

Rpt. 4.

REPORT ON MACHINERY.

No. 924.

REC'D NEW YORK

Received at London Office

FRI.-3 AUG. 1917

Boston, Mass.

Date of writing Report 6th July 1917 When handed in at Local Office 13th July 1917 Port of Quincy, Mass. Date, First Survey 3 Feb 1916 Last Survey 1st July 1917

No. in Survey held at Quincy, Mass. (Number of Visits 58)

Reg. Book. on the 1/3 PENNSYLVANIA Tons Gross 6666 Net 5045

Master H. Swenson Built at Quincy By whom built Fox River S. B. Corporation When built 1917

Engines made at Quincy By whom made Fox River S. B. Corporation when made 1917

Boilers made at Wilmington, Del. By whom made Harlan + Hollingsworth when made 1917

Registered Horse Power 549 Owners The Tescos Company Port belonging to New York.

Nom. Horse Power as per Section 28 549 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

No. of Cylinders 26 1/2 - 44 - 74 Length of Stroke 51 Revs. per minute 75 Dia. of Screw shaft 14 9/16 Material of screw shaft 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 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

Length of stern bush 5'-2" If two shafts are fitted, is the shaft lapped or protected between the liners yes

Dia. of Tunnel shaft 13 7/8 Dia. of Crank shaft journals 14 1/4 Dia. of Crank pin 14 3/4 Size of Crank webs 30 1/2 x 10 Dia. of thrust shaft under

blades 14 3/4 Dia. of screw 17-6 Pitch of Screw 17-6 No. of Blades 4 State whether moveable yes Total surface 100 sq

No. of Feed pumps 2 Diameter of ditto 12 x 8 Stroke 24 Can one be overhauled while the other is at work yes

No. of Bilge pumps 2 Diameter of ditto 5 1/2 Stroke 24 Can one be overhauled while the other is at work yes

No. of Donkey Engines 2 Sizes of Pumps 2 x 10 x 12, 6 x 6 x 6 No. and size of Suctions connected to both Bilge and Donkey pumps

Engine Room 3-3 1/2" and 2-2 1/2" In Holds, &c. oil cargo pumping system

No. of Bilge Injections 1 sizes 10" Connected to condensers circulating pump yes Is a separate Donkey Suction fitted in Engine room & size 4 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 yes Valves yes

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

How are they protected oil fuel suction 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

Dates of examination of completion of fitting of Sea Connections 6 June 1917 of Stern Tube 6 June 1917 Screw shaft and Propeller 6 June 1917

Is the Screw Shaft Tunnel watertight no tunnel Is it fitted with a watertight door yes worked from yes

MANUFACTURERS, &c.—(Letter for record no) Manufacturers of Steel As per Philadelphia report 2496 A herewith

Total Heating Surface of Boilers 7979 Is Forced Draft fitted yes No. and Description of Boilers 3 single ended

Working Pressure 190 lbs Tested by hydraulic pressure to 285 lbs Date of test 10 Jan 1917 No. of Certificate 115

Can each boiler be worked separately yes Area of fire grate in each boiler oil fuel fitted No. and Description of Safety Valves to each boiler 2 spring loaded

Area of each valve 9.62 sq 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 alt 2'-0" Mean dia. of boilers Length Material of shell plates

Thickness Range of tensile strength Are the shell plates welded or flanged PLEASE SEE PHILADELPHIA REPORT 2496 A HEREWITH.

Per centages 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

Pitch of stays to ditto: Sides Back Top If stays are fitted with nuts or riveted heads Working pressure by rules End plates in steam space:

Material of stays Diameter at smallest part Area supported by each stay Working pressure by rules Material of stays

Material Thickness Pitch of stays How are stays secured Working pressure by rules Material of Front plates at bottom

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 None 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

holes Pitch of rivets Working pressure of shell by rules Diameter of flue Material of flue plates Thickness

If 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

W996-0170



Lloyd's Register Foundation

VERTICAL DONKEY BOILER— Manufacturers of Steel

Worth Brothers Company

No. One Description Vertical multitubular
 Made at Boston By whom made Hodge Boiler Works When made 1917 Where fired Stokehold
 Working pressure 125 lbs tested by hydraulic pressure to 188 lbs Date of test 25 Oct 1916 No. of Certificate 13 Fire grate area 9.3 sq Description of Safety Valves One spring loaded No. of Safety Valves One Area of each 4.9 sq Pressure to which they are adjusted 125 lbs Date of adjustment 30 June 1917
 If fitted with casing gear yes If steam from main boilers can enter the donkey boiler no Dia. of donkey boiler 4'-0" Length 9'-1"
 Material of shell plates Steel Thickness 1 1/32" Range of tensile strength 28/32 Descrip. of riveting long. seams Double. Double strap
 Dia. of rivet holes 13/16" Whether punched or drilled drilled Pitch of rivets 4'-6" But straps 10" inside Lap of plating 5" out Per centage of strength of joint Rivets 90 Plates 82
 Working pressure of shell by rules 127 lbs Thickness of shell crown plates 7/16" Radius of do. 4'-0" No. of stays to do. none Dia. of stays ✓
 Diameter of furnace Top 3'-6 1/2" Bottom 3'-6 1/2" Length of furnace 30 3/4" Thickness of furnace plates 1 1/32" Description of joint Single rivets
 Working pressure of furnace by rules 128 lbs. Thickness of furnace crown plates 9/16" Radius of do. flat Stayed by as per plan
 Diameter of uptake Conical Thickness of uptake plates 1 3/32" Thickness of water tubes ✓ Dates of survey 1916 Mar 20, June 6, 30 July 6, 11, 1917 Aug 12, Sept 26, Oct 25

SPARE GEAR. State the articles supplied:— 2 connecting rod top end bolts + nuts, 2 connecting rod bottom end bolts + nuts, 2 main bearing bolts + nuts, 1 set coupling bolts, 1 set feed + bilge pump valves, assorted nuts bolts + iron. Section of crank shaft, propeller shaft, 2 propeller blades, 1 pair connecting rod brasses, 1 pair crosshead brasses, 1 set link brasses, 1 eccentric strap, valve spindle, 1 set check valves, cylinder cover, valve chest, + junk ring bolts, 1 set piston rings, spare valves for all pumps
 The foregoing is a correct description, boiler + condenser tubes, oil fuel fittings.
 FORE RIVER SHIPBUILDING CORPORATION
 J. Brown VICE PRESIDENT

Dates of Survey while building
 During progress of work in shops: 1916 Feb 3, Mar 1, 11, 16, 20, 22, April 18, 26, May 1, 3, 8, 10, 13, 18, June 2, 5, 6, 12, 14, July 4, 11, 14, 17, 19, 21, Aug 2, 5, 12, 15, 19, 24, 29
 During erection on board vessel: 1917 June 6, 11, 15, 20, 22, 25, 30, July 1.
 Total No. of visits 58

Is the approved plan of main boiler forwarded herewith yes Under separate cover.
 " " " donkey " " " yes

Dates of Examination of principal parts—Cylinders 31/10/16 Slides 25/10/16 Covers 3/8/16 Pistons 2/8/16 Rods 2/6/16
 Connecting rods 21/9/16 Crank shaft 31/10/16 Thrust shaft 12/6/16 Tunnel shafts ✓ Screw shaft 1/10/17 Propeller 27/12/16
 Stern tube 10/6/16 Steam pipes tested 20, 22 + 23/6/17 Engine and boiler seatings 6/6/17 Engines holding down bolts 20/6/17
 Completion of pumping arrangements 20/6/17 Boilers fixed 15/6/17 Engines tried under steam 1/7/17
 Main boiler safety valves adjusted 30/6/17 Thickness of adjusting washers Port P 1 1/4 S 1 1/2 Starb P 1 1/4 Starb S 1 1/4 Fore A 1 1/4
 Material of Crank shaft Steel Identification Mark on Do. 163 Material of Thrust shaft Steel Identification Mark on Do. 163
 Material of Tunnel shafts ✓ Identification Marks on Do. ✓ Material of Screw shafts Steel Identification Marks on Do. 163
 Material of Steam Pipes Steel lap welded Test pressure 600 lbs.

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

The machinery + boilers of this vessel have been built under Special Survey in accordance with the Rules + approved plans + the material + workmanship are good. The boilers are fitted to burn oil fuel + the requirements of Section 49 have been complied with.

The machinery + boilers have been satisfactorily tried under steam, + in my opinion, they are now in good + safe working condition + eligible to receive the notations **LMC 7.17** F.D. and 'FITTED FOR OIL FUEL 7.17. F.P. ABOVE 150°F' in the Register Book.

This machinery is a duplicate of 1/5 TEXAS, Boston report 836 + 1/5 NEW YORK Boston report 845.

It is submitted that this vessel is eligible for **THE RECORD. + LMC 7.17. F.D.**
 Fitted for oil fuel 7.17. F.P. above 150°F.

The amount of Entry Fee .. £ \$15.00 When applied for, 13 July 1917
 Special £ 159.50
 Donkey Boiler Fee £ 40.25 When received, 19/12/17
 Travelling Expenses (if any) £ : : 21-12-17

John S. Heck, Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute

New York JUL 17 1917

Assigned + LMC 7.17 Fitted for oil fuel 7.17 F.P. above 150°F
 Elec light



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MACHINERY CERTIFICATE WRITTEN 3-5-1

Certificate (if required) to be sent to Boston

The Surveyors are requested not to write on or below the space for Committee's Minute.