

Rpt. 4.

## REPORT ON MACHINERY.

No. 63.

Date of writing Report

REC'D

June 13 1919

When handed in at Local Office

10 June 19

Port of

Received at London Office

TUE 19 APR 1921

No. in Survey held at

Hamilton Ohio

Date, First Survey

19 May

Last Survey

2 June 1919

Reg. Book.

on the ENG N-4543 S.S. "SAN. LEON."

(Number of Visits)

3

Master

J. F. Deaton

Built at

Wilmington, N. C.

By whom built

Engel A. Fuller, Jr.

Engines made at

Hamilton Ohio

By whom made

Hovven Owens &amp; Rentschler Co.

when made

1919

Boilers made at

Cummells, Pa.

By whom made

Baderhausen, Pa.

when made

1921

Registered Horse Power

2800

Owners

Emergency Fleet Corporation

Port belonging to

London England.

Nom. Horse Power as per Section 28

510. 580

Is Refrigerating Machinery fitted for cargo purposes

No.

Is Electric Light fitted

No

ENGINES, &amp;c.—Description of Engines

Triple Expansion (Vertical)

No. of Cylinders

3

No. of Cranks

3

Dia. of Cylinders

24 1/2 - 41 1/2 - 72"

Length of Stroke

48"

Revs. per minute

88.

Dia. of Screw shaft

as per rule 14.29

Material of

steel

Is the screw shaft fitted with a continuous liner the whole length of the stern tube (2 liners) 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 Soldered 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 ✓ If two liners are fitted, is the shaft lapped or protected between the liners ✓ Length of stern bush 5'-1"

Dia. of Tunnel shaft

as per rule 13 1/2

Dia. of Crank shaft journals

as per rule 13.75

Dia. of Crank pin

14 3/8"

Size of Crank webs

29 1/2 x 27"

Dia. of thrust shaft under

collars

No. of Feed pumps

2

Diameter of ditto

12.

Stroke

24

Can one be overhauled while the other is at work

No.

No. of Bilge pumps

2

Diameter of ditto

5"

Stroke

21"

Can one be overhauled while the other is at work

Yes.

No. of Donkey Engines

1

Sizes of Pumps

12 x 10 1/4 x 12

No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room 3 1/2" Suctions. 1 in bilge well. 2 in wing bilges. 3 in offshoot. In Holds, &amp;c. None

No. of Bilge Injections

1

sizes

10"

Connected to condenser, or to circulating pump

pump

Is a separate Donkey Suction fitted in Engine room &amp; size

No 4"

Are all the bilge suction pipes fitted with roses Stainers Are the roses in Engine room always accessible YesAre the sluices on Engine room bulkheads always accessible YesAre all connections with the sea direct on the skin of the ship YesAre they Valves or Cocks Cocks & ValvesAre they fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates YesAre the Discharge Pipes above or below the deep water line BelowAre they each fitted with a Discharge Valve always accessible on the plating of the vessel YesAre the Blow Off Cocks fitted with a spigot and brass covering plate YesWhat pipes are carried through the bunkers NoneHow are they protected ✓Are all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times YesAre 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

Is it fitted with a watertight door

worked from

BOILERS, &amp;c.—(Letter for record)

Manufacturers of Steel

Total Heating Surface of Boilers

9042

Is Forced Draft fitted

No.

No. and Description of Boilers

Working Pressure

200 #

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

Area of each valve

Pressure to which they are adjusted

Are they fitted with easing gear

Smallest distance between boilers or uptakes and bunkers or woodwork

Mean dia. of boilers

Length

Material of shell plates

Thickness

Range of tensile strength

Are the shell plates welded or flanged

Descrip. of riveting: cir. seams

long. seams

Diameter of rivet holes in long. seams

Pitch of rivets

Lap of plates or width of butt straps

Per centages of strength of longitudinal joint

rivets

plate

Working pressure of shell by rules

Size of manhole in shell

Size of compensating ring

No. and Description of Furnaces in each boiler

Material

Outside diameter

Length of plain part

top

Thickness of plates

crown

Description of longitudinal joint

No. of strengthening rings

bottom

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

Area 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

Area 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

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

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

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

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

W520-0104



IS A DONKEY BOILER FITTED? ✓

If so, is a report now forwarded? ✓

SPARE GEAR. State the articles supplied: Two top & bottom end bolts & nuts. Two main beam bolts & nuts. Set of coupling bolts & nuts. One crank pin bearing. Pair of top end bracers. H.P. valve spindle. Two H.P. two I.P. & one L.P. piston rings. Two H.P. piston valve rings. Set of valves, guards & studs for air & bilge pump. One spare Tail Shaft. marks LLOYDS, 181, W.C.

The foregoing is a correct description, for engines only.  
THE HOOVEN OWENS, RENTSCHLER CO.  
E. S. Reiler Asst Chief Engr. Manufacturer.

Dates of Survey while building { During progress of work in shops - - May 19<sup>th</sup> & 26<sup>th</sup> June 2<sup>nd</sup> 1919. 3 visits  
During erection on board vessel - - Jan. 1921, 4, 12, Feb. 17, 26, March 4, 15, 18, 21, 23.  
Total No. of visits 12.

Is the approved plan of main boiler forwarded herewith

Dates of Examination of principal parts—Cylinders 19/5/19 Slides 26/6/19 Covers 2/6/19 Pistons 2/6/19 Rods 19/5/19  
Connecting rods 19/5/19 Crank shaft 19/5/19 Thrust shaft 2/6/19 Tunnel shafts Screw shaft Propeller  
Stern tube Steam pipes tested 9/3/21. Engine and boiler seatings 7<sup>th</sup> Dec. 20 Engines holding down bolts 21/3/21.  
Completion of pumping arrangements Boilers fixed 12/1/21 Engines tried under steam 23/3/21.  
Completion of fitting sea connections 9/3/21. Stern tube 14<sup>th</sup> Dec. 1920. Screw shaft and propeller 1/1/21  
Main boiler safety valves adjusted 23/3/21. Thickness of adjusting washers No Washers.  
Material of Crank shaft Steel Identification Mark on Do. JE Material of Thrust shaft Steel Identification Mark on Do. See attach  
Material of Tunnel shafts Steel Identification Marks on Do. Material of Screw shafts Steel Identification Marks on Do.  
Material of Steam Pipes Steel. Test pressure 600 lbs  
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 45/6 If so, state name of vessel

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

The above engines have been constructed under special survey, also under the supervision of the American Bureau Surveyors. The materials & workmanship employed in their manufacture, so far as can be seen are sound & efficient. When the engines have been satisfactorily installed in vessel & proved satisfactory under working conditions & spare gear being supplied as required by the rules, the vessel in which they are fitted will in my opinion be eligible for record of I.L.M.C. (with date) The above Engines have been installed in this vessel in a satisfactory manner and tried out & proven satisfactory.

Certificate (if required) to be sent to

It is classed  
The amount of Entry Fee ... \$ 30.00 :  
Special ... \$ 508.50 :  
Donkey Boiler Fee ... £ :  
Travelling Expenses (if any) \$ 10.77 :  
When applied for, 31<sup>st</sup> Mar. 1921  
When received, 12/1/21

J. Robinson W. Hamilton  
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute New York APR - 5 1921  
Assigned + Lm C J. 21

TUE 27 MAR. 1923  
FRI 17 AUG. 1923