

## REPORT ON MACHINERY.

No. 1495

Date of writing Report 11 July 1921 When handed in at Local Office 16 July 1921 Port of Boston Received at London Office SAT. 13 AUG. 1921

No. in Survey held at Quincy, Mass. Date, First Survey 31 Aug 1920 Last Survey 1 July 1921

Reg. Book. on the steel screw steamer J. FLETCHER FARRELL (Number of Visits 1) Gross Tons 706

Master F. Ruppel Built at Quincy, Mass. By whom built Bethlehem S. B. Corporation Tons 4350

Engines made at Quincy By whom made Bethlehem S. B. Corporation When built 1921

Boilers made at Wilmington Del. By whom made Bethlehem S. B. Corporation when made 1921

Registered Horse Power 586 Owners Sinclair Navigation Co. Port belonging to New York

Nom. Horse Power as per Section 28 586 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 26 1/2 - 44 - 74Length of Stroke 51Revs. per minute 75Dia. of Screw shaft 15.2Material of steelIs 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 no

If the liner does not fit tightly at the part

between the bearings in the stern tube, is the space charged with best packing material insoluble in water and non-corrosive

If two

liners are fitted, is the shaft lapped or protected between the liners yesLength of stern bush 5' 2 3/4"Dia. of Tunnel shaft 13.8as per rule 14 3/4Dia. of Crank shaft journals 14 3/4as fitted 14 3/4Dia. of Crank pin 14 3/4Size of Crank webs 28x10Dia. of thrust shaft 14 3/4collars 14 3/4Dia. of screw 18' 0"Pitch of Screw 17' 1/2"No. of Blades 4State whether moveable yesTotal surface 95 sq ftNo. of Feed pumps 2Diameter of ditto 10 1/2 x 8Stroke 24Can one be overhauled while the other is at work yesNo. of Bilge pumps 2Diameter of ditto 5 1/2Stroke 24Can one be overhauled while the other is at work yesNo. of Donkey Engines 1Sizes of Pumps 14x10 1/2 x 12No. and size of Suctions connected to both Bilge and Donkey pumps 2In Engine Room 5' 3 1/2"In Holds, &c. oil cargo pumping systemNo. of Bilge Injections 1sizes 10"Connected to condensers or to circulating pumpIs a separate Donkey Suction fitted in Engine room yessize 3 1/2"Are all the bilge suction pipes fitted with roses yesAre the roses in Engine room always accessible yesAre the Suctions on Engine room bulkheads always accessible yesAre all connections with the sea direct on the skin of the ship yesAre they Valves or Cocks valves & cocksAre they fixed sufficiently high on the ship's side to be seen without lifting the stokehold plate 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 brass covering plateWhat pipes are carried through the bunkers oil fuelHow are they protected yesAre 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 yesIs the Screw Shaft Tunnel watertight no tunnelIs it fitted with a watertight door yesworked from yesBOILERS, &c.—(Letter for record 5) Manufacturers of Steel Luhens & S. Co.Total Heating Surface of Boilers 8229Is Forced Draft fitted yesDescription of Boilers 3 single ended ScotchWorking Pressure 200 lbsTested by hydraulic pressure to 300 lbsDate of test 12 Aug 1920No. of Certificate 486Can each boiler be worked separately yesArea of fire grate in each boiler oil firedNo. and Description of Safety Valves to each boiler 2 spring loadedArea of each valve 7.62 sq ftPressure to which they are adjusted 190 lbsAre they fitted with easing gear yesSmallest distance between boilers or uptakes and bunkers or woodwork abt 12"Mean dia. of boilers 15' 0"Length 11' 9"Material of shell plates steelThickness 1 1/2"Range of tensile strength 60000/71680Are the shell plates welded or flanged noDescrip. of riveting: cir. seams D.R. Laplong. seams T.R. D.B.S.Diameter of rivet holes in long. seams 1 1/2"Pitch of rivets 8"Lap of plates or width of butt straps 21"Per centages of strength of longitudinal joint 96.5Working pressure of shell by rules 220Size of manhole in shell 12x16"Size of compensating ring 35 1/2 x 31 1/2 x 1 1/2No. and Description of Furnaces in each boiler 3 MorrisonMaterial steelOutside diameter 4' 0"Length of plain part topThickness of plates bottomDescription of longitudinal joint weldedNo. of strengthening rings noWorking pressure of furnace by the rules 309Combustion chamber plates: Material steelThickness: Sides 3/2"Back 1/2"Top 3/2"Bottom 1 1/2"Pitch of stays to ditto: Sides 7' x 7 1/2"Back 7' x 7 1/2"Top 7' x 7 1/2"If stays are fitted with nuts or riveted heads Riveted headsWorking pressure by rules 209Material of stays steelArea at smallest part 1.47 sq ftArea supported by each stay 54.39 sq ftWorking pressure by rules 226End plates in steam space: noMaterial steelThickness 1 1/8"Pitch of stays 16 1/2 x 16 1/2"How are stays secured Double nutsWorking pressure by rules 202Material of stays steelArea at smallest part 6.49 sq ftArea supported by each stay 280Working pressure by rules 240Material of Front plates at bottom steelThickness 3/4"Material of Lower back plate steelThickness 3/4"Greatest pitch of stays 13"Working pressure of plate by rules 309Diameter of tubes 2 1/2"Pitch of tubes 3 1/2 x 3 1/2"Material of tube plates steelThickness: Front 3/4"Back 3/4"Mean pitch of stays 9.06"Pitch across wide water spaces 13"Working pressures by rules 212Girders to Chamber tops: Material steelDepth and thickness of girder at centre 10' x 1 1/2"Length as per rule 34"Distance apart 7 1/2"Number and pitch of stays in each 4-7"Working pressure by rules 247Steam dome: description of joint to shell none% of strength of joint noDiameter noThickness of shell plates noMaterial noDescription of longitudinal joint noDiam. of rivet holes noPitch of rivets noWorking pressure of shell by rules noCrown plates noThickness noHow stayed noSUPERHEATER. Type noneDate of Approval of Plan noTested by Hydraulic Pressure to noDate of Test noIs a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler noDiameter of Safety Valve noPressure to which each is adjusted noIs Easing Gear fitted noIs a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler noDiameter of Safety Valve noPressure to which each is adjusted noIs Easing Gear fitted noIs a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler noDiameter of Safety Valve noPressure to which each is adjusted noIs Easing Gear fitted noIs a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler noDiameter of Safety Valve noPressure to which each is adjusted noIs Easing Gear fitted noIs a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler noDiameter of Safety Valve noPressure to which each is adjusted noIs Easing Gear fitted noIs a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler noDiameter of Safety Valve noPressure to which each is adjusted noIs Easing Gear fitted noIs a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler noDiameter of Safety Valve noPressure to which each is adjusted noIs Easing Gear fitted noIs a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler noDiameter of Safety Valve noPressure to which each is adjusted noIs Easing Gear fitted noIs a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler noDiameter of Safety Valve noPressure to which each is adjusted noIs Easing Gear fitted noIs a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler noDiameter of Safety Valve noPressure to which each is adjusted noIs Easing Gear fitted noIs a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler noDiameter of Safety Valve noPressure to which each is adjusted noIs Easing Gear fitted noIs a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler noDiameter of Safety Valve noPressure to which each is adjusted noIs Easing Gear fitted noIs a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler noDiameter of Safety Valve noPressure to which each is adjusted noIs Easing Gear fitted noIs a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler noDiameter of Safety Valve noPressure to which each is adjusted noIs Easing Gear fitted noIs a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler noDiameter of Safety Valve noPressure to which each is adjusted noIs Easing Gear fitted noIs a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler noDiameter of Safety Valve noPressure to which each is adjusted noIs Easing Gear fitted noIs a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler noDiameter of Safety Valve noPressure to which each is adjusted noIs Easing Gear fitted noIs a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler noDiameter of Safety Valve noPressure to which each is adjusted noIs Easing Gear fitted no

007563-007571-0109 1/2



IS A DONKEY BOILER FITTED?

No.

If so, is a report now forwarded?

SPARE GEAR.

State the articles supplied:— 1 pair connecting rods top end bolts & nuts, 1 pair connecting rods bottom end bolts & nuts, 1 pair main bearing bolts & nuts, 1 set shaft coupling bolts, 1 set feed & bilge pump valves, assorted nuts, bolts & iron. 1 Propeller shaft, 2 propeller blades, 1 pair crank pin brasses, 1 pair crosshead brasses, HP & MP valve spindles, Piston rings for all cylinders, spare parts for all pumps, spare sets metallic packing, 2 safety valve springs, 50 condenser tubes, 24 boiler tubes, oil fuel fittings

The foregoing is a correct description,

BETHLEHEM S. B. CORPORATION  
FORE RIVER PLANT  
J. H. Mahan

GEN. MANAGER

Manufacturer.

Dates of Survey while building { During progress of work in shops - - 1920 Aug 31, Sep 12, 15, 24, Dec 8, 14, 23, 29, 1921 Jan 3, 7, 10, 14, 17, 19, 24, 24, Feb 7, 11, 14, March 4, 2, 8, 15, 15, 22, Apr 12, 15, 21, 24, May 5, 12, 18, June 2  
During erection on board vessel - - Aug 18, 19, June 9, 10, 15, 16, 17, 20, 27, 29, 30 July 1  
Total No. of visits 48.

Is the approved plan of main boiler forwarded herewith

No. Retained for 1897.

" " " donkey " " "

Dates of Examination of principal parts—Cylinders 11 Feb 1921 Slides 7 Mar 1921 Covers 13 May 1921 Pistons 13 May 1921 Rods 7 Mar 1921

Connecting rods 24 Apr 1921 Crank shaft 7 Jan 1921 Thrust shaft 26 Apr 1921 Tunnel shafts 26 Apr 1921 Screw shaft 26 Apr 1921 Propeller 5 May 1921

Stern tube 11 May 1921 Steam pipes tested 21 June 1921 Engine and boiler seatings 19 May 1921 Engines holding down bolts 20 June 1921

Completion of pumping arrangements 29 June 1921 Boilers fixed 20 June 1921 Engines tried under steam 1 July 1921

Completion of fitting sea connections 9 June 1921 Stern tube 14 May 1921 Screw shaft and propeller 9 June 1921

Main boiler safety valves adjusted 1 July 1921 Thickness of adjusting washers Standard 2 1/4" Centre 2 1/4" Ports 2 1/4"

Material of Crank shaft Steel Identification Mark on Do. JSH Material of Thrust shaft Steel Identification Mark on Do. JSH

Material of Tunnel shafts Steel Identification Marks on Do. JSH Material of Screw shafts Steel Identification Marks on Do. JSH

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 If so, state name of vessel

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

The machinery & boiler of this vessel have been built under Special Survey in accordance with the Rules & approved plans & the workmanship & material are good. Please see Philadelphia report 3958 herewith.

They have been fitted on board & satisfactorily tried under steam & they are now in good & safe working condition & eligible in my opinion to receive the notation + LMC 7.21 (in red) F.D. and 'Fitted for Oil Fuel 7.21 F.P. above 150°F' in the Register Book.

It is submitted that this vessel is eligible for

FIVE RECORD. + L.M.C. 7.21 F.D. C.L.

FITTED FOR OIL FUEL 7.21 F.P. ABOVE 150°F.

The amount of Entry Fee ... £

30.00

When applied for,

Special

1/2 day

52.50

16 May 1921

Donkey Boiler Fee ... £

10.00

When received,

Travelling Expenses (if any) £

225.00

31.10.21

Committee's Minute

New York JUL 26 1921

Assigned

+ LMC-7.21

John S. Mack

Engineer Surveyor to Lloyd's Register of Shipping.



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MACHINERY GEAR

WRITTEN

27.8.21 dated 13/8/21



J. FLETCHER FARRELL

## Electric Light Installation

## Groups of Lights continued.

Searchlight requiring a current of	35 amperes
Wireless " " " "	40 "
Workshop Motor " " " "	60 "
Pump room 14 lights each of 20 cp requiring a total current of	4 "
Quarantine For <sup>ts</sup> 57 " " " 20 " " " " " "	209 "
Forecastle 14 " " " 20 " " " " " "	3.5 "

## Description of cables continued

carrying 8.2 amperes	comprised of 7 wires each .050" dia	.0114 sq. inches total sectional area
4 " 35 "	" " 19 " " .045 "	.031 " " " " " "
" 40 "	" " 37 " " .04 " "	.047 " " " " " "
" 40 "	" " 19 " " .045 "	.031 " " " " " "
" 4 "	" " 7 " " .045 "	.011 " " " " " "
209 "	" " 37 " " .04 " "	.047 " " " " " "
3.5 "	" " 7 " " .036 "	.007 " " " " " "

J. S. H.



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