide water spaces 13 Working pressures by rules 225 Girders to Chamber tops: Material Steel Depth and thickness of girder at centre 11 x 2 Length as per rule 3.4 Distance apart 8 3/8 Number and pitch of stays in each 4 @ 8 3/8  
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 \_\_\_\_\_ Diam. of rivet holes \_\_\_\_\_  
Pitch of rivets \_\_\_\_\_ Working pressure of shell by rules \_\_\_\_\_ Crown plates \_\_\_\_\_ Thickness \_\_\_\_\_ How stayed \_\_\_\_\_

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:— 2 Connecting rod top-end bolts and nuts; 2 bottom-end bolts and nuts; 2 main bearing bolts; 1 set of Coupling bolts; 1 set of feed & bilge pump valves; 1 Propeller shaft; 1 set of top-end braces; 1 set of bottom-end braces; 1 Propeller blade; 6 follower bolts; 1 set of L & C rings for each piston; 1 Relief spring for each one fitted; 50 main condenser tubes; 12 cylinder studs; 100 brass pins; a quantity of assorted bolts and nuts of various sizes; plates of iron & mild steel of various sizes

The foregoing is a correct description,

Robert Haig

Manufacturer.

Dates of Survey while building: During progress of work in shops -- 1921 Jan 1. 18. 21. 24. 26. 31. Feb. 2. 7. 5. 10. 11. 21. 28. 30. Mar. 2. 14. 23. 28. 30. Apr. 2. 4. 7. 11. 14. 18. 20. 25. 28. During erection on board vessel --- May 2. 6. 10. 23. 27. June 2. 7. July 5. 26. Aug 1. 4. 10. 15. Total No. of visits 41

Is the approved plan of main boiler forwarded herewith Yes

Is the approved plan of main boiler forwarded herewith Yes

Is the approved plan of main boiler forwarded herewith Yes

Dates of Examination of principal parts—Cylinders 20-4-21 Slides 14-3-21 Covers 20-4-21 Pistons 14-3-21 Rods 14-3-21 Connecting rods 2-3-21 Crank shaft 8-2-21 Thrust shaft 24-3-21 Tunnel shafts 24-3-21 Screw shaft 30-3-21 Propeller 30-3-21 Stern tube 30-3-21 Steam pipes tested 6-5-21 Engine and boiler seatings 7-4-21 Engines holding down bolts 2-6-21

Completion of pumping arrangements 4-8-21 Boilers fixed 7-4-21 Engines tried under steam 4-8-21 Completion of fitting sea connections 2-4-21 Stern tube 23-5-21 Screw shaft and propeller 23-5-21

Main boiler safety valves adjusted 1-8-21 Thickness of adjusting washers Lock nuts

Material of Crank shaft Steel Identification Mark on Do. R.S. F.W.T. Material of Thrust shaft Steel Identification Mark on Do. R.S.

Material of Tunnel shafts Steel Identification Marks on Do. R.S. Material of Screw shafts Steel Identification Marks on Do. J.F.

Material of Steam Pipes Steel Test pressure 700 lb

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.)

Pumps: 2 Radjets: 2 Feed 15x10x24: 2 Bilge 7/2x6x10: Donkey 14. 10 1/4 x 12

Evaporator 5 1/4 x 4 3/4 x 5: Condensate 7/2 x 8 1/2 x 10: Fresh water 5 1/4 x 4 3/4 x 5: Sanitary 7/2 x 6 x 10

Aux Condenser 12x14x14x12: 2 Fuel oil 6x4x6: Slippers 12x8x12: Transfer 7/2 x 6 x 10

Sea pump room bilge 6x4x6: 2 Cargo 12x20x13x24: Bilge 6x4x6

The Engines and boilers of this vessel have been built under special survey and in accordance with approved plans. Materials, Workmanship

are of good quality.

The Machinery of this vessel has been securely fitted on board and tried under steam and proved satisfactory.

It is submitted that the vessel be eligible for a record of LMC 8-21 and to have notation fitted for oil fuel 8-21 flash point, above 150°F. in the Register Book

It is submitted that this vessel is eligible for THE RECORD. + LMC. 8. 21 FD. CL Fitted for oil fuel 8-21 FP above 150°F

The amount of Entry Fee ... £ 30.00  
Special Electric Light \$ 579.75  
Donkey Boiler Fee ... \$ 250.00  
Travelling Expenses (if any) \$ 40.00

When applied for, Aug 23 1921  
When received, 14/9/21

J. Adamson  
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute New York AUG 30 1921  
Assigned + LMC - 8. 21

