

REPORT ON MACHINERY

No. 3728

Date of writing Report

Mar 20th 1920

When handed in at Local Office

March 26th 1920

Received at London Office

APR 20 1920

No. in Survey held at Reg. Book.

Philadelphia

Date, First Survey

Mar 20, 1920

Last Survey

March 19th 1920

on the

New Steel S.S. Ethan Allen

Master

W. J. Begg (1905)

Built at

Gloucester

By whom built

Busey & Jones Coy (C 15)

Tons

Gross 8294.66

Net 5289.43

When built

1920-3

Engines made at

Philadelphia

By whom made

The Wm. Cramp & Co. Bldg Coy

when made

1920.

Boilers made at

Chester Pa

By whom made

Sun Shipbuilding Company

when made

1920

Registered Horse Power

Owners

Emergency Fleet Corporation, U.S. Shipping Bd. Port belonging to

Gloucester City

Nom. Horse Power as per Section 28

643

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

25 1/2" x 31" x 52 1/2" x 46"

Length of Stroke

54"

Revs. per minute

115

Dia. of Screw shaft

as per rule 15.5

Material of

Iron

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

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

liners are fitted, is the shaft lapped or protected between the liners

Dia. of Tunnel shaft as per rule 14.73

Dia. of Crank shaft journals as per rule 14.94

Dia. of Crank pin 15 1/2"

Size of Crank webs 10 1/2" x 24"

Dia. of thrust shaft under

collars 15 1/2"

Dia. of screw 18" 0"

Pitch of Screw 18" 9"

No. of Blades 4

State whether moveable yes

Total surface 102

No. of Feed pumps 2

Diameter of ditto 8"

Stroke 9 1/2"

Can one be overhauled while the other is at work yes

No. of Bilge pumps 2

Diameter of ditto 4 1/2"

Stroke 3 1/2"

Can one be overhauled while the other is at work yes

No. of Donkey Engines 2

Sizes of Pumps 4" x 12" 10" x 12" 12" x 12"

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

In Engine Room 4 @ 3 1/2" dia & one special bilge 3 1/2" dia

In Holds, &c. 2 @ 3 1/2" dia in each hold

No. of Bilge Injections 1 sizes 10"

Connected to condenser, or to circulating pump C.P.

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

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 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 1 1/2" & double bottom suction

How are they protected Steel plates

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

Dates of examination of completion of fitting of Sea Connections 24-12-19

of Stern Tube 24-12-19

Screw shaft and Propeller 24-12-19

Is the Screw Shaft Tunnel watertight yes

Is it fitted with a watertight door yes

worked from top platform

OILERS, &c.—(Letter for record 17)

Manufacturers of Steel Lukens Steel & Iron Co.

Total Heating Surface of Boilers 9195.5

Is Forced Draft fitted yes

No. and Description of Boilers 3 S. & C. Scotch

Working Pressure 220

Tested by hydraulic pressure to 350

Date of test 13-2-20

No. of Certificate 419

In each boiler be worked separately yes

Area of fire grate in each boiler 65.6

No. and Description of Safety Valves to

each boiler 3 1/2" Twin

Area of each valve 9.6

Pressure to which they are adjusted 220

Are they fitted with easing gear yes

Smallest distance between boilers or uptakes and branches 4'-0"

Mean dia. of boilers 15'-10"

Length 11'-11 1/4"

Material of shell plates Steel

Thickness 1 1/4"

Range of tensile strength 60000 to 70000

Are the shell plates welded or flanged no

Descrip. of riveting: cir. seams DR

g. seams TR DBS

Diameter of rivet holes in long. seams 1 1/4"

Pitch of rivets 9 1/4"

Lap of plates or width of butt straps 20 1/2"

Percentages of strength of longitudinal joint rivets 95.5%

plate 83%

Working pressure of shell by rules 236

Size of manhole in shell 12' x 16'

e of compensating ring Flanged

No. and Description of Furnaces in each boiler 3 Ironium

Material Steel

Outside diameter 53 1/2"

Length of plain part top

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 1/4"

Back 3/4"

Top 1/4"

Bottom 1 1/4"

No. of stays to ditto: Sides 6 1/2" x 8"

Back 8" x 8"

Top 8 1/2" x 8 1/2"

If stays are fitted with nuts or riveted heads Both

Working pressure by rules 220

Material of stays W 1

Diameter at smallest part 1.997"

Area supported by each stay 65"

Working pressure by rules 220

End plates in steam space: 17

Material Steel

Thickness 1 1/4"

Pitch of stays 6 1/2" x 16"

How are stays secured Double nuts

Working pressure by rules 233

Material of stays W 1 steel

Diameter at smallest part 3"

Area supported by each stay 270"

Working pressure by rules 242

Material of Front plates at bottom Steel

Thickness 1 1/4"

Material of Lower back plate Steel

Thickness 1 1/4"

Greatest pitch of stays 13"

Working pressure of plate by rules 252

Diameter of tubes 2 1/2"

Pitch of tubes 3 1/4" x 3 1/2"

Material of tube plates Steel

Thickness: Front 1 1/2"

Back 2 1/2"

Mean pitch of stays 10 1/2" x 9 1/2"

Ch 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 40"

Distance apart 8 1/2"

Number and pitch of stays in each 40 5/8"

Working pressure by rules 265

Superheater or Steam chest; how connected to boiler none

Can the superheater be shut off and the boiler worked

Diameter

Length

Thickness of shell plates

Material

Description of longitudinal joint

Diam. of rivet

Pitch of rivets

Working pressure of shell by rules

Diameter of flue

Material of flue plates

Thickness

Stiffened with rings

Distance between rings

Working pressure by rules

End plates: Thickness

How stayed

Working pressure of end plates

Area of safety valves to superheater

Are they fitted with easing gear

008231-008236-0090

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IS A DONKEY BOILER FITTED? *No*

If so, is a report now forwarded?

SPARE GEAR.

IS A DONKEY BOILER FITTED? ^{no} If so, is a report now forwarded? ✓

SPARE GEAR. State the articles supplied:—Two connecting rod top end & two connecting rod bottom end bolts & nuts, Two main bearing bolts & nuts, One set coupling bolts, 1 set feet & bilge pump valves.
• quantity of assorted bolts nuts & iron. ✓

The foregoing is a correct description,

J. F. Mitten
THE WM. CRAMP & SONS SHIP & ENGINE BUILDING CO.
Manufacturer of Boilers.

SUN SHIPBUILDING COMPANY

<i>Dates of Survey while building</i>	{	During progress of	}
		work in shops - -	
		During erection on	
		board vessel - - -	
		Total No. of visits	

Is the approved plan of main boiler forwarded herewith

Total No. of tests " " " donkey " " " how.
 Dates of Examination of principal parts—Cylinders 9-5-16 Slides 11-10-16 Covers 11-5-16 Pistons 11-6-16 Rods 11-4-16
 Connecting rods 11-4-16 Crank shaft 11-4-16 Thrust shaft 11-4-16 Tunnel shafts 11-5-19 Screw shaft 5-9-19 Propeller 11-11-19
 Stern tube 11-1-19 Steam pipes tested 9-2-20 Engine and boiler seatings 11-1-20 Engines holding down bolts 11-2-20.
 Completion of pumping arrangements 10-3-20 Boilers fixed 11-2-20 Engines tried under steam 11-3-20.
 Main boiler safety valves adjusted 11-2-20. Thickness of adjusting washers Rock nuts.
 Material of Crank shaft Steel Identification Mark on Do. 386 B.T. Material of Thrust shaft Steel Identification Mark on Do. 386 B.T.
 Material of Tunnel shafts Steel Identification Marks on Do. 386 B.T. Material of Screw shafts Iron Identification Marks on Do. 386 B.T.
 Material of Steam Pipes Steel drawn Steel 5 @ 2" diam. 30 ft. thick Test pressure 700 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. ✓ If so, state name of vessel ✓

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

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The Machinery of this vessel has been built under special survey, the materials and workmanship are of good quality & the hydraulic tests on the boilers & steam pipes were satisfactory. The whole of the machinery is securely fitted on board & tried under steam.

This vessel is fitted for burning & carrying oil fuel, the requirements of section #9 of the rules are complied with.

The machinery of this vessel is in good & safe working condition & eligible in my opinion to be classed & have records **LMC 3-20** fitted for oil fuel Flash Point above 150°F in the Register Book.

THE RECORD + L.M.C. 3.20 F.D.

FITTED FOR OIL FUEL 3.20 F.P ABOVE 150° F

The amount of Entry Fee	...	£	:	:	} When applied for, 19.....	
Special	...	£	:	:		
Donkey Boiler Fee	...	£	✓	:		} When received 30/4/20
Travelling Expenses (if any)	...	£	:	:		

Engineer Surveyor to Lloyd's Register of British & Foreign Sh^{ps}, none being

Committee's Minute

New York APR 6 - 1920

Assigned

+ dmC, 3, 20

MAJORITY DEPT
(NEITHER 204-20
WRITTEN)

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