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# REPORT ON MACHINERY.

No. 780

WED. OCT. 7. 1914

Received at London Office

of writing Report 28 Sept 10 14 When handed in at Local Office 28 Sept 10 14 Port of Boston

in Survey held at Quincy Date, First Survey 29 Aug 1914 Last Survey 15 Sept 1914

Book. 12 on the SS PACIFIC (Number of Visits 77)

ster F. S. Mundy Built at Quincy By whom built Fore River Shipbuilding Corporation When built 1914-9

ines made at Quincy By whom made do. when made 1914

lers made at Wilmington By whom made Harden & Hollingworth when made 1914

istered Horse Power 448 Owners Emery Steamship Co. Port belonging to Boston

n. Horse Power as per Section 28 448 Is Refrigerating Machinery fitted for cargo purposes no Is Electric Light fitted yes

GINES, &c.—Description of Engines triple expansion No. of Cylinders 3 No. of Cranks 3

o. of Cylinders 25-41-68 Length of Stroke 48 Revs. per minute 70 Dia. of Screw shaft 14 1/2 Material of screw shaft steel

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

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

ween the bearings in the stern tube, is the space charged with a plastic material insoluble in water and non-corrosive yes If two

ers are fitted, is the shaft lapped or protected between the liners yes Length of stern bush 4-11

a. of Tunnel shaft as per rule 12-86 Dia. of Crank shaft journals as per rule 13-5 Dia. of Crank pin 14 Size of Crank webs 9 1/2 Dia. of thrust shaft under

lars 13 1/2 Dia. of screw 16-9 Pitch of Screw 18-8 No. of Blades 4 State whether moceable yes Total surface 92 sq ft

o. of Feed pumps 2 double Diameter of ditto 9x6 Stroke 10 Can one be overhauled while the other is at work yes

o. of Bilge pumps 2 Diameter of ditto 4 1/2 Stroke 20 Can one be overhauled while the other is at work yes

o. of Donkey Engines 3 Sizes of Pumps 10 1/2, 12, 14, 16, 18, 20, 22, 24, 26, 28, 30, 32, 34, 36, 38, 40, 42, 44, 46, 48, 50, 52, 54, 56, 58, 60, 62, 64, 66, 68, 70, 72, 74, 76, 78, 80, 82, 84, 86, 88, 90, 92, 94, 96, 98, 100 No. and size of Suctions connected to both Bilge and Donkey pumps

Engine Room & boiler room 6 - 3 1/2 In Holds, &c. 2 - 3 1/2 in each hold + 2 - 3 1/2

in the workshop bunkers.

o. of Bilge Injections 1 sizes 8 Connected to condenser to circulating pump yes 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 none

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

How are they protected wood ceiling

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 Aug 3 of Stern Tube Aug 1 Screw shaft and Propeller Aug 3

Is the Screw Shaft Tunnel watertight none Is it fitted with a watertight door yes worked from yes

MILERS, &c.—(Letter for record S.) Manufacturers of Steel See Philadelphia report 2129 Lewisith.

Total Heating Surface of Boilers 6501 Is Forced Draft fitted yes No. and Description of Boilers 3 Scotch type

Working Pressure 190 lbs Tested by hydraulic pressure to 285 lbs Date of test 28/2/14 No. of Certificate 61

Can each boiler be worked separately yes Area of fire grate in each boiler - No. and Description of Safety Valves to

each boiler 2 spring loaded Area of each valve 7000 Pressure to which they are adjusted 190 lbs Are they fitted with easing gear yes

Smallest distance between boilers or uptakes and bunkers or woodwork about 15 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 -

Percentages of strength of longitudinal joint - 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 - Thickness of plates - Description of longitudinal joint - No. of strengthening rings -

Working pressure of furnace by the rules - Combustion chamber plates: Material - Thickness: Sides - Back - Top - Bottom -

Water Capacity - Pitch of stays to ditto: Sides - Back - Top - If stays are fitted with nuts or riveted heads - Working pressure by rules -

Tons 255 Material of stays - Diameter 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 -

Diameter 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 -

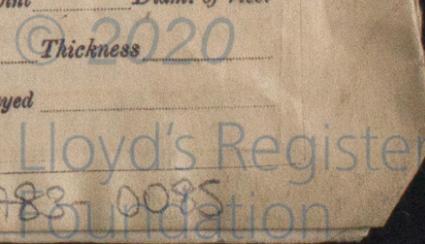
Working pressure by rules - Superheater or Steam chest; how connected to boiler - Can the superheater be shut off and the boiler worked -

Separately - Diameter - Length - Thickness of shell plates - Material - Description of longitudinal joint - Diam. of rivet -

Plates - 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 -



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VERTICAL DONKEY BOILER— Manufacturers of Steel

No. \_\_\_\_\_ Description \_\_\_\_\_  
 Made at \_\_\_\_\_ By whom made \_\_\_\_\_ When made \_\_\_\_\_ Where fixed \_\_\_\_\_  
 Working pressure tested by hydraulic pressure to \_\_\_\_\_ Date of test \_\_\_\_\_ No. of Certificate \_\_\_\_\_ Fire grate area \_\_\_\_\_  
 Valves \_\_\_\_\_ No. of Safety Valves \_\_\_\_\_ Area of each \_\_\_\_\_ Pressure to which they are adjusted \_\_\_\_\_ Date of adjustment \_\_\_\_\_  
 If fitted with easing gear \_\_\_\_\_ If steam from main boilers can enter the donkey boiler \_\_\_\_\_ Dia. of donkey boiler \_\_\_\_\_ Length \_\_\_\_\_  
 Material of shell plates \_\_\_\_\_ Thickness \_\_\_\_\_ Range of tensile strength \_\_\_\_\_ Descrip. of riveting long. seams \_\_\_\_\_  
 Dia. of rivet holes \_\_\_\_\_ Whether punched or drilled \_\_\_\_\_ Pitch of rivets \_\_\_\_\_ Lap of plating \_\_\_\_\_ Per centage of strength of joint \_\_\_\_\_  
 Working pressure of shell by rules \_\_\_\_\_ Thickness of shell crown plates \_\_\_\_\_ Radius of do. \_\_\_\_\_ No. of stays to do. \_\_\_\_\_ Dia. of stays \_\_\_\_\_  
 Diameter of furnace Top \_\_\_\_\_ Bottom \_\_\_\_\_ Length of furnace \_\_\_\_\_ Thickness of furnace plates \_\_\_\_\_ Description of joint \_\_\_\_\_  
 Working pressure of furnace by rules \_\_\_\_\_ Thickness of furnace crown plates \_\_\_\_\_ Radius of do. \_\_\_\_\_ Stayed by \_\_\_\_\_  
 Diameter of uptake \_\_\_\_\_ Thickness of uptake plates \_\_\_\_\_ Thickness of water tubes \_\_\_\_\_ Dates of survey \_\_\_\_\_

SPARE GEAR. State the articles supplied:— *2 connecting rod top end bolts & nuts, 2 connecting rod bottom end bolts & nuts, 1 set coupling bolts & nuts, 1 set feed, bilge & other pump valves, 1 set piston springs, 2 bolts, nuts & washers, 1 propeller shaft, 1 propeller blade, 1 set check valves, 18 junk ring bolts, 18 boiler 25 condenser tubes, 1 set safety valve springs.*

The foregoing is a correct description, **Fore River Shipbuilding Corp'n**  
 Manufacturer. *J. D. [Signature]*

1913  
 Dates of Survey: During progress of work in shops: Aug 29, Sept 2, 4, 10, 12, 15, 17, 29, Oct 9, 25, 29, Nov 11, Dec 30, 1914 Jan 31, Feb 3, 9, 11, 12, 19, 26, 28, 29  
 while building: During erection on board vessel: July 1, 2, 14, 18, 21, 23, 27, 28, 30, 31, Aug 1, 3, 10, 13, 14, 24, 26, 28, 31, Sept 14, 15  
 Total No. of visits: 77

Is the approved plan of main boiler forwarded herewith \_\_\_\_\_  
 " " " donkey " " " \_\_\_\_\_  
 Dates of Examination of principal parts: Cylinders *1/5/14, 1/5/14* Slides *17/3/14* Covers *15/6/14* Pistons *15/6/14* Rods *15/6/14*  
 Connecting rods *11/3/14* Crank shaft *17/3/14* Thrust shaft *25/3/14* Tunnel shafts \_\_\_\_\_ Screw shaft *1/4/14* Propeller *1/4/14*  
 Stern tube *25/3/14* Steam pipes tested *14/8/14* Engine and boiler seatings *27/31/9/14* Engines holding down bolts *24/8/14*  
 Completion of pumping arrangements *26/8/14* Boilers fixed *24/8/14* Engines tried under steam *15/9/14*  
 Main boiler safety valves adjusted *26/8/14 + 15/9/14* Thickness of adjusting washers *Port 3/4, Centre 1 1/16, Starboard 2 1/32*  
 Material of Crank shaft *steel* Identification Mark on Do. *103* Material of Thrust shaft *steel* Identification Mark on Do. \_\_\_\_\_  
 Material of Tunnel shafts \_\_\_\_\_ Identification Marks on Do. \_\_\_\_\_ Material of Screw shafts *steel* Identification Marks on Do. \_\_\_\_\_  
 Material of Steam Pipes *steel* Test pressure *570 lbs.*

General Remarks (State quality of workmanship, opinions as to class, &c.)  
*The engines & boilers of this vessel have been built under survey in accordance with the Rules & approved plans & have satisfactorily held under steam. The workmanship & materials are good & the machinery is eligible, in my opinion, to receive the notation  $\pm$  L.M.C. 9.14. and F.D. in the Register Book.*

It is submitted that this vessel is eligible for THE RECORD. + LMC 9.14. F.D.

The amount of Entry Fee .. £ \$ 15.00  
 Special *2/3* .. £ 142.00  
 Donkey Boiler Fee .. £ \_\_\_\_\_  
 Travelling Expenses (if any) £ .75

Committee's Minute ~~TUE. OCT. 13. 1914~~ TUE. OCT. 20. 1914  
 Assigned *L.M.C. 9.14*

*J.W.D. 9/10/14*  
*J.P.R.*  
 John S. Hecke.  
 Engineer Surveyor to Lloyd's Register of British & Foreign Ships

Certificate (if required) to be sent to \_\_\_\_\_

