

Rpt. 4.

## REPORT ON MACHINERY

No. 4158

TUE. JAN. 18 1921

Received at London Office

Date of writing Report *December 14<sup>th</sup> 1920* When handed in at Local Office *Dec 14<sup>th</sup> 1920* Port of *Philadelphia*  
No. in Survey held at *Philadelphia* Date, First Survey *April 26<sup>th</sup> 1920* Last Survey *December 10<sup>th</sup> 1920*  
Reg. Book. on the *S.S. AGWIMARS* (Number of Visits *31*)  
Master *John C. Thompson* Built at *Chester* By whom built *Sun Shipbuilding Co* Tons { Gross *7078*  
Engines made at *Chester* By whom made *Sun Shipbuilding Co* when made *1920* Net *5042*  
Boilers made at *Chester* By whom made *Sun Shipbuilding Co* when made *1920*  
Registered Horse Power Owners *Atlantic Gulf & West India Steamship Co* Port belonging to *New York*  
Nom. Horse Power as per Section 28 *612* Is Refrigerating Machinery fitted for cargo purposes *No* Is Electric Light fitted *Yes*

## ENGINES, &amp;c.—Description of Engines

*Triple Expansion*No. of Cylinders *3* No. of Cranks *3*

Dia. of Cylinders *24" x 45 1/2" x 76"* Length of Stroke *51"* Revs. per minute *72* Dia. of Screw shaft *as per rule 15.48* Material of *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 *5.4"*  
Dia. of Tunnel shaft *as per rule 13.96 14.1* Dia. of Crank shaft journals *as per rule 14.1 14.8* Dia. of Crank pin *15.5"* Size of Crank webs *10 1/4 x 52* Dia. of thrust shaft under  
collars *15"* Dia. of screw *18"* Pitch of Screw *16.6* No. of Blades *4* State whether moveable *Yes* Total surface *98 sq ft*  
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 *over* 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 *Fire room 5 D 3 1/2: 1 D 5: 2 D 3"* In Holds, &c. *Hold 2 D 3 1/2 The pump room 1 D 3 1/2*  
Cargo pump room *2 D 3 1/2 Cofferdam 2 D 3"*  
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 *Yes*  
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 *Y*)Manufacturers of Steel *Lucas Steel & Iron Co*

Total Heating Surface of Boilers *9198 sq ft* Is Forced Draft fitted *Yes* No. and Description of Boilers *3 S. E. Scotch*  
Working Pressure *190* Tested by hydraulic pressure to *285* Date of test *28-9-20* No. of Certificate *486*  
Can each boiler be worked separately *Yes* Area of fire grate in each boiler *69 sq ft* No. and Description of Safety Valves to  
each boiler *3 1/2" Leavin* Area of each valve *9.62 sq in* Pressure to which they are adjusted *190* Are they fitted with easing gear *Yes*  
Smallest distance between boilers or uptakes and bunkers or woodwork *20"* Mean dia. of boilers *15.11 1/2"* Length *12.0 1/2"* Material of shell plates *Steel*  
Thickness *1 1/32"* 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 *19/16* Pitch of rivets *9 1/16* Lap of plates or width of butt straps *22 1/4*  
Per centages of strength of longitudinal joint *90.7* Working pressure of shell by rules *208* Size of manhole in shell *12 x 16*  
Size of compensating ring *Flanged* No. and Description of Furnaces in each boiler *3 Union* Material *Steel* Outside diameter *52 1/4*  
Length of plain part *top* Thickness of plates *bottom* *9 1/8"* Description of longitudinal joint *Weld* No. of strengthening rings *1*  
Working pressure of furnace by the rules *192.7* Combustion chamber plates: Material *Steel* Thickness: Sides *2 1/2"* Back *3/4"* Top *2 1/2"* Bottom *1"*  
Pitch of stays to ditto: Sides *8 1/2 x 6 1/2* Back *8 1/4 x 5 1/2* Top *8 1/2 x 5 1/2* If stays are fitted with nuts or riveted heads *Both* Working pressure by rules *190.9*  
Material of stays *W1* Area at smallest part *1.999* Area supported by each stay *75.465* Working pressure by rules *195* End plates in steam space:  
Material *Steel* Thickness *1 1/8"* Pitch of stays *8 1/2 x 16* How are stays secured *D nuts* Working pressure by rules *210* Material of stays *Steel*  
Area at smallest part *6.2126* Area supported by each stay *270 sq in* Working pressure by rules *239* Material of Front plates at bottom *Steel*  
Thickness *1"* Material of Lower back plate *Steel* Thickness *1 1/16"* Greatest pitch of stays *13"* Working pressure of plate by rules *245*  
Diameter of tubes *2 1/2"* Pitch of tubes *3 1/4 x 3 1/2* Material of tube plates *Steel* Thickness: Front *1"* Back *3/4"* Mean pitch of stays *9"*  
Pitch across wide water spaces *13"* Working pressures by rules *212* Girders to Chamber tops: Material *Steel* Depth and  
thickness of girder at centre *10 1/2 x 2"* Length as per rule *3.4* Distance apart *8 1/8"* Number and pitch of stays in each *4 D 8 1/2"*  
Working pressure by rules *247* Steam dome: description of joint to shell *Yes* % of strength of joint *Yes*  
Diameter *Yes* Thickness of shell plates *Yes* Material *Yes* Description of longitudinal joint *Yes* Diam. of rivet holes *Yes*  
Pitch of rivets *Yes* Working pressure of shell by rules *Yes* Crown plates *Yes* Thickness *Yes* How stayed *Yes*

SUPERHEATER. Type *Line*

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

W542-0224



IS A DONKEY BOILER FITTED?

No

If so, is a report now forwarded?

SPARE GEAR. State the articles supplied:— 2 Connecting Rods: top & bottom end bolts & nuts: 2 Main bearing bolts: 1 Propeller shaft: Section of Crank shaft: 2 Propeller blades: 1 Eccentric: 1 set of Piston springs for each piston: 1 set of top and bottom end braces: 1 set of valves for feed & bilge pumps: a quantity of assorted bolts & nuts of various sizes: plates of iron & mild steel of various sizes

The foregoing is a correct description,

A. A. Howell

Manufacturer.

SUN SHIPBUILDING COMPANY  
1920  
Dates of Survey: During progress of work in shops - - - Apr 26, May 13, 27, June 2, 4, 7, 29, July 1, 6, Aug 13, 20, 26, Sept 2, 7, 10, 11, 17, 24, 28, Oct 26, 29.  
During erection on board vessel - - - Nov 5, 11, 17, 23, 24, 29, Dec 2, 6, 7, 10.  
Total No. of visits 31

Is the approved plan of main boiler forwarded herewith

" " " donkey " " "

Dates of Examination of principal parts—Cylinders 7-6-20 Slides 7-6-20 Covers 7-6-20 Pistons 29-6-20 Rods 29-6-20  
Connecting rods 29-6-20 Crank shaft 27-5-20 Thrust shaft 1-7-20 Tunnel shafts 1-7-20 Screw shaft 29-10-20 Propeller 29-10-20  
Stern tube 11-11-20 Steam pipes tested 29-11-20 Engine and boiler seatings 11-11-20 Engines holding down bolts 2-12-20  
Completion of pumping arrangements 7-12-20 Boilers fixed 24-11-20 Engines tried under steam 7-12-20  
Completion of fitting sea connections 22-11-20 Stern tube 17-11-20 Screw shaft and propeller 17-11-20  
Main boiler safety valves adjusted 8-12-20 Thickness of adjusting washers Lock nuts  
Material of Crank shaft Steel Identification Mark on Do. F.H.O. Material of Thrust shaft Steel Identification Mark on Do. WC  
Material of Tunnel shafts Steel Identification Marks on Do. Material of Screw shafts Steel Identification Marks on Do. F.W.T.  
Material of Steam Pipes Steel Test pressure 650

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 Yes

If so, state name of vessel SS "AGWIMARR"

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

Pumps 2 Radcojets: Feed 12x8x24 Aux feed 12x8x24 Donkey 14x10x12: 2 Bilge 6x5 1/4 x 6: Sanitary 6x5 1/4 x 6: Injector 5 1/4 x 4 1/4 x 5: Condenser 7 1/2 x 7 x 10: Aux Condenser 12x14x14x12: 2 Fuel oil pump 6x4x6: 1 Ballast 6x5 1/4 x 6: 2 Cargo 12x20x13x24: Cargo bilge 6x5 1/4 x 6: Transfer 6x5 1/4 x 6

The Machinery of this Vessel has been built under Special Survey and in accordance with the approved plans. The Workmanship and materials all good. The Machinery has been tried under steam and proved satisfactory.

It is submitted that the vessel be eligible for a record of LMC 12-20 and to have notation fitted for oil fuel 12-20. Flash point above 150°F. in the Register Book.

It is submitted that this vessel is eligible for

THE RECORD. + LMC. 12.20 FD

Fitted for Oil Fuel. 12.20. FP above 150°F.

Well

22/1/21

APR

The amount of Entry Fee ... £ 15.00 :  
Special ... £ 253.00 :  
Donkey Boiler Fee ... £ :  
Travelling Expenses (if any) £ 20.00 :  
When applied for, 19/1/21  
When received, 19/1/21

J. Adamson

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute New York DEC 28 1920  
Assigned + Lmc. 12.20



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